1994
VOLUME 1

SELECTION GUIDES AND FUNCTION INDEX

IC MASTER

- Master Selection Guide Function Index

MASTER SELECTION GUIDES
- Digital
- Digital Signal Processing
- Microprocessor
- Microprocessor Development Systems
- Interface
- Linear
- Memory
- ASIC/Custom
- Programmable Logic Devices
- Chip Sets and Multifunction

VOLUME 2
Part Number Index/Guide & Alternate Sources

VOLUME 3
Advertisers Technical Data

Hearst Business Publishing / UTP Division

WIRELESS

DESIGN SOLUTIONS

Now, You Can Design

FOCUSING ON THE ISSUES

PORTABLE COMMUNICATIONS PRODUCTS
With the demand for integrated data, graphics, voice and video transmission capabilities, designing products for the subscriber side of wireless will require IC-level products with wide data bandwidths, low power, CODEC capabilities and extremely high on-chip integration. And because of user location and wireless infrastructure limitations, satellite uplink capabilities will be required.

INFRASTRUCTURE
As the number of wireless users continues to grow, so also will the demand for seamless communications capabilities regardless of user location. This may require the development of multiple close-range microcells (<a few hundred meters) deployed around fast and flexible macrocell base stations. These base stations will need a great deal of computing power, bandwidth and software-driven intelligence.

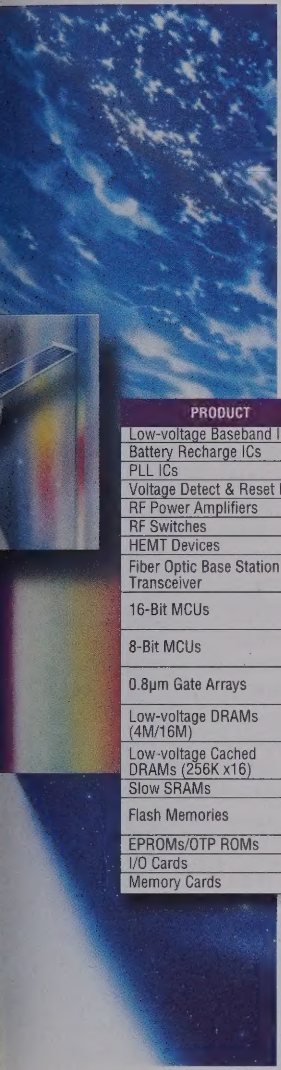
DISTRIBUTION
In 1993, the U.S. FCC allocated portions of the 2GHz and 900MHz bands of the electromagnetic spectrum for PCS and narrowband PCS respectively. As spectrum allocation and usage continues, users will benefit from new, lower-cost services.

900MHz
2.0GHz
2.5GHz

©1994 Mitsubishi Electronics America Inc., Electronic Device Group, Sunnyvale, California

ELECTRONIC DEVICE GROUP

Across The Spectrum.



Wireless technology is permeating business and personal communications globally, driving portable product size and performance to totally new levels.

For OEMs, this means designing products that can operate across the spectrum. It means integrating more functions into single-chip solutions so that more features and applications can be designed into smaller and lower-power end products.

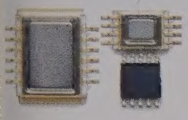
Mitsubishi has already begun RF integration onto single-chip GaAs MMICs for PCS applications, replacing 10 to 12 discrete components with a single, 3.4V transmitter device. We developed battery recharge ICs with 10-bit A/D accuracy and on-chip DSP; PLLs with on-board prescalers; and highly-integrated MCUs with 48KB ROM, 2KB RAM, I/O and a dot-matrix LCD controller on chip.

For microcell base station applications, Mitsubishi has integrated a laser diode, transmitter, receiver and support circuitry into a single, plug-and-play transceiver device.

Mitsubishi has also addressed the single-chip challenge by developing synchrotron-based production facilities to drive submicron silicon technology to the 0.25µm level and lower.

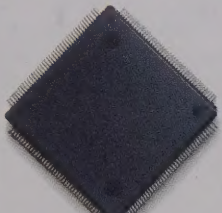
PRODUCT	Cordless/Cellular Phones (Analog & Digital)	Portable Storage	Mobile PCs/Terminals	Battery Monitor Control	PCN/PCS, WLANs, PDAs	Microcells	Wireless PBX	Global Positioning	FEATURES
Low-voltage Baseband ICs	◆								On-board Scrambler, Compander, Modem
Battery Recharge ICs	◆								10-Bit A/D Accuracy; On-chip DSP
PLL ICs	◆		◆		◆		◆	◆	Dual PLL Frequency Synthesizers
Voltage Detect & Reset ICs	◆								1.25V or 4.25V Detection
RF Power Amplifiers	◆		◆		◆	◆	◆		High Efficiency, Low Voltage, Surface Mount, Small Package
RF Switches	◆		◆		◆	◆	◆		Low Insertion Loss, Surface Mount
HEMT Devices								◆	High Gain, Low Noise, Surface Mount
Fiber Optic Base Station Transceiver						◆			900 MHz; Plug-and-play; Eliminates RF Blackout Areas
16-Bit MCUs	◆	◆	◆				◆		Up to 48KB ROM/2KB RAM or ROM-less, Very Low Power (4mA at 8MHz), Small Package
8-Bit MCUs	◆		◆	◆	◆				Up to 48KB ROM, On-chip Dot-matrix LCD Controller, 2.5V Operation
0.8µm Gate Arrays	◆		◆	◆	◆	◆	◆	◆	6K-250K Usable Gates, Clock Rates to 100MHz, 215 psec Delay, Low Power
Low-voltage DRAMs (4M/16M)		◆	◆		◆		◆	◆	3.3V, Self Refresh, Byte-wide
Low-voltage Cached DRAMs (256K x16)		◆	◆		◆		◆	◆	3.3V, Self Refresh, Byte-wide
Slow SRAMs	◆		◆		◆		◆		For Low-power, Battery-operated Data Storage
Flash Memories	◆	◆	◆		◆		◆		On-board Reprogrammability; For Code Storage, Data Storage,BIOS
EPROMs/OTP ROMs	◆	◆	◆		◆		◆	◆	Low Voltage, CLCC/TSOP Package
I/O Cards	◆		◆		◆			◆	Fax/Modem, LAN
Memory Cards	◆	◆	◆		◆			◆	DRAM, SRAM, Flash, Mask ROM

For more information on the wide range of Mitsubishi products for wireless, and to receive a free wall chart, *Guide to ICs and Components for Wireless Applications*, call **1-(800)-886-4088**

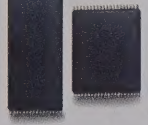


RF & Microwave Devices

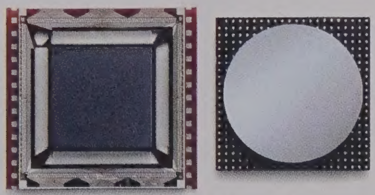
3.3V DRAMs with enhanced power management for "green" projects



Mitsubishi MCU with on-board dot matrix LCD controller



1M & 4M Flash memories (x8, x16)



0.8µm CMOS gate arrays and embedded cell arrays, up to 400,000 gates

Smart battery recharge ICs

MELCARD
MITSUBISHI
DRAM
FLASH
SRAM
EEPROM
OTPROM
MROM
MITSUBISHI ELECTRIC

PCMCIA/JEDEC standard and custom memory cards

MITSUBISHI

SERVICE/SELECTION/DELIVERY

NU HORIZONS & SGS-THOMSON MICROELECTRONICS

Offer off the shelf delivery of EPROMs (16K-4Meg), FLASH EPROMs(256K-1Meg) & EEPROMs

NMOS EPROM

M2716	(2K x 8)	UV EPROM
M2732A	(4K x 8)	UV EPROM
M2764A	(8K x 8)	UV EPROM AND OTP ROM
M27128A	(16K x 8)	UV EPROM AND OTP ROM
M27256	(32K x 8)	UV EPROM AND OTP ROM
M27512	(64K x 8)	UV EPROM

CMOS EPROM

M27C64A	(8K x 8)	UV EPROM
M27C256B	(32K x 8)	UV EPROM AND OTP ROM
M87C257	(32K x 8)	LATCHED ADDRESSES
M27C512	(64K x 8)	UV EPROM AND OTP ROM
M27C1001	(128K x 8)	UV EPROM AND OTP ROM
M27C1024	(64K x 16)	UV EPROM AND OTP ROM
M27C2001	(256K x 8)	UV EPROM
M27C4001	(512K x 8)	UV EPROM
M27C4002	(256K x 16)	UV EPROM

FLASH EPROM

M28F256	(32K x 8)	FLASH EPROM
M28F512	(64K x 8)	FLASH EPROM
M28F101	(128K x 8)	FLASH EPROM

EEPROM

EEPROM I²C and Microwire Serial Access BUS

ST93C06	(32x8, 16x16)	EEPROM
ST93C46	(64x16,128x8)	EEPROM
ST93C56	(128x16, 256x8)	EEPROM
ST93CS46	(64 x 16)	EEPROM
ST93CS47	(64 x 16	EEPROM
ST93CS56	(128 x 16)	EEPROM
ST93CS57	(128 x 16)	EEPROM
ST93CS66	(256 x 16)	EEPROM
ST24C01	(128 x 8)	EEPROM
ST24C02	(256 x 8)	EEPROM
ST24C04	(512 x 8)	EEPROM
ST24C08	(1K x 8)	EEPROM
ST24C16	(2K x 8)	EEPROM
ST24W01	(128 x 8)	EEPROM
ST24W02	(256 x 8)	EEPROM
ST24W04	(512 x 8)	EEPROM
ST24W08	(1K x 8)	EEPROM
ST24W16	(2K x 8)	EEPROM
ST24E16	(2K x 8)	EEPROM
M28C64	(8K x 8)	EEPROM

Nu Horizons & SGS-THOMSON Microelectronics
Your Best Source for EPROMs

Call for Price, Delivery, Technical Assistance and Literature

NU HORIZONS
NU HORIZONS ELECTRONICS CORP.

Corporate Headquarters
6000 New Horizons Blvd.
Amityville, NY 11701
(516) 226-6000
FAX 516-226-6140

Alabama
Huntsville
(205) 722-9330
FAX 205-722-9348

Nu Horizons International
(201) 882-4290
FAX 201-882-4292

Florida
Ft. Lauderdale
(305) 735-2555
FAX 305-735-2880

Altamonte Springs
(407) 831-8008
FAX 407-831-8862

Georgia
Norcross
(404) 416-8666
FAX 404-416-9060

Maryland
Columbia
(410) 995-6330 Baltimore
(301) 621-8244 Wash. Metro
FAX 410-995-6332

For Value Added Services: Programming, Marking, and Labeling, JIT and Kitting, Full Turnkey Assembly and Testing, Call your Local NU HORIZONS Sales Office

Massachusetts
Wakefield
(617) 246-4442
FAX 617-246-4462

Connecticut
(203) 265-0162

New Jersey
Pine Brook
(201) 882-8300
FAX 201-882-8398

Pennsylvania
Mt. Laurel
(609) 231-0900
E.PA (215) 557-6450
FAX 609-231-9510

New York
Rochester
(716) 292-0777
FAX 716-292-0750

Great Lakes Region Ohio
Solon
(216) 349-2008
FAX 216-349-2080

Volume 1

Mitsubishi ....(Inside Front Cover)
Nu Horizons ....(Opposite Table of Contents)
Contents 1
IC MASTER Staff 2
How to use the IC MASTER 2
Editorial Advisory Board 5
Abbrev. of Company Names 6
America II 8
Master Selection Guide Function Index.......................... 9
Digital Selection Guide 101
Digital Signal Processors 271
Microprocessor Selection Guide 301
Orion Instruments 450
Microprocessor Development Systems 451
Interface Selection Guide 501
Linear Selection Guide............... 701
Memory Selection Guide 901
Stanford Telecom 1400
ASICs/Custom Selection Guide 1401
Data I/O 1500
Programmable Logic Devices ...1501
Chip Sets and Multifunction Devices...............................1601
Wing Shing Computer Components.....(Inside Back Cover)
Catalyst Semiconductor ....(Back Cover)

Volume 2

Wintec...............(Inside Front Cover)
Nu Horizons ....(Opposite Table of Contents)
Contents 2001
IC MASTER Staff 2002
How to use the IC MASTER ... 2002
Editorial Advisory Board 2005
Abbrev. of Company Names ... 2006
Part Number Guide 2009
Part Number Index 2101
Lansdale Semiconductor 2500
Alternate Source Directory 2501
Orcad ....(Inside Back Cover)
Philips Semiconductors ....(Back Cover)

Volume 3

KOH Electronics ...(Inside Front Cover)
Contents 3001
IC MASTER Staff 3002
How to use the IC MASTER ... 3002
Editorial Advisory Board 3005
Abbrev. of Company Names ... 3006
Company Mergers, Acquisitions and Changes......3008
Manufacturers and Distributors Directory 3009
Military Parts Directory.............3201
Application Note Directory 3301
Advertisers Data Pages
  Actel 3500
  American Microsystems 3502
  Analog Devices 3505
  Apex Microtechnology 3543
  Burr-Brown 3546
  Catalyst Semiconductor 3564
  Dallas Semiconductor............3566
  Data Delay Devices 3567
  Datel 3568
  Dense-Pac Microsystems 3573
  ECI 3603
  Ericsson 3608
  Fujitsu Microelectronics 3610
  Harris Semiconductor............3636
  Ideal Semiconductor 3642
  Intel 3646
  Krueger Company 3662
  Lansdale Semiconductor 3664
  LSI-CSI 3680
  Micrel 3684
  Micro Networks 3689
  Mosel-Vitelic 3696
  MSI/Scorpion 3698
  NCR..................................3700
  Nippon Circuits....................3702
  NJR Corp. 3704
  Performance Electronic Packaging 3706
  Philips Semiconductors 3707
  Rochester Electronics 3758
  Rockwell International 3759
  Seiko Instruments 3761
  Sharp 3763
  Siemens 3767
  Silicon Systems....................3776
  Simtek................................3782
  Sony 3787
  Stanford Telecommunications 3796
  Synergy Semiconductor 3799
  Toshiba America 3809
  TriQuint Semiconductor 3840
  United Technologies Microelectronics Center 3844
  USAR Systems 3848
  Western Design Center 3849
  White Technology 3850
  Xilinx 3854
  Yamaha 3864
Nu Horizons ......(Inside Back Cover)
ASAT .... (Back Cover)

© Copyright 1994. Hearst Business Communications, Inc.
All Rights Reserved.
ISSN # 0894-6809

editor-in-chief
DAVID M. HOWELL
senior technical editor
GLENN H. MOORE
senior editor
JOHN H. REMMER
supervisor-editorial assistants
HARRY K. HARIDAS
editorial assistants
ROSEANNE POLATSCHEK
LETITIA FAIR
BARBARA CAVATAIO
NICHOLAS ROMEO
sales administrator
JANET LAWRENCE
production coordinator
LYNN GIARDINA
production services
MAUREEN MAY
director/catalog production
CHARLOTTE NEWMAN
catalog art director
WILLIAM HENNESSEY
electronic compositor
JONATHAN BAKER
assistant electronic compositor
AMY GIGANTI
art staff
ESTELLE ZAGARIA
CONSTANCE MILLER
book sales marketing manager
GEORGEANN AMSLER
book sales manager
MARIE BOTTA
book sales assistants
KELLY SCHEMBER
KAREN BANKS
group fulfillment manager
JO OLIVERI
consultant
WILLIAM F. MULLIN
vice president & director of circulation
BARRY GREEN
manager of technical services
PETER J. ROWLINSON

vice president & group publisher
ARMAND VILLIGER
associate publisher
SAL PROVENZANO
vice president & general manager
WILLIAM K. BAKER

The Hearst Corporation

president and CEO
FRANK A. BENNACK JR.
chairman
RANDOLPH A. HEARST
chief operating officer
GILBERT C. MAURER
vice president. Books/
Business Publishing Group
GORDON L. JONES JR.
vice president
and general manager. Books/
Business Publishing Group
RICHARD C. MALLOCH
vice president
and resident controller. Books/
Business Publishing Group
NELSON J. MAIONE

published annually by
HEARST BUSINESS COMMUNICATIONS, INC.
645 Stewart Avenue
Garden City, NY 11530
Tel: (516) 227-1300, FAX: (516) 227-1901

IMPORTANT NOTICE

Considerable effort has been expended to make the **IC MASTER** accurate and complete. The IC MASTER cannot, however, assume responsibility for inaccuracies, omissions, manufacturers' claims or their representations. No portion of the IC MASTER may be reproduced in any manner without the written permission of the publisher.

© Copyright 1994 by Hearst Business Communications, Inc. All rights reserved.

HOW TO USE THE IC MASTER

The 1994 edition of the IC MASTER is arranged in three volumes. Each volume serves a specific purpose to help you find the integrated circuit or related product you need. The table of contents on the preceding page describes what is in each volume. The table of contents for Volume 3 also gives the starting page numbers for advertisers' data pages.

The IC MASTER is a functional work. You know what you need. The MASTER helps you find it.

Here are typical problems.

Q. What kinds of functions does the MASTER cover?

A. Turn to page 10 in Volume One. Here is a functional index for the devices covered. The page and line numbers refer you to the exact location within a Section in which a particular function appears.

Q. Who makes a 16K x 1 static RAM with an access time of 70 ns or faster? What are my technology choices?

A. Turn to the MEMORY section, in Volume 1. The first page of the section tells you where the listings of your device begin.

Turn to Static RAMs — General Purpose, and browse through the pages until you reach the 16K x 1 listings. Now look through the listings until you find the access time and characteristics you need. Device numbers are shown by manufacturer. The device numbers of advertisers in the 1994 IC MASTER appear in bold face. The page number following the device number is where additional information may be found in Volume Three. At the extreme right you will see line numbers. These are the specific lines where a device appears.

Q. Which microprocessors are listed in the MASTER? How do I find the microprocessor I need?

A. All commercially available microprocessors are listed in the MASTER. Start with the **microprocessor** listing in the **Master Selection Guide Function Index** (starts on page 10). Here you will find CISC, RISC and Microcontrollers listed according to clock rate. Turn to the various pages shown and then to the advertisers' page where more information may be available.

Q. Who makes a Dual, Low Offset Voltage Op Amp?	A. This is a **LINEAR** device. Turn to the LINEAR section in Volume One. The first page of the section shows the starting page for each category. Turn to the page where Dual Units appear. Look down the list for the device you need. Advertisers' devices are listed in bold face. Turn to the page in Volume Three where more information may be available.
Q. I need an IC with Music capability. Which Master Selection Guide should I use?	A. Turn to the **Master Selection Guide Function Index** starting on page 10. Look through the list until you find **Music.** The page numbers for each kind of device are shown.
Q. I am looking for an application note on a specific device. Where can I find out if one is currently available?	A. Pick up Volume Three. Turn to the Application Note Directory. Here you will find application notes arranged by **function**. Find the function involved and turn to the page where the note is listed.
Q. We need a device that meets MIL standards. Where do I look in the MASTER?	A. Turn to the MILITARY section in Volume Three. The first part lists manufacturers and screening levels available. The second part is a functional index. The last two sections provide cross references from commercial to military and military to commercial part numbers.
Q. I know the basic part number is 2502 and that's all I know. Where do I look?	A. Go to the Part Number Index in Volume 2. All prefixes and suffixes have been stripped away. Turn to the page where 2502 appears. All manufacturers with that base number appear in order along with the full part number and the page and line number where the device is described.
Q. How many manufacturers claim to make a pin-for-pin and function-for-function equivalent to a Motorola MC68000?	A. Turn to the Alternate Source Directory in the back of Volume Two. Turn to Motorola's listings. Those manufacturers who claim to have equivalent parts are listed in order. If you have an IBM or compatible computer with a hard drive, you can get the 1994 IC MASTER **Alternate Source Directory** on a disk. This disk provides the complete list of alternate sources and allows you to add your own part numbers, as well as notes such as prices or sources. Call Hearst (516) 227-1300 and ask for Book Sales for further information.

Q. I looked in the Alternate Source Directory. The part I want an alternate source for isn't listed. Why not?

A. Are you sure you looked through the entire listing for the original manufacturer? Some devices may be listed in odd ways depending on how the MASTER's editors receive the information. Then there is the probability that no other manufacturer makes an exact replacement for your part. It is important for you to understand how the Alternate Source Directory is compiled. Manufacturers supply the information that **their** part is an exact replacement for **another** part. The original manufacturer does **not** tell us his part can be replaced by those listed.

Q. What do the manufacturers' part numbers mean? I have a Philips NE592N. What do all the letters and numbers mean?

A. Look in Volume Two for the Part Number Guide. Turn to the Philips portion. Now you know the **N** prefix means, zero to plus seventy degrees Centigrade. The **N** suffix indicates the package style. The numbers and letters in the middle are the device type. Each manufacturer has a different code system. Understanding the systems is a great help in comparing devices.

Q. Where can I find the addresses and telephone numbers of manufacturers, local sales offices and distributors?

A. Pick up Volume Three. Turn to the Manufacturers and Distributors Directory. Within each manufacturer, sales offices and distributors are listed alphabetically by state.

Q. I just saw a new device advertised in Electronic Products magazine. It isn't listed in the MASTER. Why not? When will it be listed?

A. Preparing the information for the annual IC MASTER is a tremendous undertaking. It requires the cooperation of every single manufacturer. All of the material must be organized, cross referenced and placed in the data base. This data base must be closed off in November in order to meet the publishing date of late January. That is why some devices are not listed. They came on the market too late for the deadline. There are two updates to the annual MASTER. They are called the **IC MASTER UPDATE.** One is issued in the late Spring and the other in the early Fall. Be sure to sign up for copies when you get your new IC MASTER. If you are not sure whether or not you have requested the updates, please write to the Circulation Department at the address shown on page 2 of this MASTER. Be sure to indicate which edition of the MASTER you are using.

IC MASTER EDITORIAL ADVISORY BOARD

We are indebted to the following companies and individuals who have agreed to serve on the 1993-94 Editorial Advisory Board:

Analog Microsystems	**David Hage** *Director, Marketing Planning and Services*
Analog Devices	**Dan Sheingold** *Technical Marketing Manager*
Datel	**Bob Leonard** *Product Line Manager—Hybrids*
ECI Semiconductor	**Troy Speers** *Product Line Manager*
Electronic Designs Inc.	**Paul Marien** *Product Marketing Manager*
Fujitsu Microelectronics	**Charles Glenn** *Products Communications Manager*
Future Electronics	**Bob Desmarais** *Training Lab*
Harris Semiconductor	**Brian Alaskiewicz** *Manager, Marketing Communications*
Hitachi America	**Ken Pope** *Product Marketing Manager*
ILC Data Device Corporation	**Mike Glass** *Applications Manager*
The Krueger Company	**Myron Lieberman** *Technical Director*
Linfinity Microelectronics	**Mark Granahan** *VP Marketing*
LSI Computer Systems	**Al Kaplan** *Vice President and Senior Engineer*
Micro Networks Inc.	**Jeff Rees** *Design Engineer*
Mitsubishi Electronics	**Chris Peterson** *Marketing Manager*
Motorola Semiconductor	**Jasper Norris** *Manager, Strategic Programs*
National Semiconductor	**Richard Sessions** *Dir. of Mktg, Int. Systems Group*
NCR Microelectronics	**Jim Patella** *Marketing Manager, Semicustom Products*
NEC Electronics	**Dan Domingo** *Corporate Strategic Marketing Manager*
Philips	**Sharon Long** *Director of Marketing*
Sanyo	**Tsuyoshi Taira** *Chairman of the Board*
Sharp Electronics	**Robert Bernardi** *Director, Integrated Circuits and Semiconductors, Microelectronics Group*
Siemens	**Dave Sealer** *Vice President, Marketing*
Toshiba	**Satchit Dokras** *Manager of Strategic Planning*
VLSI Technology	**Jim Farrell** *Technical Services Manager*
Xicor	**Rick Orlando** *VP of Strategic Marketing and Corporate Applications*

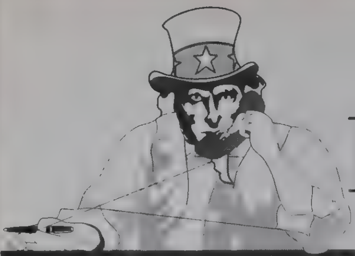
ABBREVIATIONS OF COMPANY NAMES

Acculin	Acculin, Inc.
Actel	Actel Corporation
AD	Analog Devices
Adaptec	Adaptec
Adv Analog	Advanced Analog
AHA	Advanced Hardware Architectures, Inc.
AdvLinear	Advanced Linear Devices
Altera	Altera Corporation
Analog Micros	Analog Microsystems
Am Arium	American Arium
AMD	Advanced Micro Devices, Inc.
American Micro	American Microsystems, Inc.
Array Micro	Array Microsystems
Analogic	Analogic Corporation
AnalogSys	Analog Systems
AMCC	AMCC (Applied Micro Circuits Corp)
Aptek	Aptek Microsystems
AppMicroSys	Applied Microsystems Corporation
Apex	Apex Microtechnology Corporation
Aspen	Aspen Semiconductor Corp.
Astec Semi	Astec Semiconductor
AutoSys	ASI
Aspec Technlg	Aspec Technology, Inc.
ATMEL	ATMEL Corporation
AT&T	AT&T Microelectronics, 52AL330240
Avasem	Avasem Corporation
Benchmarq	Benchmarq Microelectronics
Brooktree	Brooktree Corporation
Burr-Brown	Burr-Brown Corporation
CustomArrays	Custom Arrays Corp.
Calogic	Calogic Corporation
Catalyst Semi	Catalyst Semiconductor
C&C Tech	C & C Technology Inc.
CE Infosys	CE Infosys of America, Inc.
Cermetek	Cermetek Microelectronics, Inc.
Chips&Tech	Chips and Technologies, Incorporated
Cherry Semi	Cherry Semiconductor Corporation
Cirrus	Cirrus Logic, Inc.
Comlinear	Comlinear Corporation
Catalyst Rsch	Catalyst Research
CMD Micro	California Micro Devices Corporation
Cornes USA	Cornes U.S.A. Ltd.
Crystal	Crystal Semiconductor Corp.
Commodore	Commodore Semiconductor Group
Crosspoint	Crosspoint Solutions, Inc.
ControlData	Control Data
Cybernetic	Cybernetic Micro Systems
Cypress	Cypress Semiconductor Corp.
Dallas	Dallas Semiconductor
Datel	Datel, Inc.
Data Delay	Data Delay Devices, Inc.
Dense-Pac	Dense-Pac Microsystems, Inc.
Dionics	Dionics Inc.
DSP Group	DSP Group, Inc.
Data I/O	Data I/O Corporation
ECI Semi	ECI Semiconductor
EDI	Electronic Designs Inc.
Elantec	Elantec, Inc.
Eletech	Eletech Electronics
Elite Micro	Elite Microelectronics, Inc.
EM Micro	EM Microelectronic-Marin SA
Epson	Epson America Inc.
Ericsson	Ericsson Components
ESS	Electronic Speech Systems, Inc
EXEL	EXEL Microelectronics, Inc.
Exar	Exar Corporation
Fujitsu	Fujitsu Microelectronics, Inc.
Gennum	Gennum Corporation
GET Eng	GET Engineering Corp.
Galil	Galil Motion Control
Genesis Micro	Genesis Microchip Inc.
Goal Electronic	Goal Electronics Inc.
Greenwich	Greenwich Instruments USA
GoldStar	GoldStar Technology, Inc.
Harris	Harris Corporation
Hyundai	Hyundai Electronics America
Headland	Headland
Heurikon	Heurikon Corporation
Hitachi	Hitachi America, Ltd.
HiLevel	Hilevel Technology, Inc.
Hualon Micro	Hualon Microelectronics Corp
Holt	Holt, Integrated Circuits, Inc.
Honeywell	Honeywell
HP	Hewlett-Packard-Logic Systems Division
Hughes	Hughes Aircraft Co.
IBM	International Business Machines Corporation
IC DESIGNS	IC DESIGNS
Vertex	Vertex Semiconductor Corp.
IC Sensors	IC Sensors, Inc.
ICT	International CMOS Technology
IntCirSys	Integrated Circuit Systems, Inc.
Ideal Semi	Ideal Semiconductor
IDT	Integrated Device Technology, Inc.
Int Info Tech	Integrated Information Technology, Inc.
ILC-DDC	ILC Data Device Corp.
ILSI	Integrated Logic Systems Inc.
IMI	International Microcircuits, Inc.
IMP	International Microelectronic Products
IntMeasSys	Integrated Measurement Systems
Intergraph	Intergraph
Intel	Intel Corporation
Interpoint	Interpoint Corporation
GE/Intersil	GE/Intersil
Interface Tech	Interface Technology, Incorporated
Intronics	Intronics, Inc.
ISD	Information Storage Devices,Inc
Isocom	Isocom Incorporated
ISSI	Integrated Silicon Solution Inc.
ITC Microcomps	ITC Microcomponents Inc.
IXYS	IXYS Corporation
Krueger	Krueger Company
SemTech	Semtech Corpus Christi
LogicDev	Logic Devices Inc.
Lansdale	Lansdale Semiconductor, Inc.
LogicAuto	Logic Automation Incorporated
Lin Int Sys	Linear Integrated Systems
LSI Comp	LSI Computer Systems, Inc.
LSI Logic	LSI Logic Corporation
LSTI	Logical Solutions Technology Inc.
LinearTech	Linear Technology Corporation
Linfinity Micro	Linfinity Microelectronics
Lattice	Lattice Semiconductor Corp.
Level One	Level One

Macrochip	Macrochip Research
Microchip	Microchip Technology, Inc.
MicronSemi	Micron Semiconductor, Inc
Micropac	Micropac Industries, Inc.
MicroLinear	Micro Linear
MicroPwr	Micro Power Systems, Inc.
Micro-Rel	Micro-Rel
Mitel	Mitel Semiconductor
MicroNet	Micro Networks Company
Mosaic Semi	Mosaic Semiconductor, Inc.
Micrel	Micrel
Mosel-Vitelic	Mosel-Vitelic
Motorola	Motorola Semiconductor Products
Mitsubishi	Mitsubishi Electronics America, Inc.
MSI/Scorpion	MSI/Scorpion Semiconductor
Music	Music Semiconductors, Inc.
MX-COM	MX-COM, Inc.
Maxim	Maxim Integrated Products
NCM	NCM Corporation
NCR	NCR Corporation
NEC	NEC Electronics Inc.
Newbridge	Newbridge Microsystems
NJR	NJR Corporation
NMB	NMB Technologies
NPC	Nippon Precision Circuits Ltd.
National	National Semiconductor Corporation
Oak Technology	Oak Technology, Inc.
OEI	Optical Electronics Inc.
OKI	OKI Semiconductor, Inc.
OnChip Sys	OnChip Systems, Inc.
Optimum Semi	Optimum Semiconductor
Orion	Orion Instruments, Inc.
Optotek	Optotek Limited
Panasonic	Panasonic Industrial Company/Electronic Components Division
Paradigm	Paradigm Technology, Inc.
Peps	Performance Electronic Packaging Services
Philips	Philips Semiconductors
Phylon Inc.	Phylon Inc.
GEC Plessey	GEC Plessey Semiconductors
Plus Logic	Plus Logic
PLX Tech	PLX Technology, Inc.
PMC	Pacific Microelectronics Centre
PMD	Performance Motion Devices
Power Integ	Power Integrations, Inc.
Proximity	Proximity Technology Inc.
Performance	Performance Semiconductor Corp.

QuickLogic	QuickLogic Corp
Qualcomm	Qualcomm Incorporated
Quality Semi	Quality Semiconductor
Raytheon	Raytheon Company
RCA	RCA
R&E Intl	R&E International, Inc
EG&G-Reticon	EG&G Reticon Corporation
Ricoh	Ricoh Corporation
Ramtron	Ramtron Corporation
Rockwell	Rockwell International
Rochester	Rochester Electronics Incorporated
ROHM	ROHM Corporation
Samsung	Samsung Semiconductor, Inc.
Spancom	Spancom Corporation
Sanyo	Sanyo Semiconductor Corporation
Silicon Conn	Silicon Connections Corp.
Silicom	Silicom Limited
Seiko Instr	Seiko Instruments USA, Inc.
Siemens	Siemens Components, Inc.
SEEQ	SEEQ Technology, Incorporated
Signetics	Signetics Company
SGS-Thomson	SGS-THOMSON Microelectronics, Inc.
Sharp	Sharp Electronics Corporation
Sipex	Sipex Corporation
Sil Composers	Silicon Composers, Inc.
Sierra	Sierra Semiconductor Corporation
Siliconix	Siliconix Inc.
SMC	Standard Microsystems Corporation
S-MOS	S-MOS Systems, Inc.
Simtek	Simtek Corporation
Samsung Microwv	Samsung Microwave Semiconductor, Inc.
Sony	Sony Corporation of America
Solarise	Solarise Enterprises Inc.
Sophia	Sophia Systems and Technology
Solitron	Solitron Devices, Inc.
Allegro Micro	Allegro Micro Systems, Inc.
Signal Proc	Signal Processing Technologies
Seponix	Seponix Corporation
SpaceResearch	Space Research Technology, Inc.
Star Semi	Star Semiconductor Corporation
Sunshine	Sunshine Semiconductor Inc.
SiliconSys	Silicon Systems Inc.
Stac	Stac Electronics
STC	STC Components
STEL	Stanford Telecommunications Inc.
Startech	StarTech Semiconductor, Inc.
Supertex	Supertex, Inc.
Symphony Lab	Symphony Laboratories

Synergy	Synergy Semiconductor Corporation
Systronix	Systronix. Inc.
TeledyneC	Teledyne Components
Technitrol	Technitrol, Inc.
AEG Corp	AEG Corporation-Telefunken
Tektronix	Tektronix, Inc.
ThirdDomain	Third Domain, Inc.
Thaler	Thaler Corp
Thomson Comp	Thomson Components and Tubes Corporation
TI	Texas Instruments, Inc.
TLSI	TLSI, Inc.
Teltone	Teltone Corporation
Toko	Toko America Inc.
Toshiba	Toshiba America Electronic Components, Inc.
Tracer	Tracer Electronics, Inc.
Trident Micro	Trident Microsystems Inc.
TriQuint	Tri Quint Semiconductor
TranSwitch	TranSwitch Corporation
TRWLSI	TRW LSI Products Inc.
Tseng Labs	Tseng Labs, Inc.
UMC	Unicorn Microelectronics Corp.
Unitrode	Unitrode Integrated Circuits Corp.
Unisys	Unisys Corporation
Universal	Universal Semiconductor Inc.
USAR Systems	USAR Systems, Inc.
UTMC	United Technologies Microelectronics Center
Vadem	Vadem
Vanguard Semi	Vanguard Semiconductor
Vitelic	Vitelic
VTC	VTC Inc.
VLSI Tech	VLSI Technology, Inc.
Vitesse	Vitesse Semiconductor Corp.
WDC	The Western Design Center, Inc.
White Tech	White Technology, Inc.
Waferscale	Waferscale Integration Inc.
Western	Western Digital Corporation
XECOM	XECOM, INC.
Xicor	Xicor, Inc.
Xilinx	Xilinx Corp.
Yamaha	Yamaha Systems Technology
ZAX	Zaxtek
Zilog	Zilog, Inc.
ZyMOS	ZyMOS Inc.



AMERICA II ELECTRONICS

1-800-767-2637

CHECK LIST!

- YES! ☑ 74XXX
- YES! ☑ SURFACE MOUNT IC's
- YES! ☑ DIP IC's
- YES! ☑ EPROM's
- YES! ☑ D-RAMS
- YES! ☑ SAME DAY SHIPPING
- YES! ☑ STATIC RAMS
- YES! ☑ MICROPROCESSORS
- YES! ☑ FAST SERVICE
- YES! ☑ FULLY COMPUTERIZED
- YES! ☑ ALL MAJOR U.S. & JAPANESE MFR's
- YES! ☑ 100% GUARANTEE ON ALL PRODUCT
- YES! ☑ LINEAR & VOLTAGE REGULATORS
- YES! ☑ DIODES & TRANSISTORS
- YES! ☑ OBSOLETE & ALLOCATED IC's
- YES! ☑ ON-LINE IC TRACKING SYSTEM
- NO ☒ CAPACITORS
- NO ☒ CONNECTORS
- NO ☒ RESISTORS
- YES! ☑ 35 MILLION IC's IN STOCK!

1-800-767-2637

(813) 573-0900 FAX (813) 572-9696
2600 118TH AVENUE NORTH - ST. PETERSBURG FLORIDA 33716

MASTER SELECTION GUIDE FUNCTION INDEX

(Guide to Product Categories)

When you know the desired function and need specific devices that perform this function, use this Index first. It is organized by functions and by key words. It leads to the page-line reference for that specific device and also related devices.

The Master Selection Guides that follow in Volume One provide sufficient information to help you make an initial product selection, or to lead you to a group of device numbers and their manufacturers. They enable you to find the products most likely to satisfy your needs for a particular application.

All devices that appear in a selection guide are included in the **Part Number Index**. If you know the part number for a device, by referring to the Part Number Index, you can see the page and line number for data on that device. If the manufacturer of the device has included a data sheet in IC MASTER, the location of this data sheet is also shown in **boldface** type.

Function — Page-Line

A

A/D Converters
  Binary 513-1
  Decimal 560-1
  DSP 280-91
A Law 836-94
Accelerometer 720-21
Accumulator
  See Digital-Arithmetic, Various Sections
ACE (Asynchronous Communication Element) 423-46
Adder
  See Digital-Arithmetic, Various Sections
AF
  Detector 728-136
  Power Amplifier 716-5
  Pre-Amplifier 721-95
AGC
  Amplifier 702-3
  TV 725-108
ALU 280-7
Alternator Voltage Regulator
  Automotive 720-23
AM
  See Consumer Circuits
AM/FM
  See Consumer Circuits
Amplifiers
  Antilog 703-75
  Current Followers 732-1
  Darlington 705-1
  Differential 702-119
  Headphone 717-103
  Hearing Aid 716-8
  IF
  AM 721-71
    AM/FM 721-100
    FM 722-108
    TV 726-116
    Instrumentation 733-1
  IR 724-19
  Isolation 703-27
  Log 703-74
  Operational
    See Operational Amplifier listings
  Power
    Auto 716-124
  Preamplifier 719-15
  Programmable Gain 704-21
  Remote Control 723-144
  Sense 641-25
  Video 704-50
Analog Switches
  Switches with Drivers 502-1
  Switches without Drivers 507-41
  Multiplexers 508-32
Analog to Digital Converters
  See A/D Converters
ARCNET 413-38
  838-37
ARINC 429
  Interface
    Transmitters/Receivers 642-4
ARINC 629
  Digital
    CMOS Miscellaneous 151-96
Arithmetic Functions
  See Digital-Arithmetic, Various Sections
Arrays
  Gate 1432-1
  Linear/Digital 1457-1
  Transistor 705-1
ASICs/Custom
  See ASICs/Custom Section
Attenuators
  Digital
    Consumer 716-32
  Audio
    See Consumer Circuits
Automotive Circuits 720-21

B

Bar Code Processor 423-54
Battery Backup Circuit 423-55
Battery Charger
Automotive 720-74
Baud Rate Generator
  Digital
    Special 211-2
Bell 103/212/208A/B
  See Linear-Telecommunications Section
Bilateral Switch 151-99
Bilingual Processor
  TV 725-113
BiSync Microprocessor 9900 409-143

Function	Page-Line
Bit Rate Generator	
Digital	
CMOS	151-101
Boosters Current Followers	732-1
Buffers	
See Digital-Buffers, Various Sections	
Burst Error Processor	
General	432-87
Bus	
See Line Circuit listings	
Bus-Oriented Circuits	
See Digital, Bus-Oriented Circuits, Various Sections	
C	
Camera	
Circuits	720-98
Traffic	727-111
Cassette	
See Tape Recorder Circuits	
CATV	726-8
CB Radio	721-5
CCD	
Camera	720-99
Driver	634-12
CCITT V.24	
Interface	
Line Drivers	614-31
CCITT V.26	
Interface	
Line Drivers	614-3
CCITT V.28	
Interface	
Line Drivers	614-3
CD Player Circuit	
See Consumer Circuits	
CD ROM Circuits	413-67 717-6
Channel Circuits	
TV	726-10
Channel Selector	
CB Radio	721-5
Character Generators	902-1
Chip Sets	
Bios & Driver	1602-1
Communications	1602-3
Controllers	1603-11
DSP	1603-18
FDDI	1604-1
Graphics	1604-6
LAN	1605-24
PC	1605-35
Video	1609-16
Workstation	1610-1
Chroma Circuits	
TV	726-12
Clock	
Automotive	720-35
Generator	413-80 415-4 418-90
Microcomputer	424-23
Microprocessor	
Real Time	427-113
Oscillators/Dividers	148-84
Code Identification System	
Digital	
CMOS	151-22
Codecs	
DSP	282-20
Telecom	836-78
Color	
Bar Generator	726-34
LCD Interface Controller	413-109
Palette	424-45 430-75
Space Converter	151-123
TV	
See Consumer Circuits	
Communications	
Terminal Module	846-85
Communications Controller	413-111
Communications Processor	
Microprocessor TMS380	411-77
Compandor	
Tape Recorder	
Audio	725-41
Telephone	837-120
Comparators	
Address CMOS	102-72
Linear	
Dual	710-25
Quad	713-16
Single	708-1
Phase	
Digital CMOS Miscellaneous	151-125

Function	Page-Line
Comparators (cont'd.)	
Linear	801-40
Consumer Circuits	
Audio	716-1
Automotive	720-21
Calculator	720-96
Camera	720-98
CB Radio	721-5
Music	721-28
Radio	
AM	721-71
AM/FM	721-95
FM	722-99
Remote Control	723-139
Speech	724-96
Tape Recorder	
Audio	725-36
Video	725-69
Television	725-81
Controller	
BUS, 1553/1750	417-107
	426-92
Color Generator	
Microprocessor	413-109
CRT	414-25
Display Microprocessor	415-19
Dynamic RAM	630-64
Floppy Disk	414-7
	415-121
GPIB	416-65
Interrupt	417-15
LCD	417-37
Local Network	414-5
	417-41
Motor	636-96
Programmable	414-12
	418-100
Printer	638-36
Microprocessor	418-96
SCSI	419-34
	428-61
Stepper Motor	420-17
	638-77
Video	
General	420-53
Winchester	420-102
VMEbus	420-83
Controls	
Motor Speed	
Recorders	725-46
Remote	723-139
SCR	858-94
Converter	
DC to DC	817-47
Flash	513-6
RMS to DC	831-129
See A/D Converter Listings	
See D/A Converter Listings	
Voltage to Frequency	834-83
Convolver	280-18
Cordless Telephone	730-102
	846-87
Correlator	280-20
Count Extender for Prescalers	801-4
Counter	
Logic Control	801-8
Counters	
See Digital-Counters, Various Sections	
Digital	
Special	211-15
Frequency	414-18
CQUAM	721-78
CRC	
ECC Circuits	612-1
Crosspoint	
See Switches	
CRT Circuits	414-25
CRT Controller	
General	414-25
CRT Interface	
General	414-25
Current Boosters	
Followers	732-1
Current Drivers	634-24
Current Source	852-91
Custom Capabilities Charts	1402-1
D	
D/A Converters	
DSP	280-111
General	562-1
Video	419-5
	427-102
	562-18
Darlington	705-2

Function	Page-Line
DART	
Microprocessor Z80	408-88
Data Acquisition	
Controller	634-26
Microprocessor	
General	415-1
Systems	825-135
Data Encryption	
Microprocessor	
General	424-114
Data Selector	
See Multiplexer listings	
Data Separator	415-3
Floppy Disk	416-43
Decoders	
Consumer	
Radio Circuits, FM	722-99
Display Drivers	606-1
Keyboard	613-1
Manchester See Manchester listings	
See Digital-Decoders, Various Sections	
Tone	
PLL Circuits	803-5
Delay	
Element	208-48
Delay Lines	
Digital	
CMOS	126-132
Digital	
ECL	159-77
Delta Modulation	
Consumer	724-99
Telecom	838-72
Demultiplexer	
Analog	
CMOS	151-92
Digital	
CMOS	144-98
Detector	
Fluid	854-81
Level	854-127
Phase-Frequency	208-103
Proximity	857-6
Smoke	858-129
SSB	721-90
Dialers	
See Telecommunications Circuits	
Digital	
BiCMOS	
Arithmetic Functions	155-1
Buffers	155-6
Bus-Oriented Circuits	155-136
Decoders	156-118
Drivers	156-119
Flip-Flops, D	156-134
Gates, AND	157-49
Gates, Miscellaneous	157-55
Gates, NAND	157-51
Gates, OR	157-53
Latches	157-58
Miscellaneous	158-28
Shift Registers	158-3
Transceivers, Bus	158-15
CMOS	
Arithmetic Functions	102-1
Buffers	105-36
Bus-Oriented Circuits	109-156
Counters, Binary	118-89
Counters, Binary Count Up/Down	121-138
Counters, Decade	122-7
Counters, Miscellaneous	123-137
Decoders	124-51
Delay Lines	126-132
Drivers	128-81
Flip-Flops, D	129-57
Flip-Flops, J-K	133-175
Gates, AND	134-173
Gates, AND-OR	137-153
Gates, Miscellaneous	140-12
Gates, NAND	135-171
Gates, NOR	138-100
Gates, OR	137-153
Inverters	108-134
Latches	140-24
Memories	144-19
Also see Memory listings	
Miscellaneous	151-90
Multiplexers	144-98
Multivibrators	147-179
Oscillators/Dividers	148-84
Shift Registers	148-125
Translators	151-79
ECL III/MISC.	
Counters	169-9
Flip-Flops, D	169-24
Flip-Flops, R-S	169-28
Gates, Ex. OR	169-37
Gates, NOR	169-30
Gates, OR	169-29

Digital

Function	Page-Line
Digital - ECL III/MISC. (cont'd.)	
Gates, OR/NOR	169-31
Latches	169-38
Miscellaneous	169-46
Multivibrators	169-39
ECL 10K	
Arithmetic Functions	159-1
Buffers	159-27
Bus-Oriented Circuits	159-39
Counters	159-46
Counters, Binary	159-50
Counters, Decade	159-59
Decoders	159-62
Delay Lines	159-77
Drivers	161-53
Flip-Flops, D	161-84
Flip-Flops, J-K	161-107
Gates, AND	162-4
Gates, AND/NAND	162-9
Gates, Ex. OR	162-75
Gates, Ex. OR/NOR	162-83
Gates, NOR	162-24
Gates, OR	162-15
Gates, OR-AND	162-59
Gates, OR-AND-Invert	162-66
Gates, OR/NOR	162-43
Inverters	159-34
Latches	162-92
Memories	162-120
Also See Memory listings	
Miscellaneous	163-86
Multiplexers (Digital)	162-123
Multivibrators	163-26
Shift Registers	163-27
Translators	163-47
ECL 100K	
Arithmetic Functions	164-44
Buffers	164-64
Bus-Oriented Circuits	164-77
Counters	164-84
Decoders	164-96
Delay Lines	164-103
Drivers	165-70
Flip-Flops, D	165-100
Flip-Flops, J-K	166-19
Gates, AND/NAND	166-21
Gates, Ex. OR/NOR	166-54
Gates, OR-AND-Invert	166-48
Gates, OR/NOR	166-34
Inverters	164-74
Latches	166-63
Memories	166-79
See also Memory listings	
Miscellaneous	167-82
Multiplexers	166-86
Shift Registers	167-13
Translators	167-37
ECL 101K	
Arithmetic Functions	168-36
Buffers	168-39
Bus-Oriented Circuits	168-42
Counters	168-44
Decoders	168-47
Drivers	168-48
Flip-Flops, D	168-52
Gates, AND/NAND	168-55
Gates, Ex. OR/NOR	168-58
Gates, OR-AND-Invert	168-61
Gates, OR/NOR	168-58
Latches	168-65
Miscellaneous	168-94
Multiplexers	168-69
Shift Registers	168-83
Translators	168-92
GaAs	
Buffers	170-1
Counters, Binary	170-12
Drivers	170-15
Flip-Flops, D	170-17
Gates, Ex. OR/NOR	170-24
Gates, NOR	170-22
Miscellaneous	170-31
Multiplexers	170-25
Shift Registers	170-30
HNIL/HTL	
Arithmetic Functions	171-1
Buffers/Inverters	171-2
Counters, Binary	171-8
Counters, Decade	171-11
Decoders	171-13
Decoders/Drivers	171-14
Drivers	171-17
Flip-Flops, D	171-20
Flip-Flops, J-K	171-21
Flip-Flops, R-S	171-25
Gates, AND	171-26
Gates, AND-OR-Invert	171-44
Gates, Miscellaneous	171-50
Gates, NAND	171-28
Gates, NOR	171-47
Gates, OR	171-46
Miscellaneous	171-63

Function	Page-Line
Digital - HNIL/HTL (cont'd.)	
Multiplexers	171-53
Multivibrators	171-55
Shift Registers	171-58
Translators	171-69
Special	211-1
TTL	
Arithmetic Functions	172-1
Buffers	173-139
Bus-Oriented Circuits	176-36
Counters, Binary	180-13
Counters, Binary Count Up	180-22
Counters, Binary Count Up/Down	181-34
Counters, Decade	181-167
Counters, Decade Count Up	182-26
Counters, Decade Count Up/Down	182-142
Counters, Miscellaneous	183-30
Decoders	183-63
Delay Lines	184-147
Drivers	189-145
Flip-Flops, D	190-115
Flip-Flops, J-K	193-25
Gates, AND	194-74
Gates, AND-OR	198-30
Gates, AND-OR-Invert	198-39
Gates, Ex. NOR	200-101
Gates, Ex. OR	200-25
Gates, NAND	195-98
Gates, NOR	199-60
Gates, OR	198-174
Gates, OR/NOR	200-20
Inverters	175-116
Latches	200-124
Memories	202-44
See also Memory listings	
Miscellaneous	208-36
Multiplexers	203-1
Multivibrators	205-145
Shift Registers	206-31
Transceivers, Bus	208-20
Translators	208-22
Digital Signal Processors	
Fixed Point	272-1
Floating Point	278-1
System Components	
Arithmetic Functions	280-1
Converters, Analog to Digital	280-91
Converters, Digital to Analog	280-111
Miscellaneous	282-6
Processors	281-5
Registers	281-135

Function	Page-Line
Digital to Analog Converters	
See D/A Converters	
Diode Matrix	
Programmable Digital	212-59
Direction Indicator	
Automotive	720-81
Discriminator	
Direction	152-18
Window	860-77
Disk	
Hard Disk Circuits	416-71
Pulse Detector	631-71
Winchester Disk Circuits	420-102
Display Controller	606-135
Display Drivers	
Bargraph	606-10
Electroluminescent	606-74
Gas Discharge	606-20
General	606-1
Lamp	635-5
LCD	606-127
LED	608-30
Plasma	606-1
TV Channel	726-11
Vacuum Fluorescent	609-10
Display Processor	411-33
Dividers	
Digital	
Special	211-67
Extender	
Digital, Special	212-12
PLL Circuits	801-66
DMA	
Controllers	415-23
	425-37
Dolby	717-73
DRAMs	
Controller	415-36
General Purpose	1032-1
Modules	1082-31
Multiport	1112-55
Video	1115-1
Drivers	
Analog Switch	502-1
Bridge	635-91
Bus	
See Line Drivers	

Function — Page-Line

- Drivers (cont'd.)
  - CMOS 128-81
  - Disk 630-20
  - Display
    - General 606-1
  - ECL
    - 10K 161-53
    - 100K 165-70
  - Fluorescent 609-10
  - Hammer 635-5
  - High Current 635-114
  - High Voltage 635-121
  - HNIL/HTL 171-17
  - Lamp 635-5
  - Latch/Decoder/Driver 635-121
  - LCD 606-127
  - LED 608-30
  - Line 614-1
  - Memory 630-1
  - MOSFET 636-29
  - MOS Clock 631-32
  - MOS Memory 631-33
  - Motor 636-128
  - Peripheral 634-1
  - Plasma 609-142
  - Power 637-124
  - Relay 638-41
  - Servo 419-122
  - Solenoid 638-73
  - Stepper Motors 638-80
  - TTL 189-145
- DTMF
  - Telecom 840-116
- DUART
  - Transmitters-Receivers 642-65, 415-39
- DVM
  - Circuits 560-1
- Dynamic Ram Controller 630-64, 415-36

E

- EDTV 726-79
- EEPROMs
  - Electrically Erasable
    - General Purpose 993-1
  - Modules 1017-15
- EISA 425-52
- Encoder
  - Consumer
    - TV Circuits 726-87
  - Keyboard
    - General 613-1
  - Microprocessor 400-101
  - Manchester
    - See Manchester listings
- Encryption
  - See Data Encryption
- EPROMs
- UV Erasable
    - General Purpose 942-1
  - Modules 969-19
  - One-Time Programmable
    - General Purpose 973-46
- Error Checking Circuits
  - Interface - Error Checking
    - Circuits 612-1
- Error Correction 425-61
- Ethernet Circuits
  - General 415-66, 838-87
  - Exposure
    - Camera 720-106

F

- FDDI 415-99, 847-41
- Fiber Optics
  - Amplifiers 796-37
  - Circuits 642-81, 645-1, 796-33, 854-5
- FIFOs 903-1
  - CMOS 144-34
  - TTL 202-49
- Filters
  - Bandpass 836-2
  - Baseband 836-17
  - Codec 836-79
  - Digital 838-101
  - FIR 282-60
  - Notch 836-37
  - PCM 837-70
  - Switched Capacitor Array 854-39
- Fixed Point Processor 272-1
- Flash Converter 514-15
- Flash Memories
  - General Purpose 977-1

Function	Page-Line
Flash Memories (cont'd.)	
Modules	985-1
Flip-Flops	
See Digital-Flip-Flops, Various Sections	
Floating Point Processor	425-82
Floppy Disk	
Circuits	415-121
Controllers	
See Controllers listings	
Fluorescent Display Driver	609-10
FM	
See Consumer Circuits	
Followers	732-1
Frequency Counter	722-32
FSK	
Modems	844-7
PLL Circuits	801-30
Full-Bridge Power Driver	635-91
Function Generators	803-25
G	
Gas Discharge Display	606-1
Gates	
See Digital listings	
Generator	
Baud Rate	
Digital	211-2
Bit Rate	151-101
Color Bar	726-34
Function	803-25
Polynomial	612-34
Sound	
See Sound Generator listings	
TV Test Pattern	727-109
Waveform	803-45
GPIB	
Microprocessor	
General	416-65
TTL	208-67
Graphic Display Processor	416-69
Graphic Equalizer	717-93
Graphics Circuits	425-99
Ground Fault Interrupter	731-2
H	
Hall Effect Devices	
Digital	212-29
Interface	635-108

Function	Page-Line
Linear	854-109
Hard Disk Circuits	416-71
Histogram/Hough Transform	
Processor	281-11
I	
IBM 360 Interface	
Line Receivers	619-1
IBM 370 Interface	
Line Drivers	614-56
Line Receivers	619-16
IEEE 802.3	838-104
Ignition	
Automotive	720-54
Image Sensors	796-3
Industrial Time-Base Generator	152-32
Infrared Circuits	723-139
Injector Drive Controller	
Automotive	720-56
Interface	
Analog Switches	
Switches with Drivers	502-1
Switches without Driver	507-41
Multiplexers	508-32
Analog to Digital Converters	
Binary	513-1
Decimal	560-1
Digital to Analog Converters	562-1
Display Drivers	606-1
Error Checking Circuits	612-1
Keyboard Encoders-Decoders	613-1
Line Drivers	
Single Ended	614-1
Differential	616-41
Line Receivers	
Single Ended	619-1
Differential	620-17
Line Transceivers	
Single Ended	424-42 623-1
Differential	628-27
Memory Drivers	630-1
Peripheral Drivers	634-1
Sense Amplifiers	641-1
Transmitters-Receivers	642-1
Plug-In Cards	645-1
I/O	
Controllers	428-72

Function — Page-Line

- I/O (cont'd.)
  - Expanders 426-1
  - Ports 426-6
- Inverters
  - See Digital-Inverters, Various Sections
- ISDN Circuits 842-35

J

- JPEG Circuits 282-93

K

- Keyboard
  - Decoders 613-1
  - Encoders 613-1

L

- Lamp Monitor
  - Automotive 720-58
- LAN
  - Circuits 426-29
  - Ethernet 415-66
- Latch/Decoder/Driver
  - Digital
    - CMOS 140-24
    - Display 609-92
- Latches
  - ECL 10K 162-92
  - ECL 100K 166-63
    - See Digital-Latches, Various Sections
  - TTL 200-124
- LCD
  - Controllers 606-133
  - Drivers
    - See Display Driver listings
- LED Drivers
  - See Display Driver listings
- Level Shifters
  - See Translators
- Line Circuits
  - Digital Bus Circuits 155-136
  - General 614-1, 642-37
- Line Drivers
  - Differential 616-1
  - Single Ended 614-1
- Line Receivers
  - Differential 620-17
  - Single Ended 619-1
- Line Transceivers
  - Differential 628-1
  - Single Ended 623-1
- Linear
  - Amplifiers
    - Special Purpose 702-1
  - Arrays
    - Transistor 705-1
  - Comparators 708-1
  - Consumer Circuits 716-1
  - Followers 732-1
  - Operational Amplifiers
    - See Operational Amplifiers
  - Optoelectronic Devices 796-1
  - Other Linear Devices 851-1
  - Power Supply Circuits 804-1
  - Phase Locked
    - Loops/Synthesizers 801-1
  - Prescalers 801-118
  - Telecommunication Circuits 836-1
  - Timers 850-1
- Link Adapter 411-83
- Liquid Crystal
  - Display Driver 606-127
- Logic
  - See Digital listings
- Logic Unit
  - Digital
    - CMOS 102-1
  - TTL 172-1
- Look Ahead Carry
  - See Digital-Arithmetic, Various Sections

M

- Manchester Decoder/Encoder
  - Interface 643-5
- Microprocessors 417-70, 426-50
- Mask ROMs
  - Mask Programmable
    - General Purpose 916-1
- Mbus Circuits 419-130
- Melody Circuit
  - Clock 721-48
- Memory
  - CAM
    - ECL 100K 166-79
  - Character Generators 902-1

Function	Page-Line
Memory (cont'd.)	
Controllers	425-40
	427-20
	632-89
Drivers	630-1
EEPROMs	
General Purpose	993-1
Modules	1017-15
EPROMs	
UV Erasable	
General Purpose	942-1
Modules	969-19
One-Time Programmable	
General Purpose	973-46
FIFOs	903-1
CMOS	144-34
TTL	202-49
Flash	
General Purpose	977-1
Modules	985-1
Multiport Register	144-64
Plug-In Cards	1300-1
PROMs	
Fuse Programmable	
General Purpose	929-1
Modules	940-57
RAMs	
Dynamic	
General Purpose	1032-1
Modules	1082-31
Multiport	1112-55
Video	1115-1
Static	
Cache Tag	1295-2
General Purpose	1119-1
Modules	1224-40
Multiport	1277-37
NVRAMs	1289-21
Pseudostatic	1294-19
ROMs	
Mask Programmable	
General Purpose	916-1
Speech	724-97
Simultaneous Read/Write	
Digital	202-129
TV	725-83
Memory Drivers	630-1
Meter	
Level	854-129
Microcontroller	

Function	Page-Line
See Microprocessor listings	
Microprocessor Development Systems	452-1
Microprocessors	
Complex Instruction Set (CISC)	
4-Bit	
0.1 MHz	303-1
1 MHz	303-26
2 MHz	303-29
4 MHz	305-4
6 MHz	305-18
8-Bit	
1 MHz	304-21
2 MHz	306-20
4 MHz	309-28
8 MHz	315-5
12 MHz	319-20
8/16-Bit	
2 MHz	319-27
4 MHz	319-29
8 MHz	319-35
12 MHz	321-12
16-Bit	
4 MHz	321-16
8 MHz	321-33
12 MHz	327-1
16 MHz	327-34
20 MHz	329-27
16/32-Bit	
8 MHz	331-4
12 MHz	331-9
16 MHz	331-11
20 MHz	331-19
32-Bit	
8 MHz	331-26
12 MHz	331-31
20 MHz	333-17
25 MHz	333-38
33 MHz	335-14
32/64-Bit	
12 MHz	335-32
20 MHz	335-34
25 MHz	335-36
33 MHz	337-4
Reduced Instruction Set	
32-Bit	
12 MHz	339-1
20 MHz	339-5
25 MHz	339-17
33 MHz	339-37

Microprocessors

Function	Page-Line
Microprocessors - Reduced Instruction Set (cont'd.)	
40 MHz	341-12
50 MHz	343-5
Microcontrollers	
4-Bit	
0.1 MHz	345-1
1 MHz	347-4
2 MHz	347-15
4 MHZ	349-1
6 MHz	353-15
8-Bit	
1 MHz	355-12
2 MHz	357-6
4 MHz	363-18
8 MHz	367-12
12 MHz	373-41
8/16-Bit	
4 MHz	391-7
8 MHz	391-9
16-Bit	
8 MHz	391-17
12 MHz	393-9
16 MHz	393-37
20 MHz	395-31
16/32-Bit	
16 MHz	397-25
20 MHz	397-27
32-Bit	
12 MHz	397-28
33 MHz	397-29
System Components	
Bit Slice	
Macrologic Bipolar	398-1
Macrologic CMOS	398-3
4-Bit Slice	
2900	398-4
16-Bit Slice	
2900	398-106
1-Bit	
14500	398-111
4-Bit	
1400	398-115
1500	398-130
2100	399-1
COP200	399-2
COP400	399-7
51000	399-87
OLMS40	399-89
SM Series	399-101
TLCS470	399-106
TLCS47	400-1

Function	Page-Line
TMS2000	400-51
uCOM-75	400-53
Miscellaneous	400-59 422-105
8-Bit	
740	400-63
1650	400-83
1800	400-90
2650	401-57
3870	401-76
6000	401-101
6300	401-107
6500	402-5
6800	402-77
7000	403-93
8048	403-96
8051	404-81
8080	405-52
8085A	406-55
8086/88	407-42
8088	407-55
COP800	407-56
INS8060	407-61
NSC800	407-66
8X300	407-79
TLCS90	407-84
Z8	407-85
Z80	408-5
Miscellaneous	408-101 422-122
8/16-Bit	
8086	408-124
8086/88	409-7
8088	409-134
9900	409-143
80286	410-1
uCOM-70K	410-2
12-Bit	
2900	410-10
2900 Controller	410-12
6100	410-21
16-Bit	
2900	410-24
6500	410-46
Z8000	410-47
8086	410-83
8096	410-84
9450	410-86
16000	410-87
68000	411-4
TLCS68000	411-67

Function — **Page-Line**

- Microprocessors - 16-Bit (cont'd.)
    - TMS380 411-77
    - Transputer 411-83
    - Z8000 411-97
  - 16/32-Bit
    - 16000 411-102
    - 32000 411-103
    - 80286 412-8
  - 32-Bit
    - 32 412-61
    - 32000 412-64
    - 68000 412-91
    - 80000 412-99
    - 80386 412-100
    - Transputer 413-8
  - Peripheral Controllers 413-29
  - General Purpose 422-13
  - Miscellaneous
  - Digital
    - CMOS 151-90
  - ECL III 169-46
  - ECL 10K 163-86
  - ECL 100K 167-82
  - ECL 101K 168-94
  - Gallium Arsenide 170-31
  - HNIL/HTL 171-63
  - TTL 208-36
  - Microprocessor
    - General Purpose 422-13
- Mixer
  - Balanced 801-39
  - Radios 723-90
  - PLL Circuits 801-52
- Modems
  - See Telecommunication Circuits
- Modulator
  - Pulse-Width 815-50
- Monitor
  - Automotive Lamp 720-58
- MOS Memory Drivers 631-33
- MOSFET Drivers 636-29
- Motor Circuits
  - Interface
    - Peripheral Drivers 634-1
- Motor Driver
  - General 634-31
- Motor Speed Control
  - General 636-96
  - Recorders 725-46

Function — **Page-Line**

- MPU Development Systems 452-1
- Multifunction Devices 1602-1
- Multiplexer/Demultiplexer
  - Digital
    - Special 212-46
- Multiplexers
  - Analog
    - Analog Switches 502-1
  - See Digital-Multiplexers, Various Sections
- Multipliers
  - See Digital-Multipliers, Various Sections
- Multivibrators
  - CMOS 147-179
  - ECL III 169-39
  - ECL 10K 163-26
  - HNIL/HTL 171-55
  - TTL 205-145
- Music
  - Chimes 731-20
  - General 721-28
- Muting Circuits 717-119

N

- Network LAN
  - See LAN
- Neuron Chip 418-53
- Nines Complementor
  - Digital
    - CMOS 104-171
- NRZI
  - Encoder/Decoder 427-38
- NTDS 637-102
- NTSC
  - TV 727-6

O

- Object Contour Tracer 282-99
- Operational Amplifiers
  - Buffers 702-45
  - Characteristics
    - Duals 773-1
    - Quads 786-20
    - Singles 739-1
    - Triples 786-7
  - Chopper Stabilized 739-25
  - Digital Gain Set 211-49
  - High Output Current 736-1
  - High Speed 736-79
  - High Voltage 737-1

Function	Page-Line
Operational Amplifiers (cont'd.)	
Low Bias Current	737-56
Low Drift	737-90
Low Power	738-1
Wide Band	738-27
Optocouplers	797-61
Optoelectronic Devices	796-1
Optoisolators	797-64
Oscillators	
Crystal	856-64
Numerically Controlled	212-48
Quadrature	856-69
Over/Under Circuits	825-99
P	
Pager Circuits	731-23
PAL	
TV	727-23
Palette	424-45 430-75
Parity Generator	
See Digital-Arithmetic, Various Sections	
PCM	
Filter	837-70
Repeater	847-113
Transceiver	848-9
PCMCIA	427-52
Peak Detector	826-46
Peripheral Drivers	634-1
Phase Comparators	801-40
Phase Control	
AC	851-5
Phase Locked Loop Circuits	
Digital	
CMOS	152-69
TTL	208-102
Linear	418-90 801-1
Photodetector	
See Image Sensors	
PIA	
General	427-59
Pin Diode Drivers	637-108
Pipeline Registers	152-102
Plasma Display Driver	606-1

Function	Page-Line
PLL	
See Phase Locked Loop listings	
PLD	
See Programmable Logic Devices	
Plug-In Cards	
Interface	645-1
Memory	1300-1
Potentiometer	856-136
Power Amplifier Circuits	718-21
Power Supply	
See Voltage Regulator listings	
Power Supply Controller	
Monitor	427-66
Power Drivers	
Full-Bridge	635-91
Half-Bridge	635-95
Preamplifiers	
Cassette Recorder	725-48
Remote Control	724-36
See also Amplifiers	
Prefixes	
Part Number Guide	2009
Prescalers	
AM/FM	801-1
Count Extender	801-4
General	801-118
Pressure Sensors	857-3
Printer Circuits	638-36
Priority Encoder	
See Digital-Miscellaneous	
Priority Interrupt Controller	427-78
Processor	
Arithmetic	
Digital	211-1
DSP	424-122
Bilingual TV	725-113
Burst Error	
Microprocessor General	423-87
Color TV	726-37
DSP	281-5
Fixed Point	272-1
Floating Point	278-1
TV	726-37
Programmable Diode Matrix	212-59

Function	Page-Line
Programmable Logic Devices	
Combinatorial Outputs	
One-Time Programmable	1502-1
	1511-1
	1514-1
	1532-1
Erasable Programmable	1503-39
	1514-3
Electrically Erasable Programmable	1514-38
Registered Outputs	
One-Time Programmable	1504-1
	1512-1
	1533-1
Erasable Programmable	1505-8
	1515-5
Electrically Erasable Programmable	1515-20
Registered/Combinatorial Outputs	
One-Time Programmable	1506-1
	1513-1
	1516-1
	1535-1
Erasable Programmable	1513-23
	1517-35
Electrically Erasable Programmable	1524-48
Superset	
One-Time Programmable	1509-35
	1513-29
	1527-24
	1534-1
Erasable Programmable	1528-1
Electrically Erasable Programmable	1530-5
Programmable Filter	631-5
Frequency Generator	427-94
Interval/Timer	412-50
Parallel Interface	427-98
Storage Controller	418-114
Tone/Noise Generator	719-48
PROMs	
Fuse Programmable	
General Purpose	929-1
Modules	940-57
Pulse-Width Modulator	827-45
Q	
R	
Radio Circuits	
AM	721-71
AM/FM	721-95
FM	722-99
Remote Control	723-139

Function	Page-Line
SSB	721-90
RAMs	
Dynamic	
General Purpose	1032-1
Modules	1082-31
Multiport	1112-55
Video	1115-1
Static	
Cache Tag	1295-2
General Purpose	1119-1
Modules	1224-40
Multiport	1277-37
NVRAMs	1289-21
Pseudostatic	1294-19
Rate Multiplier	
Digital	
CMOS	153-7
Receivers	
CB Radio	721-5
IR	723-146
Line (See also Line Circuits)	
Remote Control	
Consumer	723-139
Recorder	
Video Tape	725-69
Reed-Solomon Circuits	282-111
Reference Voltage	828-155
Registers	
See Memory listings	
See Digital-Shift Registers, Various Sections	
Regulators	
Motor Speed	637-70
Switching	815-1
Relay Drivers	848-29
Remote Control Circuits	
Consumer	723-139
Resolver Systems	857-44
RF Circuits	
See Linear Consumer Circuits	
RGB Circuits	727-52
ROMs	
Mask Programmable	
General Purpose	916-1
Row Drivers	608-113
RS232	
Line Drivers	614-3
Line Receivers	619-22

RS422 – T1 Circuits

Function	Page-Line
RS422	
Line Drivers	614-2
Line Receivers	619-14
RS423	
Line Drivers	614-2
Line Receivers	619-14
RS485	
Line Transceivers	623-3
S	
Sample and Hold Circuits	831-152 857-84
SBus Circuits	419-31 842-108
Schmitt Trigger	
See Digital-Inverters, Various Sections	
SCR	
Control	858-94
SCSI Circuits	419-34
SDLC	
Microprocessor	
9900	409-143
Sense Amplifiers	641-1
Servo Circuits	858-109
Shift Registers	
See Digital-Shift Registers, Various Sections	
Signal Processor	
DSP	272-1
Interface	428-93
Smoke Detector	731-39 858-129
SONET/SDH Circuits	839-45
Sound Generator	
Consumer Audio	719-67
SPARC Circuits	419-130 429-1
Speech Circuits	
Consumer	724-96
Processors	429-5
Telephone	848-103
Speed Control	
Automotive	720-76
SRAMs	
Cache Tag	1295-2
General Purpose	1119-1
Modules	1224-40
Multiport	1277-37
NVRAM	1289-21
Pseudostatic	1294-19
SSB Detector	
Radio	721-90
Standard Cells	1462-1
Stereo	
AM	721-76
FM	722-99
TV	727-91
String Proximity Computer	420-19
Strobe Light	
Camera	720-112
Subscriber Circuits	
See Telecommunication Circuits	
Successive Approximation	
Register	
CMOS	153-36
Microprocessor General	429-23
Switches	
Analog	
with Drivers	502-1
without Drivers	507-41
Crosspoint	
Telecom	837-145
Darlington	639-118 705-2
Hall Effect	635-108 641-12
Digital	212-29
Multiplexers	508-32
Touch	
Linear	731-66 859-112
Switching Regulator Circuits	815-1
Synchro Systems	859-28
Synchronous Data Link	
Controller	420-20
Synthesizers	
AM	721-79
AM/FM	722-56
CB Radio	721-7
General	802-13
Music	721-47
Speech	724-130
TV	726-96
T	
T1 Circuits	849-40

Function	Page-Line
Tachometer Circuit	731-61
Tape Recorder Circuits	
Audio	725-36
Video	725-69
Telecommunication Circuits	
Active Filters	836-1
Bell 103/212/208A/B	844-36
Codecs	836-78
Compandors	837-120
Crosspoint Switches	837-145
Data Communications	838-32
Dialers	839-94
DTMF Generators/Receivers	840-116
Line Interface Circuits	841-134
Modem Circuits	843-124
Modulators	846-43
Miscellaneous	846-49
Teletext Circuits	727-104
Television Circuits	725-81
Temperature	
Transducers	859-59
Terminator	
Digital	
CMOS	153-45
Test Pattern Generator	
TV	727-109
Timers	
Counter/Timer	211-25
Digital	153-52
Token Ring Circuits	411-77
Tone Decoders	
PLL Circuits	803-5
Telecom	841-20
Tone Detector	
Call Progress	840-16
Tone Generator	
Music	721-52
Telecom	841-41
Touch Switches	
See Switch listings	
Traffic Camera	
TV	727-111
Traffic Information	
Automotive	859-149
Transceivers	
Addressable	153-58

Function	Page-Line
Bus	
TTL	176-36
Line	614-1
Transducers	
Pressure	857-3
Temperature	859-59
Transistor	
Arrays	705-1
Matched	705-3
Translators	
CMOS	151-79
ECL 10K	163-47
HNIL/HTL	171-69
TTL	208-22
Transmitters	
IR	723-139
Remote Control	724-59
Transputer	411-83 413-8
TRIAC Control	859-152
Trigger	
See Schmitt Trigger Listings	
Zero Crossing	860-78
Tuner	
AM	721-92
AM/FM	721-106
FM	723-36
TV	727-112
TV Circuits	725-81
U	
UART	
Microprocessor	
General	420-32 429-74 430-53 644-8
Transmitters-Receivers	642-65
u Law	
Linear	836-82
V	
V.24	614-31
V.26	614-3
V.28	614-3
VCO	
ECL III	169-49
Generators	
Function	803-25

Function	Page-Line
VCO (cont'd.)	
Waveform	803-37
PLL Circuits	803-18
TTL	209-13
VGA Circuits	415-10
	429-116
Video	
Amplifier	729-75
Controller	420-57
	424-99
CRT	414-25
DAC	419-5
	430-1
	562-1
Decoder	729-111
Delay Line	729-113
Display Driver	606-1
Encoder	730-5
Multiplexer	730-22
Processor	430-4
Video Circuits	
TV	725-79
Viterbi	839-68
VMEbus Circuits	430-22
Vocabulary	
Speech Circuit	724-96
Voice	
Band Inverter	725-20
Processor	281-114
Recognition Circuit	430-27
	849-74
Scrambler	719-120
Synthesizer	429-5
	430-28
	719-121
Voltage Alarm	860-75
Voltage Controlled Amplifier (VCA)	719-122
Voltage Controlled Oscillator (VCO)	169-49
Voltage Converter	832-122
Voltage Detector	833-27
Voltage Doubler	834-25
Voltage Inverter	834-25
Voltage Monitor	834-34
Voltage Regulators	
Adjustable	
Dual	814-113
Negative	814-49
Positive	812-102
Automotive	720-87
Fixed	
Dual	812-79
Negative	810-48
Positive	804-1
Switching Regulator Circuits	815-1
W	
Watch	
Consumer	721-15
Watchdog Timers	430-35
Waveform Generators	803-37
Wideband Circuits	730-84
Winchester Circuits	420-102
	632-95
X-Y	
Z	
Zero Crossing Triggers	860-78

INTRODUCTION TO DIGITAL

Digital devices are listed by major product families: BiCMOS, CMOS, ECL, GaAs, or TTL, and within them by functional groups such as arithmetic, buffers and inverters.

A few digital devices, such as watch, clock, speech and music circuits, are not covered in the digital section, but are included in the Linear – Consumer guide.

Digital Logic Topics

CMOS............................102
BiCMOS 155
ECL 159
GaAs 170
HNIL/HTL.....................171
TTL 172
Special..........................211

DIGITAL–CMOS

Arithmetic Functions

Function	Device	Source	Line
Adder, NBCD (natural binary coded decimal)			
4XXX	ML14560B	Lansdale	
	MC14560BC	Motorola	
	TC4560B	**Toshiba (3838)**	
Adder, Triple Serial, Negative Logic, with Internal Carry			
4XXX	MC14038BC	Motorola	
	HCC4038B	† SGS-Thomson	5
	HCF4038B	SGS-Thomson	
	TC4038B	**Toshiba (3838)**	
Adder, Triple Serial, Positive Logic, with Internal Carry			
4XXX	MC14032BC	Motorola	
	HCC4032B	† SGS-Thomson	
	HCF4032B	SGS-Thomson	10
	TC4032B	**Toshiba (3838)**	
Adder, 4-Bit, Full			
AC	CD54AC283	°† Harris	
ACT	CD74ACT283	° Harris	
C	MM74C83	National	
HC	CD54HC583	† Harris	15
	CD74HC583	Harris	
	74HC583	Philips	
HCT	CD54HCT583	† Harris	
	CD74HCT583	Harris	
	74HCT583	Philips	20
4XXX	GD4008B	GoldStar	
	CD4008B	‡ Harris	
	CD4008A	‡ Micrel	
	CD4008B	‡ Micrel	
	MC14008BC	Motorola	25
	CD4008BC	National	
	CD4008BM	† National	
	HEF4008B	Philips	
	BCL4008B	R&E Intl	
	SCL4008B	R&E Intl	30
	HCC4008B	† SGS-Thomson	
	HCF4008B	SGS-Thomson	
	TC4008B	**Toshiba (3838)**	
Adder, 4-Bit, Full with Fast Carry			
AC	CD74AC283	° Harris	
ACT	CD54ACT283	°† Harris	35
Cell	SN74283	TI	
HC	CD54HC283	°† Harris	
	CD74HC283	° Harris	
	HCTS283MS	‡ Harris	
	MM54HC283	† National	40
	MM74HC283	National	
	74HC283	° Philips	
	M74HC283	SGS-Thomson	
	SN74HC283	TI	
	TC74HC283A	**Toshiba (3836)**	45
HCT	CD54HCT283	°† Harris	
	CD74HCT283	° Harris	
	74HCT283	° Philips	
Adder, 4-Bit, Full with Fast Carry and Center Power Pins			
C	MM54C83	† National	
Adder, 4-Bit, Full with Fast Carry			
HC	M74HC283	Mitsubishi	50
Adder-Subtractor	L4C381	† LogicDev	
Address Comparator, 12-Bit to 4-Bit			
HC	SN74HC679	TI	
	SN74HC680	TI	
Address Comparator, 16-Bit			
AC	74AC11677	Philips	
	74AC11678	Philips	55
Address Comparator, 16-Bit to 4-Bit			
HC	SN74HC677	TI	
	SN74HC678	TI	
Address Generator, 16 Bit with Look-Ahead Pipeline			
	ADSP1410J	° AD	
	ADSP1410K	° AD	
	ADSP1410S	°† AD	60
	ADSP1410T	°† AD	
Advanced, Image Manipulation Engine			
	TMC2302	TRWLSI	
ALU Function Generator			
AC	54AC11181	† TI	
	74AC11181	TI	
Arithmetic Logic Unit (for Digital Signal Processing applications)			
ACT	54ACT705	† National	65
	74ACT705	National	
Arithmetic Logic Unit/Function Generator			
ACT	54ACT11181	† TI	
	74ACT11181	TI	
Arithmetic Logic Unit, 4-Bit			
4XXX	CD40181B	Harris	
Bit Multiplier, 2's Complement (12x12)			
	MPY012-1	IMI	70
	MPY012-5	IMI	
Comparator			
HC	HCC4585B	SGS-Thomson	
Comparator, 8-Bit			
FCT	P54PCT521	Performance	
	P54PCT521A	‡ Performance	
	P54PCT521B	‡ Performance	75
Comparator, 8-Bit Equality			
HCT	**TC74HCT688A**	**Toshiba (3836)**	
Comparator, 8-Bit Identity			
FCT	QS74FCT20521	Quality Semi	
Correlator	TMC2023-1	† TRWLSI	
	TMC2221-1	† TRWLSI	
Correlator, 1x128, 20 MHz			
C	TMC2221	TRWLSI	80
Correlator, 64x1, 30 MHz			
C	TMC2023	TRWLSI	
Diagnostic Scan Register			
PCT	P29PCT818AC	Performance	
	P29PCT818AM	† Performance	
Digital Mixer	TMC2249-1	TRWLSI	
Equality Comparator, 8-Bit			
HC	CD54HC688	† Harris	85
	CD74HC688	Harris	
	74HC688	† Philips	
	TC74HC688A	**Toshiba (3836)**	
HCT	CD54HCT688	† Harris	
	CD74HCT688	Harris	90
	74HCT688	† Philips	
	M74HCT688	† SGS-Thomson	
Fast Cosine Transformer			
	TMC2311	TRWLSI	
Fast Fourier Transform Controller and ALU, 16-Bit, 20 MHz			
C	TMC2310	TRWLSI	
Fixed-Point Multiplier (8x8)			
	ADSP1080A	AD	95
	ADSP1081A	° AD	
Fixed-Point Multiplier (12x12)			
	ADSP1012A	AD	
Fixed-Point Multiplier (16x16)			
	ADSP1016A	AD	
Fixed-Point Multiplier (24x24)			
	ADSP1024A	AD	
Floating Point Chipset (multiplier and ALU)			
	ADSP3211	° AD	100
	ADSP3221	° AD	
	ADSP3222	° AD	
Floating Point Processor, 64-Bit			
ACT	SN74ACT8847	° TI	
Floating Point Unit (supports single/double precision floating point operations)			
	CY7C602A	Cypress	
	CY7C602A-25C	Cypress	105
		(Continued)	
Floating Point Unit (supports single/double precision floating point operations) (Cont'd)			
	CY7C602A-33C	Cypress	
	CY7C602A-40C	Cypress	
Identity Comparator, 8-Bit			
AC	MC74AC521	Motorola	
	54AC521	† National	
	74AC521	National	110
	74AC11520	Philips	
	74AC11521	Philips	
	SN54AC11520	°† TI	
	SN54AC11521	°† TI	
	54AC11520	† TI	115
	54AC11521	† TI	
ACT	MC74ACT521	Motorola	
	SN54ACT11520	°† TI	
	SN54ACT11521	°† TI	
	54ACT11520	† TI	120
	54ACT11521	† TI	
FCT	IDT54FCT521A	°† IDT	
	IDT54FCT521AT	† IDT	
	IDT54FCT521BT	† IDT	
	IDT54FCT521CT	† IDT	125
	IDT54FCT521T	† IDT	
	IDT74FCT521A	° IDT	
	IDT74FCT521AT	IDT	
	IDT74FCT521BT	IDT	
	IDT74FCT521CT	IDT	130
	IDT74FCT521T	IDT	
	54FCT521	† National	
	54FCT521A	† National	
	74FCT521	National	
	74FCT521A	National	135
	P54FCT521	Performance	
	P54FCT521A	Performance	
	P54FCT521AT	† Performance	
	P54FCT521B	Performance	
	P54FCT521CT	† Performance	140
	P54FCT521T	Performance	
	P74FCT521	Performance	
	P74FCT521A	Performance	
	P74FCT521AT	Performance	
	P74FCT521B	Performance	145
	P74FCT521BT	Performance	
	P74FCT521CT	Performance	
	P74FCT521T	Performance	
	QS54FCT521	† Quality Semi	
	QS54FCT521A	† Quality Semi	150
	QS54FCT521B	† Quality Semi	
	QS54FCT521C	† Quality Semi	
	QS54FCT521D	† Quality Semi	
	QS74FCT521	Quality Semi	
	QS74FCT521A	Quality Semi	155
	QS74FCT521B	Quality Semi	
	QS74FCT521C	Quality Semi	
	QS74FCT521D	Quality Semi	
HC	MC54HC688	† Motorola	
	MC74HC688	Motorola	160
	MM54HC688	† National	
	MM74HC688	National	
	M74HC688	SGS-Thomson	
	SN54HC688	† TI	
	SN74HC682	TI	165
	SN74HC684	TI	
	SN74HC688	TI	
HCT	MM54HCT688	† National	
	MM74HCT688	National	
Identity Comparator, 8-Bit with Pullup Resistors			
AC	54AC520	† National	170
	74AC520	National	
ACT	54ACT520	† National	
	74ACT520	National	
Identity Comparator, 8-Bit			
AC	74AC11521	° TI	
ACT	74ACT11520	° TI	175
	74ACT11521	° TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Arithmetic Functions (Cont'd)

Function	Device	Source	Line
Identity Comparator, 8-Bit with Pullup Resistors			
AC	74AC11520	° TI	
Image Filter, 10x11x4, 30 MHz			
C	TMC2246	TRWLSI	
Image Resampling Sequencer			
	TMC2301-1	† TRWLSI	
	TMC2301-2	TRWLSI	
Integer Divider, 32-Bit, 25 MHz (16-bit divisor)			
C	TMC3211	TRWLSI	5
Logic Unit, Floating Point, IEEE 754			
	ADSP3220J	° AD	
	ADSP3220K	° AD	
	ADSP3220S	°† AD	
	ADSP3220T	°† AD	
Logic Unit, Registered, 16-Bit			
ACT	SN74ACT8816	TI	10
Logic Unit, 4-Bit			
AC	54AC11881	† TI	
	74AC11881	TI	
ACT	54ACT11881	† TI	
	74ACT11881	TI	
HC	CD54HC181	† Harris	15
	CD74HC181	Harris	
	MM54HC181	† National	
	MM74HC181	National	
	74HC181	Philips	
	54HC181	† Rochester	20
	M74HC181	SGS-Thomson	
	TC74HC181A	**Toshiba (3836)**	
HCT	CD54HCT181	† Harris	
	CD74HCT181	Harris	
	74HCT181	Philips	25
4XXX	MC14581BC	Motorola	
	HCC40181B	† SGS-Thomson	
	HCF40181B	SGS-Thomson	
Logic Unit, 16 Bit Slice			
	L29C101	† LogicDev	
Logic Unit, 16-Bit Cascadable			
	IDT7381	IDT	30
Logic Unit, 32-Bit	AM29C332	AMD	
Look Ahead Carry Block			
4XXX	CD40182B	Harris	
Look-Ahead Carry Block			
4XXX	BCL4582B	R&E Intl	
	SCL4582B	R&E Intl	
Look-Ahead Carry Generator			
ACT	54ACT182	† National	35
	74ACT182	National	
FCT	IDT54FCT182	°† IDT	
	IDT54FCT182A	°† IDT	
	IDT74FCT182	°† IDT	
	IDT74FCT182A	°† IDT	40
HC	CD54HC182	°† Harris	
	CD74HC182	° Harris	
	MM54HC182	† National	
	MM74HC182	National	
	74HC182	° Philips	45
	M74HC182	SGS-Thomson	
	TC74HC182A	**Toshiba (3836)**	
HCT	CD54HCT182	°† Harris	
	CD74HCT182	° Harris	
	74HCT182	° Philips	50
4XXX	MC14582BC	Motorola	
	HCC40182	† SGS-Thomson	
	HCF40182	SGS-Thomson	
Look-Ahead Carry Generator, 32-Bit			
AC	54AC11882	† TI	
	74AC11882	TI	55

(Continued)

Function	Device	Source	Line
Look-Ahead Carry Generator, 32-Bit (Cont'd)			
ACT	54ACT11882	† TI	
	74ACT11882	TI	
Magnitude Comparator 4-Bit			
AC	54AC85	† National	
	74AC85	National	
ACT	54ACT521	† National	60
	54ACT85	† National	
	74ACT521	National	
	74ACT85	National	
C	GD40085B	GoldStar	
	MM54C85	‡ Micrel	65
	MM54C85	† National	
	MM74C85	National	
HC	CD54HC85	°† Harris	
	CD74HC85	° Harris	
	HCTS85MS	‡ Harris	70
	MC54HC85	† Motorola	
	MC74HC85	Motorola	
	MM54HC521	† National	
	MM54HC85	† National	
	MM74HC521	National	75
	MM74HC85	National	
	74HC85	° Philips	
	M74HC85	SGS-Thomson	
	SN54HC85A	† TI	
	SN74HC85	TI	80
	TC74HC85A	**Toshiba (3836)**	
HCT	CD54HCT85	°† Harris	
	CD74HCT85	° Harris	
	MM54HCT521	† National	
	MM74HCT521	National	85
	74HCT85	° Philips	
4XXX	CD4063B	† Harris	
	CD4585B	† Harris	
	MC14585BC	Motorola	
	HEF4585B	Philips	90
	BCL4585B	R&E Intl	
	SCL4585B	R&E Intl	
	HCC4063B	† SGS-Thomson	
	HCF4063B	SGS-Thomson	
	TC4063B	**Toshiba (3838)**	95
	TC4585B	**Toshiba (3838)**	
Magnitude Comparator 8-Bit			
ACT	74ACT11865	TI	
	74ACT11885	TI	
Microprogram Sequencer, 16-Bit			
	AM29C331	AMD	
Multi-Level Pipeline Register			
HCT	P29PCT520	† Performance	100
	P29PCT521	† Performance	
Multilevel Pipeline Register			
	L29C520	† LogicDev	
	L29C521	† LogicDev	
FCT	CD74FCT29520A	Harris	
Multiplier/Accumulator (12x12)			
	LMA2009	† LogicDev	105
Multiplier/Accumulator (16X16)			
ACT	54ACT1110	† National	
	74ACT1110	National	
Multiplier, Floating Point, IEEE 754			
	ADSP3210J	° AD	
	ADSP3210K	° AD	
	ADSP3210S	°† AD	110
	ADSP3210T	°† AD	
Multiplier, Parallel (16x16)			
	AM29C516A	AMD	
Multiplier (2x2) Parallel			
4XXX	MC14554BC	Motorola	
Multiplier (8x8) Divider (16÷8)			
	MSM6203	OKI	
	MSM80C58	OKI	115

Function	Device	Source	Line
Multiplier (8x8) Unsigned Magnitude			
	ADSP1081AJ	° AD	
	ADSP1081AK	AD	
	ADSP1081AS	°† AD	
	ADSP1081AT	°† AD	
	LMU8U	† LogicDev	120
Multiplier (8x8) 2's Complement			
	ADSP1080AJ	AD	
	ADSP1080AK	AD	
	ADSP1080AS	† AD	
	ADSP1080AT	† AD	
	LMU08	† LogicDev	125
Multiplier (8x8) 2's Complement and Unsigned Magnitude	LMU557	† LogicDev	
	LMU558	† LogicDev	
Multiplier (12x12)	IDT7212L	IDT	
	IDT7212LB	† IDT	
	IDT7213LB	† IDT	130
Multiplier (12x12) 2's Complement			
	ADSP1012AJ	AD	
	ADSP1012AK	AD	
	ADSP1012AS	† AD	
	ADSP1012AT	† AD	
Multiplier (12x12) 2's Complement and Unsigned Magnitude, Mixed Mode			
	MPY12IMI	IMI	135
	LMU112	† LogicDev	
	LMU12	† LogicDev	
Multiplier (16x16)			
ACT	54ACT1016	† National	
	74ACT1016	National	
Multiplier (16x16) with 32-Bit Output			
	IDT7316	IDT	140
	IDT7317	IDT	
Multiplier (16x16) 2's Complement			
	ADSP1016AJ	AD	
	ADSP1016AK	AD	
	ADSP1016AS	† AD	
	ADSP1016AT	† AD	145
Multiplier (16x16) 2's Complement and Unsigned Magnitude or Mixed Mode Operation			
	CY7C516-38C	Cypress	
	CY7C516-42M	† Cypress	
	CY7C516-45C	Cypress	
	CY7C516-55C	Cypress	
	CY7C516-55M	† Cypress	150
	CY7C516-75C	Cypress	
	CY7C516-75M	† Cypress	
	CY7C517-38C	Cypress	
	CY7C517-42M	† Cypress	
	CY7C517-45C	Cypress	155
	CY7C517-55C	Cypress	
	CY7C517-55M	† Cypress	
	CY7C517-75C	Cypress	
	CY7C517-75M	† Cypress	
	IDT7216L	° IDT	160
	IDT7216LB	°† IDT	
	IDT7217L	IDT	
	IDT7217LB	† IDT	
	LMU16	† LogicDev	
	LMU17	† LogicDev	165
	LMU216	† LogicDev	
	LMU217	† LogicDev	
Multiplier (16x16) 2's Complement, Unsigned or Mixed Operands	LMU18	† LogicDev	
Multiplier (24x24)	ADSP1024AJ	AD	
	ADSP1024AK	AD	170
	ADSP1024AS	AD	
	ADSP1024AT	AD	
Multiplier 32-Bit Parallel			
	AM29C323	° AMD	
Multiplier-Accumulator (8x8)			
	ADSP1008A	° AD	
	ADSP1008AJ	° AD	175
	ADSP1008AK	° AD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Arithmetic Functions (Cont'd)

Function	Device	Source	Line
Multiplier-Accumulator (8x8) (Cont'd)			
	ADSP1008AS	† AD	
	ADSP1008AT	°† AD	
C	TMC2208	TRWLSI	
Multiplier-Accumulator (12x12)			
	ADSP1009A	AD	
	ADSP1009AJ	AD	5
	ADSP1009AK	AD	
	ADSP1009AS	† AD	
	ADSP1009AT	† AD	
	IDT7209L	IDT	
	IDT7209LB	† IDT	10
	LMA1009	† LogicDev	
Multiplier-Accumulator (16x16)			
	ADSP1010A	AD	
	ADSP1010AJ	AD	
	ADSP1010AK	AD	
	ADSP1010AS	† AD	15
	ADSP1010AT	† AD	
	ADSP1101	AD	
	ADSP1110AJ	AD	
	ADSP1110AK	AD	
	ADSP1110AS	† AD	20
	ADSP1110AT	† AD	
	IDT7210L	° IDT	
	IDT7210LB	°† IDT	
	IDT7243LB	°† IDT	
	LMA1010	† LogicDev	25
	LMA2010	† LogicDev	
	TMC2210-1	TRWLSI	
	TMC2210-2	TRWLSI	
	WS59510	Waferscale	
Multiplier-Accumulator (16x16) 2's Complement or Unsigned Magnitude			
	CY7C510-45C	Cypress	30
	CY7C510-55C	Cypress	
	CY7C510-55M	† Cypress	
	CY7C510-65C	Cypress	
	CY7C510-65M	† Cypress	
	CY7C510-75C	Cypress	35
	CY7C510-75M	† Cypress	
Multiplier-Accumulator (32x32)			
	L64032-10	† LSI Logic	
	L64032-12	† LSI Logic	
	L64032-80	† LSI Logic	
Multiplier-Summer (12x12)			
	LMS12	† LogicDev	40
Parity Generator/Checker, 8-Bit Even, Dual			
FCT	P74FCT481	Performance	
	P74FCT481A	Performance	
	P74FCT481B	Performance	
PCT	P54PCT481	‡ Performance	
	P54PCT481A	‡ Performance	45
Parity Generator/Checker, 8-Bit Odd, Dual			
FCT	P74FCT480	Performance	
	P74FCT480A	Performance	
	P74FCT480B	Performance	
PCT	P54PCT480	‡ Performance	
	P54PCT480A	‡ Performance	50
Parity Generator/Checker, 9-Bit			
AC	54AC280	† National	
	74AC280	National	
ACT	54ACT280	† National	
	74ACT280	National	
FCT	QS74FCT1280	Quality Semi	55
	QS74FCT1280A	Quality Semi	
	QS74FCT1280B	Quality Semi	
Parity Generator/Checker, 9-Bit Odd/Even			
AC	CD54AC280	°† Harris	
	CD74AC280	° Harris	
	54AC11280	† TI	60
	74AC11280	° TI	
(Continued)			
Parity Generator/Checker, 9-Bit Odd/Even (Cont'd)			
ACT	CD54ACT280	°† Harris	
	CD74ACT280	° Harris	
FCT	QS54FCT1280	† Quality Semi	
	QS54FCT1280A	† Quality Semi	65
	QS54FCT1280B	† Quality Semi	
	QS54FCT280	† Quality Semi	
	QS54FCT280A	† Quality Semi	
	QS54FCT280B	† Quality Semi	
	QS74FCT280	Quality Semi	70
	QS74FCT280A	Quality Semi	
	QS74FCT280B	Quality Semi	
HC	GD54HC280	† GoldStar	
	GD74HC280	GoldStar	
	CD54HC280	°† Harris	75
	CD74HC280	° Harris	
	M74HC280	Mitsubishi	
	MC54HC280	† Motorola	
	MC74HC280	Motorola	
	MM54HC280	† National	80
	MM74HC280	National	
	74HC280	° Philips	
	M74HC280	SGS-Thomson	
HCT	GD54HCT280	† GoldStar	
	GD74HCT280	GoldStar	85
	CD54HCT280	°† Harris	
	CD74HCT280	° Harris	
	74HCT280	° Philips	
Parity Generator/Checker, 9-Bit			
4XXX	CD40101BMS	Harris	
	HCC40101B	† SGS-Thomson	90
	HCF40101B	SGS-Thomson	
Parity Generator/Checker, 9-Bit Odd/Even			
AC	54AC11286	† TI	
	74AC11286	° TI	
ACT	54ACT11286	† TI	
	74ACT11280	° TI	95
	74ACT11286	TI	
Pipeline Register, Fast Multi-Level			
PCT	P29PCT520AC	Performance	
	P29PCT520AM	† Performance	
	P29PCT521AC	Performance	
	P29PCT521AM	† Performance	100
Pipeline Register, Multilevel			
FCT	IDT29FCT520A	° IDT	
	IDT29FCT520AT	° IDT	
	IDT29FCT520B	IDT	
	IDT29FCT520BT	° IDT	
	IDT29FCT520C	IDT	105
	IDT29FCT520CT	° IDT	
	IDT29FCT520DT	IDT	
	IDT29FCT521A	IDT	
	IDT29FCT521AT	IDT	
	IDT29FCT521BT	IDT	110
	IDT29FCT521CT	IDT	
	IDT29FCT521DT	IDT	
	P29FCT520	Performance	
	P29FCT520A	Performance	
	P29FCT520AT	Performance	115
	P29FCT520B	Performance	
	P29FCT520BT	Performance	
	P29FCT520CT	Performance	
	P29FCT521	Performance	
	P29FCT521A	Performance	120
	P29FCT521AT	Performance	
	P29FCT521B	Performance	
	P29FCT521BT	Performance	
	P29FCT521CT	Performance	
PCT	29PCT520	Performance	125
	29PCT520A	Performance	
	29PCT520B	Performance	
	29PCT521	‡ Performance	
	29PCT521A	‡ Performance	
	29PCT521B	‡ Performance	130
Pipeline Register, 4x8-Bit (with load control parameters)			
FCT	QS29FCT20520	Quality Semi	
	QS29FCT20521	Quality Semi	
	QS29FCT2520A	Quality Semi	
	QS29FCT2520B	Quality Semi	
	QS29FCT2520C	Quality Semi	135
	QS29FCT2521A	Quality Semi	
	QS29FCT2521B	Quality Semi	
	QS29FCT2521C	Quality Semi	
	QS29FCT520	Quality Semi	
	QS29FCT520A	Quality Semi	140
	QS29FCT520B	Quality Semi	
	QS29FCT520C	Quality Semi	
	QS29FCT521	Quality Semi	
	QS29FCT521A	Quality Semi	
	QS29FCT521B	Quality Semi	145
	QS29FCT521C	Quality Semi	
Priority Encoder, 10-Line Decimal to 4-Line BCD			
HC	GD54HC147	† GoldStar	
	GD74HC147	GoldStar	
	SN74HC147	TI	
HCT	GD54HCT147	† GoldStar	150
	GD74HCT147	GoldStar	
Program Sequencer, 16 Bit with Look-Ahead Pipeline			
	ADSP1401J	° AD	
	ADSP1401K	° AD	
	ADSP1401S	° AD	
	ADSP1401T	° AD	155
	ADSP3220J	° AD	
	ADSP3220K	° AD	
	ADSP3220S	°† AD	
	ADSP3220T	°† AD	
Register File, Dual 16x4			
ACT	74ACT11870	TI	160
Shift Register	TMC2111	† TRWLSI	
Binary Full Adder with Fast Carry (4-bit)			
AC	54AC283	† National	
	74AC283	National	
ACT	54ACT283	† National	
	74ACT283	National	165
Dual-Port 16x4 Register File			
AC	74AC11870	TI	
Dual-Port 16x5 Register File			
AC	74AC11858	TI	
ACT	74ACT11858	TI	
Dual-Port 32x4 Register File			
AC	74AC11859	TI	
ACT	74ACT11859	TI	170
Nines Complementer			
4XXX	ML14561B	Lansdale	
	MC14561BC	Motorola	
	TC4561B	**Toshiba (3838)**	
4-Bit ALU			
4XXX	BCL4581B	R&E Intl	
	SCL4581B	R&E Intl	175
4-Bit Arithmetic Logic Unit			
AC	74AC11181	Philips	
ACT	54ACT181	† National	
	54ACT381	† National	
	74ACT181	National	
	74ACT381	National	180
4-Bit Magnitude Comparator			
HC	M74HC85	Mitsubishi	
	HCF4585B	SGS-Thomson	
4-Bit Binary Adder			
AC	**TC74AC283**	**Toshiba (3836)**	
4-Bit Binary Full Adder			
ACT	**TC74ACT283**	**Toshiba (3836)**	
8 to 3-Line Priority Encoder			
AHCT	**54AHCT148**	**‡ Ideal Semi (3644)**	185
	74AHCT148	**‡ Ideal Semi (3644)**	
(Continued)			

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Arithmetic Functions (Cont'd)			
8 to 3-Line Priority Encoder (Cont'd)			
HC	GD54HC148	† GoldStar	
	GD74HC148	GoldStar	
	SN74HC148	TI	
HCT	GD54HCT148	† GoldStar	
	GD74HCT148	GoldStar	5
8-Bit Identity Comparator			
AC	**TC74AC520**	**Toshiba (3836)**	
	TC74AC521	**Toshiba (3836)**	
ACT	**TC74ACT520**	**Toshiba (3836)**	
	TC74ACT521	Toshiba	
8-Bit Magnitude Comparator			
AC	74AC11860	TI	10
	74AC11865	TI	
	74AC11885	TI	
ACT	74ACT11860	TI	
8-Bit Multiplexed I/O Read-Back Register			
AC	74AC11979	TI	
8x9 I/O Read-Back Register			
AC	74AC11987	TI	15
8x9 I/O Read-Back Register w/Address Latch			
AC	74AC11988	TI	
9-Bit Odd/Even Parity Generator/Checker			
AC	74AC11280	Philips	
9-Bit Odd/Even Parity Generator/Checker with Bus Drive I/O Port			
AC	74AC11286	Philips	
9-Bit Parity Checker			
AC	**TC74AC280**	**Toshiba (3836)**	
9-Bit Parity Checker/Generator			
ACT	**TC74ACT280**	**Toshiba (3836)**	20
9-Bit Parity Generator			
ACT	SN54ACT11280	°† TI	
	54ACT11280	† TI	
10-Bit Serial-In, Parallel-Out Shift Register			
AC	74AC11898	TI	
16-Bit Address Comparators			
AC	74AC11677	TI	
	74AC11678	TI	25
ACT	74ACT11677	TI	
	74ACT11678	TI	
16x8 I/O Read-Back Register			
AC	74AC11980	TI	
	74AC11981	TI	
32-Bit Error Detection and Correction Unit, Three-State			
FCT	P74FCT632	Performance	30
	P74FCT632A	Performance	
	P74FCT632B	Performance	
PCT	P54PCT632	‡ Performance	
	P54PCT632A	‡ Performance	
	P54PCT632B	‡ Performance	35
Buffers			
Buffer/Clock Driver, Three-State, Inverting			
	IDT49FCT806	IDT	
	IDT49FCT806A	IDT	
Buffer/Clock Driver, Three-State, True			
	IDT49FCT805	IDT	
	IDT49FCT805A	IDT	
Buffer/Line Driver, Three-State, 3.3V			
	IDT54FCT3244	ℓ IDT	40
	IDT54FCT3244A	ℓ IDT	
	IDT74FCT3244	ℓ IDT	
	IDT74FCT3244A	ℓ IDT	
Buffer, Three-State			
AC	**TC74AC367**	**Toshiba (3836)**	
	TC74AC368	**Toshiba (3836)**	45

Function	Device	Source	Line
Quad Buffer/Driver			
4XXX	BCL4441UB	R&E Intl	
	SCL4441UB	R&E Intl	
Quad Bus Buffer			
AC	**TC74AC125**	**Toshiba (3836)**	
	TC74AC126	**Toshiba (3836)**	
Quad Gated Three-State			
	54LVQ125	ℓ† National	50
	74LVQ125	ℓ National	
AC	54AC125	† National	
	74AC125	National	
ACT	54ACT125	† National	
	74ACT125	National	55
HC	GD54HC125	† GoldStar	
	GD54HC126	† GoldStar	
	GD74HC125	GoldStar	
	GD74HC126	GoldStar	
	CD54HC125	°† Harris	60
	CD54HC126	°† Harris	
	CD74HC125	Harris	
	CD74HC126	° Harris	
	MC54HC125A	† Motorola	
	MC54HC126A	† Motorola	65
	MC74HC125A	Motorola	
	MC74HC126A	Motorola	
	MM54HC125	† National	
	MM54HC126	† National	
	MM74HC125	National	70
Quad Gated, Three-State			
HC	MM74HC126	National	
Quad Gated, Three-State			
HC	74HC125	° Philips	
	74HC126	° Philips	
	M74HC125	SGS-Thomson	
	M74HC126	SGS-Thomson	75
	SN54HC125	TI	
	SN54HC126	† TI	
	SN74HC125	TI	
	SN74HC126	TI	
	TC74HC125A	**Toshiba (3836)**	80
	TC74HC126A	**Toshiba (3836)**	
HCMOS	74LV125	ℓ Philips	
HCT	GD54HCT125	† GoldStar	
	GD54HCT126	† GoldStar	
	GD74HCT125	GoldStar	85
	GD74HCT126	GoldStar	
	CD54HCT125	°† Harris	
	CD54HCT126	† Harris	
	CD74HCT125	° Harris	
	CD74HCT126	° Harris	90
	74HCT125	° Philips	
	74HCT126	° Philips	
LVC	74LVC125	ℓ Philips	
	SN74LVC125	ℓ† TI	
LVT	SN54LVT125	ℓ† TI	95
	SN74LVT125	TI	
LVX	**TC74LVX125**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC125**	**Toshiba (3837)**	
	TC74VHC126	**Toshiba (3837)**	
Quad True/Complement			
4XXX	GD4041B	GoldStar	100
	CD4041UB	‡ Harris	
	CD4041A	‡ Micrel	
	CD4041C	National	
	CD4041M	National	
	HEF4041B	Philips	105
	BCL4041UB	R&E Intl	
	SCL4041UB	R&E Intl	
	HCC4041UB	† SGS-Thomson	
	HCF4041UB	SGS-Thomson	
Quad True/Complement Buffer			
4XXX	CD4041AE	Harris	110

Function	Device	Source	Line
Quad, Three-State, True			
5XXX	TC5024B	Toshiba	
	TC5025B	**Toshiba (3838)**	
Hex	DS1630	† National	
	DS3630	National	
AC	74AC11034	Philips	115
	SN54AC11034	°† TI	
	54AC11034	† TI	
ACT	SN54ACT11034	°† TI	
	54ACT11034	† TI	
HC	GD54HC34	† GoldStar	120
	GD74HC34	GoldStar	
	MM54HC34	† National	
	MM74HC34	National	
	HCF4009UB	SGS-Thomson	
	HCF4010B	SGS-Thomson	125
	HCF4503B	SGS-Thomson	
	M74HC7007	SGS-Thomson	
	SN74HC4061	TI	
	TC74HC07A	**Toshiba (3836)**	
HCT	GD54HCT34	† GoldStar	130
	GD74HCT34	GoldStar	
	M74HCT7007	SGS-Thomson	
	TC74HCT7007A	**Toshiba (3836)**	
Hex Buffer/Counter, Inverting			
4XXX	CD4049A	Harris	
Hex High Voltage			
5XXX	**TC5064B**	**Toshiba (3838)**	135
	TC5065B	**Toshiba (3838)**	
Hex (Inverting)			
HC	M74HC4049B	Mitsubishi	
4XXX	CD4009UB	† Harris	
	CD4009A	‡ Micrel	
	CD4009AC	National	140
	CD4009AM	† National	
	BCL4009UB	R&E Intl	
	SCL4009UB	R&E Intl	
	TC4009UB	**Toshiba (3838)**	
Hex (Inverting) - Improved			
	MC14049BC	Motorola	145
Hex (Inverting) Three-State, Strobed			
4XXX	CD4502B	‡ Harris	
	MC14502BC	Motorola	
	HEF4502B	Philips	
	BCL4502B	R&E Intl	
	SCL4502B	R&E Intl	150
	HCC4502B	† SGS-Thomson	
	HCF4502B	SGS-Thomson	
	TC4502B	**Toshiba (3838)**	
Hex (Inverting)-Improved			
HC	CD54HC4049	† Harris	
	CD74HC4049	Harris	155
	MC54HC4049	† Motorola	
	MC74HC4049	Motorola	
	MM54HC4049	† National	
	MM74HC4049	National	
	74HC4049	Philips	160
	M74HC4049	SGS-Thomson	
	TC74HC4049A	**Toshiba (3836)**	
4XXX	GD4049B	‡ GoldStar	
	CD4049UB	‡ Harris	
	CD4049A	‡ Micrel	165
	CD4049UB	‡ Micrel	
	MC14049UBC	Motorola	
	CD4049UB	National	
	HEF4049B	Philips	
	BCL4049UB	R&E Intl	170
	SCL4049UB	R&E Intl	
	HCC4049UB	† SGS-Thomson	
	HCF4049UB	SGS-Thomson	
	TC4049B	**Toshiba (3838)**	
Hex Open Drain Active Pull Down			
C	MM54C906	‡ Micrel	175
	MM54C906	† National	
	MM74C906	National	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Buffers (Cont'd)

Function	Device	Source	Line
Hex Open Drain Active Pull Up			
C	MM54C907	‡ Micrel	
	MM54C907	† National	
	MM74C907	National	
Hex PMOS Inverting (PMOS to CMOS or TTL)			
C	MM54C903	‡ Micrel	
	MM54C903	† National	5
	MM74C903	National	
Hex PMOS True (PMOS to CMOS or TTL)			
C	MM54C904	‡ Micrel	
	MM54C904	† National	
	MM74C904	National	
Hex, True			
AC	74AC11034	° TI	10
ACT	74ACT11034	° TI	
HC	M74HC4050B	Mitsubishi	
4XXX	CD4010B	† Harris	
	CD4010A	‡ Micrel	
	CD4010A	National	15
	BCL4010B	R&E Intl	
	SCL4010B	R&E Intl	
	TC4010B	**Toshiba (3838)**	
Hex, True-Improved			
HC	CD54HC4050	† Harris	
	CD74HC4050	Harris	20
	MC54HC4050	† Motorola	
	MC74HC4050	Motorola	
	MM54HC4050	† National	
	MM74HC4050	National	
	74HC4050	Philips	25
	M74HC4050	SGS-Thomson	
	TC74HC4050A	**Toshiba (3836)**	
4XXX	GD4050B	GoldStar	
	CD4050B	‡ Harris	
	CD4050A	‡ Micrel	30
	CD4050B	‡ Micrel	
	MC14050BC	Motorola	
	CD4050BC	National	
	CD4050BM	National	
	HEF4050B	Philips	35
	BCL4050B	R&E Intl	
	SCL4050B	R&E Intl	
	HCC4050B	† SGS-Thomson	
	HCF4050B	SGS-Thomson	
	TC4050B	**Toshiba (3838)**	40
Hex TTL Inverting (CMOS to TTL)			
C	MM54C901	‡ Micrel	
	MM54C901	† National	
	MM74C901	National	
Hex TTL Non-Inverting (CMOS to TTL)			
C	MM54C902	‡ Micrel	
	MM54C902	† National	45
	MM74C902	National	
Hex Three-State	MM70C95	† National	
	MM70C97	† National	
	MM80C95	National	
	MM80C97	National	50
	54ACT367	† National	
	74ACT367	National	
AHCT	**54AHCT365**	**‡ Ideal Semi (3644)**	
	74AHCT365	**IDT (3644)**	
HC	GD54HC365	† GoldStar	55
	GD54HC367	† GoldStar	
	GD74HC365	GoldStar	
	GD74HC367	GoldStar	
	CD54HC365	† Harris	
	CD54HC367	† Harris	60
	CD74HC365	Harris	
	CD74HC367	Harris	
	HCTS365MS	‡ Harris	
	M74HC367	Mitsubishi	
	MC54HC365	† Motorola	65
	MC54HC367	† Motorola	
		(Continued)	

Function	Device	Source	Line
Hex Three-State			
HC		(Cont'd)	
	MC74HC365	Motorola	
	MC74HC367	Motorola	
	MM54HC365	† National	
	MM54HC367	† National	70
	MM74HC365	National	
	MM74HC367	National	
	74HC365	Philips	
	74HC367	Philips	
	HCC4503B	SGS-Thomson	75
	M74HC365	SGS-Thomson	
	M74HC367	SGS-Thomson	
	SN54HC365	† TI	
	SN74HC365	TI	
	SN74HC367	TI	80
	TC74HC365A	**Toshiba (3836)**	
	TC74HC367A	**Toshiba (3836)**	
HCMOS	74LV365	ℓ Philips	
HCT	GD54HCT365	† GoldStar	
	GD54HCT367	† GoldStar	85
	GD74HCT365	GoldStar	
	GD74HCT367	GoldStar	
	CD54HCT365	† Harris	
	CD54HCT367	† Harris	
	CD74HCT365	Harris	90
	CD74HCT367	Harris	
	54HCTLS365A	**‡ Ideal Semi (3643)**	
	54HCTLS367A	**Ideal Semi (3643)**	
	74HCTLS365A	**‡ Ideal Semi (3643)**	
	74HCTLS367A	**‡ Ideal Semi (3643)**	95
	74HCT365	Philips	
	74HCT367	Philips	
VHC	**TC74VHC367**	**Toshiba (3837)**	
4XXX	CD4503	Harris	
	MC14503BC	Motorola	100
	CD4503BC	National	
	CD4503BM	† National	
	HEF40097B	Philips	
	TC5012B	**Toshiba (3838)**	
Hex Three-State, Inverting			
AHCT	AHCT368	‡ Ideal Semi	105
	54AHCT366	**‡ Ideal Semi (3644)**	
	54AHCT367	**‡ Ideal Semi (3644)**	
	54AHCT368	**‡ Ideal Semi (3644)**	
	74AHCT366	**‡ Ideal Semi (3644)**	
	74AHCT367	**‡ Ideal Semi (3644)**	110
	74AHCT368	**Ideal Semi (3644)**	
HC	GD54HC366	† GoldStar	
	GD54HC368	† GoldStar	
	GD74HC366	GoldStar	
	GD74HC368	GoldStar	115
	CD54HC366	† Harris	
	CD54HC368	† Harris	
	CD74HC366	Harris	
	CD74HC368	Harris	
	MC54HC366	† Motorola	120
	MC54HC368	† Motorola	
	MC74HC366	Motorola	
	MC74HC368	Motorola	
	MM54HC366	† National	
	MM54HC368	† National	125
	MM74HC366	National	
	MM74HC368	National	
	74HC366	Philips	
	74HC368	Philips	
	54HC366	† Rochester	130
	54HC368	† Rochester	
		(Continued)	

Function	Device	Source	Line
Hex Three-State, Inverting			
HC		(Cont'd)	
	M74HC366	SGS-Thomson	
	M74HC368	SGS-Thomson	
	SN54HC366	† TI	
	SN54HC368	† TI	135
	SN74HC366	TI	
	SN74HC368	TI	
	TC74HC366A	**Toshiba (3836)**	
	TC74HC368A	**Toshiba (3836)**	
HCMOS	74LV368	ℓ Philips	140
HCT	GD54HCT366	† GoldStar	
	GD54HCT368	† GoldStar	
	GD74HCT366	GoldStar	
	GD74HCT368	GoldStar	
	CD54HCT366	† Harris	145
	CD54HCT368	† Harris	
	CD74HCT366	Harris	
	CD74HCT368	Harris	
	54HCTLS366A	**‡ Ideal Semi (3643)**	
	54HCTLS368A	**‡ Ideal Semi (3643)**	150
	74HCTLS366A	**‡ Ideal Semi (3643)**	
	74HCTLS368A	**‡ Ideal Semi (3643)**	
	74HCT366	Philips	
	74HCT368	Philips	
VHC	**TC74VHC368**	**Toshiba (3837)**	155
Hex Three-State, True			
4XXX	CD4503B	Harris	
	TC4503B	Toshiba	
Octal Buffer/Line Driver			
C	MM54C941	‡ Micrel	
	MM54C941	† National	
	MM74C941	National	160
Octal Buffer/Line Driver, Inverting			
FCT	IDT54FCT240AT	°† IDT	
	IDT54FCT240CT	°† IDT	
	IDT54FCT240DT	IDT	
Octal Buffer/Line Driver, Inverting, Three-State			
ACT	**TC74ACT240**	**Toshiba (3836)**	
FCT	IDT74FCT240AT	° IDT	165
	IDT74FCT240CT	° IDT	
	IDT74FCT240DT	IDT	
	IDT74FCT240T	° IDT	
HC	M74HC540	Mitsubishi	
Octal Buffer/Line Driver/Receiver, Inverting, Three-State			
HC	M74HC240-1	Mitsubishi	170
HCT	M74HCT240-1	Mitsubishi	
Octal Buffer/Line Driver/Receiver, True, Three-State			
HC	M74HC244-1	Mitsubishi	
HCT	M74HCT241-1	Mitsubishi	
	M74HCT244-1	Mitsubishi	
Octal Buffer/Line Driver, True, Three-State			
ACT	**TC74ACT244**	**Toshiba (3836)**	175
FCT	IDT54FCT241AT	°† IDT	
	IDT54FCT241CT	°† IDT	
	IDT54FCT241DT	IDT	
	IDT54FCT241T	°† IDT	
	IDT54FCT541	† IDT	180
	IDT54FCT541A	† IDT	
	IDT54FCT541AT	IDT	
	IDT54FCT541C	† IDT	
	IDT54FCT541CT	† IDT	
	IDT54FCT541T	† IDT	185
	IDT74FCT241AT	° IDT	
	IDT74FCT241CT	° IDT	
	IDT74FCT241DT	IDT	
	IDT74FCT241T	° IDT	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Buffers		**(Cont'd)**	
Octal Buffer/Line Driver, True, Three-State			
FCT		(Cont'd)	
	IDT74FCT540	IDT	
	IDT74FCT540A	IDT	
	IDT74FCT540AT	IDT	
	IDT74FCT540C	IDT	
	IDT74FCT540CT	IDT	5
	IDT74FCT540T	IDT	
	IDT74FCT541	IDT	
	IDT74FCT541A	IDT	
	IDT74FCT541AT	IDT	
	IDT74FCT541CT	IDT	10
	IDT74FCT541T	IDT	
	P54FCT540AT	Performance	
	P54FCT541AT	Performance	
	P54FCT541CT	Performance	
	P54FCT541T	Performance	15
	P74FCT540AT	Performance	
	P74FCT540CT	Performance	
	P74FCT540T	Performance	
	P74FCT541AT	Performance	
	P74FCT541CT	Performance	20
	P74FCT541T	Performance	
	QS54FCT2541	† Quality Semi	
	QS54FCT2541A	† Quality Semi	
	QS54FCT541	† Quality Semi	
	QS54FCT541A	† Quality Semi	25
	QS74FCT2541	Quality Semi	
	QS74FCT2541A	Quality Semi	
	QS74FCT541	Quality Semi	
	QS74FCT541A	Quality Semi	
Octal Buffer/Line Driver with Parity, Inverting, Three-State			
AC	74AC11655	TI	30
ACT	74ACT11655	TI	
Octal Buffer/Line Driver with Parity, True, Three State			
ACT	74ACT11656	TI	
Octal Buffer/Line Driver with Parity, True, Three-State			
AC	74AC11656	TI	
Octal Buffer/Line Driver, Three State			
ACT	54ACT540	† National	
	54ACT541	† National	35
	74ACT540	National	
	74ACT541	National	
HC	M74HC541	Mitsubishi	
HCT	MV74HCT541	GEC Plessey	
	54HCT541SOS	GEC Plessey	40
	74HCT541	GEC Plessey	
	CD54HCT541	°† Harris	
	CD74HCT541	° Harris	
	54HCTLS541	‡ **Ideal Semi (3643)**	
	74HCTLS541	‡ **Ideal Semi (3643)**	45
	MM54HCT541	† National	
	MM74HCT541	National	
	74HCT541	Philips	
	M74HCT541	SGS-Thomson	
	SN54HCT541	TI	50
	SN74HCT541	TI	
Octal Buffer/Line Driver, Three State, Inverting			
AC	CD54AC540	°† Harris	
	CD74AC540	° Harris	
	54AC540	† National	
	74AC540	National	55
	TC74AC540	**Toshiba (3836)**	
ACT	CD54ACT540	°† Harris	
	CD74ACT540	° Harris	
AHCT	**54AHCT540**	‡ **Ideal Semi (3644)**	
	74AHCT540	‡ **Ideal Semi (3644)**	60
HC	CD54HC540	°† Harris	
	CD74HC540	° Harris	
		(Continued)	
Octal Buffer/Line Driver, Three State, Inverting			
HC		(Cont'd)	
	MC54HC540	† Motorola	
	MC74HC540	Motorola	
	74HC540	Philips	65
	M74HC540	SGS-Thomson	
	SN54HC540	† TI	
	SN74HC540	TI	
	TC74HC540A	**Toshiba (3836)**	
HCT	MV74HCT540	GEC Plessey	70
	54HCT540SOS	GEC Plessey	
	74HCT540	GEC Plessey	
	CD54HCT540	°† Harris	
	CD74HCT540	Harris	
	54HCTLS540	‡ **Ideal Semi (3643)**	75
	74HCTLS540	‡ **Ideal Semi (3643)**	
	MC54HCT540	† Motorola	
	MC74HCT540	Motorola	
	MM54HCT540	† National	
	MM74HCT540	National	80
	74HCT540	Philips	
	M74HCT540	SGS-Thomson	
	TC74HCT540A	**Toshiba (3836)**	
LVC	SN74LVC540	ℓ TI	
VHC	**TC74VHC540**	**Toshiba (3837)**	85
VHCT	**TC74VHCT540**	**Toshiba (3837)**	
Octal Buffer/Line Driver, Three State, True			
AC	CD54AC541	°† Harris	
	CD74AC541	° Harris	
	54AC541	† National	
	74AC541	National	90
	TC74AC541	**Toshiba (3836)**	
ACT	CD54ACT541	°† Harris	
	CD74ACT541	° Harris	
HC	CD54HC541	°† Harris	
	CD74HC541	° Harris	95
	HCTS541MS	‡ Harris	
	MC54HC541	† Motorola	
	MC74HC541	Motorola	
	74HC541	Philips	
	M74HC541	SGS-Thomson	100
HCMOS	74LV541	ℓ Philips	
HCT	MC74HCT541	Motorola	
LVC	SN74LVC541	ℓ TI	
Octal Buffer/Line Driver, Three-State			
AC	74AC11543	TI	
ACT	74ACT11543	TI	105
HC	HCTS540MS	‡ Harris	
Octal Buffer/Line Driver, Three-State, Inverting			
FCT	IDT54FCT540	† IDT	
	IDT54FCT540A	† IDT	
	IDT54FCT540AT	† IDT	
	IDT54FCT540C	† IDT	110
	IDT54FCT540CT	† IDT	
	IDT54FCT540T	† IDT	
	P54FCT540CT	Performance	
	P54FCT540T	Performance	
	QS54FCT2240	† Quality Semi	115
	QS54FCT2240A	† Quality Semi	
	QS54FCT2240C	† Quality Semi	
	QS54FCT240	† Quality Semi	
	QS54FCT240A	† Quality Semi	
	QS54FCT240C	† Quality Semi	120
	QS54FCT2540	† Quality Semi	
	QS54FCT2540A	† Quality Semi	
	QS54FCT540	† Quality Semi	
	QS54FCT540A	† Quality Semi	
	QS74FCT2240	Quality Semi	125
	QS74FCT2240A	Quality Semi	
	QS74FCT2240C	Quality Semi	
	QS74FCT240	Quality Semi	
	QS74FCT240A	Quality Semi	
	QS74FCT240C	Quality Semi	130
	QS74FCT240D	Quality Semi	
		(Continued)	
Octal Buffer/Line Driver, Three-State, Inverting			
FCT		(Cont'd)	
	QS74FCT2540	Quality Semi	
	QS74FCT2540A	Quality Semi	
	QS74FCT540	Quality Semi	
	QS74FCT540A	Quality Semi	135
LVHC	74LVX240	National	
Octal Buffer/Line Driver, Three-State, True			
	MC54HCT541	Motorola	
FCT	P54FCT244	Performance	
	P54FCT244A	Performance	
	P54FCT244AT	Performance	140
	P54FCT244CT	Performance	
	P54FCT244T	Performance	
	P74FCT244T	Performance	
	QS54FCT2241	† Quality Semi	
	QS54FCT2241A	† Quality Semi	145
	QS54FCT2241C	† Quality Semi	
	QS54FCT2244	† Quality Semi	
	QS54FCT2244A	† Quality Semi	
	QS54FCT2244C	† Quality Semi	
	QS54FCT241	Quality Semi	150
	QS54FCT241C	Quality Semi	
	QS54FCT244	Quality Semi	
	QS54FCT244A	Quality Semi	
	QS54FCT244C	Quality Semi	
	QS74FCT2241	Quality Semi	155
	QS74FCT2241A	Quality Semi	
	QS74FCT2241C	Quality Semi	
	QS74FCT2244	Quality Semi	
	QS74FCT2244A	Quality Semi	
	QS74FCT2244C	Quality Semi	160
	QS74FCT241	Quality Semi	
	QS74FCT241A	Quality Semi	
	QS74FCT241C	Quality Semi	
	QS74FCT244	Quality Semi	
	QS74FCT244A	Quality Semi	165
	QS74FCT244C	Quality Semi	
	QS74FCT244D	Quality Semi	
Octal Bus Buffer			
ACT	**TC74ACT540**	**Toshiba (3836)**	
	TC74ACT541	**Toshiba (3836)**	
Octal Bus Buffer, Three-State			
ACT	**TC74ACT241**	**Toshiba (3836)**	170
Octal Bus Driver, High Voltage, Inverting, Three-State			
FCT	IDT54FCT240T	°† IDT	
	P54FCT240	Performance	
	P54FCT240A	Performance	
	P54FCT240AT	Performance	
	P54FCT240CT	Performance	175
	P54FCT240T	Performance	
	P74FCT240CT	Performance	
	P74FCT240T	Performance	
HC	74HCT240	° Philips	
Octal Bus Driver, High Voltage, True, Three-State, Complementary Controls			
HC	M74HC241HV	SGS-Thomson	180
Octal Bus Driver, Inverting, Three-State			
AC	CD54AC240	° Harris	
	CD74AC240	° Harris	
HC	74HC240	Philips	
Octal Bus Driver, Non-Inverting, Three State, Complementary Controls			
AC	CD54AC241	°† Harris	
	CD54AC244	°† Harris	185
	CD74AC241	° Harris	
	CD74AC244	° Harris	
Octal Bus Driver, Non-Inverting, Three-State, Complementary Controls			
FCT	P54FCT241	Performance	
	P54FCT241A	Performance	
	P54FCT241CT	Performance	190
	P54FCT241T	Performance	
	P74FCT241CT	Performance	
	P74FCT241T	Performance	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Buffers (Cont'd)			
Octal Bus Driver, Non-Inverting, Three-State, Complementary Controls (Cont'd)			
HC	74HC241	• Philips	
HCT	74HCT241	• Philips	
Octal, Three-State			
HC	MM54HC540	† National	
	MM54HC541	† National	
	MM74HC540	National	5
	MM74HC541	National	
7-Line High Voltage			
5XXX	**TC5066B**	**Toshiba (3838)**	
	TC5067B	**Toshiba (3838)**	
10-Bit Buffer/Line Driver			
AC	54AC11827	† TI	
	74AC11827	TI	10
10-Bit Buffer/Line Driver, Inverting			
	AM29C828AC	AMD	
FCT	IDT54FCT828A	† IDT	
	IDT54FCT828AT	† IDT	
	IDT54FCT828B	† IDT	
	IDT54FCT828BT	† IDT	15
	IDT54FCT828CT	† IDT	
	IDT74FCT828A	IDT	
	IDT74FCT828AT	IDT	
	IDT74FCT828B	IDT	
	IDT74FCT828BT	IDT	20
	IDT74FCT828CT	IDT	
	P54FCT828AT	Performance	
	P54FCT828BT	Performance	
	P54FCT828CT	Performance	
	P74FCT828AT	Performance	25
	P74FCT828BT	Performance	
	P74FCT828CT	Performance	
10-Bit Buffer/Line Driver, Three-State			
ACT	54ACT827	† National	
	74ACT827	National	
ACTQ	54ACTQ827	† National	30
	74ACTQ827	National	
LVC	SN74LVC827	ℓ TI	
10-Bit Buffer/Line Driver, Three-State, Inverting			
AC	54AC11828	† TI	
	74AC11828	TI	
FCT	QS54FCT2828A	† Quality Semi	35
	QS54FCT2828B	† Quality Semi	
	QS54FCT828A	† Quality Semi	
	QS54FCT828B	† Quality Semi	
	QS54FCT828C	† Quality Semi	
	QS74FCT2828A	Quality Semi	40
	QS74FCT2828B	Quality Semi	
	QS74FCT828A	Quality Semi	
	QS74FCT828B	Quality Semi	
	QS74FCT828C	Quality Semi	
10-Bit Buffer/Line Driver, Three-State True			
	AM29C827AC	AMD	45
C	IDT54FCT827A	•† IDT	
FCT	IDT54FCT827AT	† IDT	
	IDT54FCT827B	•† IDT	
	IDT54FCT827BT	•† IDT	
	IDT54FCT827C	† IDT	50
	IDT54FCT827CT	•† IDT	
	IDT54FCT827DT	† IDT	
	IDT74FCT827A	• IDT	
	IDT74FCT827AT	• IDT	
	IDT74FCT827BT	• IDT	55
	IDT74FCT827CT	• IDT	
	IDT74FCT827DT	IDT	
	54FCT827A	† National	
	54FCT827B	† National	
	74FCT827A	National	60
	74FCT827B	National	
	P54FCT827A	Performance	
	P54FCT827AT	Performance	
		(Continued)	
10-Bit Buffer/Line Driver, Three-State True			
FCT (Cont'd)			
	P54FCT827B	Performance	
	P54FCT827BT	Performance	65
	P54FCT827CT	Performance	
	P54FCT828A	Performance	
	P54FCT828B	Performance	
	P74FCT827AT	Performance	
	P74FCT827BT	Performance	70
	P74FCT827CT	Performance	
	QS54FCT2827A	† Quality Semi	
	QS54FCT2827B	† Quality Semi	
	QS54FCT827A	† Quality Semi	
	QS54FCT827B	† Quality Semi	75
	QS54FCT827C	† Quality Semi	
	QS74FCT2827A	Quality Semi	
	QS74FCT2827B	Quality Semi	
	QS74FCT827A	Quality Semi	
	QS74FCT827B	Quality Semi	80
	QS74FCT827C	Quality Semi	
HCT	IDT74FCT827B	• IDT	
	IDT74FCT827C	IDT	
10-Bit (bus interface)			
FCT	P54PCT827A	‡ Performance	
	P54PCT827B	‡ Performance	85
	P74FCT827A	Performance	
	P74FCT827B	Performance	
10-Bit, Inverting (bus interface)			
FCT	P54PCT828A	‡ Performance	
	P54PCT828B	‡ Performance	
	P74FCT828A	Performance	90
	P74FCT828B	Performance	
10-Wide Buffer/Line Driver, Three-State			
AC	74AC11827	Philips	
16 Bit Buffer/Line Driver, Three State			
ACT	54ACT16540	† TI	
	54ACT16541	† TI	
	74ACT16540	TI	95
	74ACT16541	TI	
16 Bit Buffer/Line Driver, Three State, Inverting			
AC	54AC16540	† TI	
	74AC16540	TI	
16 Bit Buffer/Line Driver, Three State, True			
AC	54AC16541	† TI	
	74AC16541	TI	100
LVT	SN54LVT16244	ℓ† TI	
	SN74LVT16244	ℓ† TI	
16-Bit Buffer/Line Driver, Three State, Inverting			
ACTQ	54ACTQ16540	† National	
	74ACTQ16540	National	
16-Bit Buffer/Line Driver, Three State, True			
ACTQ	54ACTQ16541	† National	105
	74ACTQ16541	National	
16-Bit Buffer/Line Driver, Three-State			
ACT	54ACT16827	† TI	
	74ACT16827	TI	
ALVC	SN74ALVC16240	ℓ TI	
	SN74ALVC16244	ℓ TI	110
16-Bit Buffer/Line Driver, Three-State, Inverting			
	IDT54FCT162240AT	IDT	
	IDT54FCT162240CT	IDT	
	IDT54FCT162240T	IDT	
	IDT54FCT162244AT	IDT	
	IDT54FCT162244CT	IDT	115
	IDT54FCT162244T	IDT	
	IDT74FCT162240AT	IDT	
	IDT74FCT162240CT	IDT	
	IDT74FCT162240T	IDT	
		(Continued)	
16-Bit Buffer/Line Driver, Three-State, Inverting (Cont'd)			
	IDT74FCT162244AT	IDT	120
	IDT74FCT162244CT	IDT	
	IDT74FCT162244T	IDT	
16-Bit Buffer/Line Driver Three-State, 3.3V			
	IDT54FCT163244	ℓ IDT	
	IDT54FCT163244A	ℓ IDT	
20-Bit Buffer/Line Driver, Three-State, Inverting			
ALVC	SN74ALVC16828	ℓ TI	125
20-Bit Buffer/Line Driver, Three-State, True			
ALVC	SN74ALVC16827	ℓ TI	
10-Bit Buffer/Line Driver, Inverting			
ACT	54ACT11828	† TI	
	74ACT11828	TI	
10-Bit Buffer/Line Driver, True			
ACT	54ACT11827	† TI	
	74ACT11827	TI	130
16-Bit Buffer/Line Driver, Inverting			
ACT	54ACT16828	† TI	
	74ACT16828	TI	
5ctal Buffer/Line Driver, Three-State, True			
FCT	QS54FCT241A	Quality Semi	
Inverters			
Single	TC4SU69F	Toshiba	
	TC7SLU04F	ℓ Toshiba	135
	TC7SL04F	ℓ Toshiba	
	TC7SU04F	Toshiba	
	TC7S04F	Toshiba	
Single Inverter	BU4SU69	ROHM	
Single Schmitt Trigger			
	BU4S584	ROHM	140
	TC4S584F	Toshiba	
Dual Complementary Pair Plus Inverter			
4XXX	GD4007UB	‡ GoldStar	
	CD4007UB	‡ Harris	
	CD4007A	‡ Micrel	
	CD4007UB	‡ Micrel	145
	MC14007UBC	Motorola	
	CD4007C	National	
	CD4007M	† National	
	HEF4007UB	Philips	
	BCL4007UB	R&E Intl	150
	SCL4007UB	R&E Intl	
	HCC4007UB	† SGS-Thomson	
	HCF4007UB	SGS-Thomson	
	TC4007UB	**Toshiba (3838)**	
	TC74HC4007A	**Toshiba (3836)**	155
Triple	TC7WU04F	Toshiba	
	TC7W04F	Toshiba	
Hex	MC54HC04A	† Motorola	
	MC74ACT04	Motorola	
	NJU4069UB	NJR	160
	TC7404UB	**Toshiba (3838)**	
AC	ACTS04MS	‡ Harris	
	CD54AC04	•† Harris	
	CD74AC04	• Harris	
	MC74AC04	Motorola	165
	54AC04	† National	
	74AC04	National	
	74AC11004	Philips	
	SN54AC11004	•† TI	
	54AC11004	† TI	170
	74AC11004	• TI	
	TC74AC04	**Toshiba (3836)**	
ACT	CD54ACT04	•† Harris	
	CD74ACT04	• Harris	
	MC74ACT04	Motorola	175
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Inverters (Cont'd)

Function	Device	Source	Line
Hex			
ACT (Cont'd)			
	54ACT04	† National	
	74ACT04	National	
	SN54ACT11004	°† TI	
	54ACT11004	† TI	
	74ACT11004	° TI	5
	TC74ACT04	**Toshiba (3836)**	
ACTQ	54ACTQ04	† National	
	74ACTQ04	National	
AHCT	**54AHCT04**	‡ **Ideal Semi (3644)**	
	74AHCT04	‡ **Ideal Semi (3644)**	10
C	MM54C04	‡ Micrel	
	MM54C04	† National	
	MM74C04	National	
H	**ML54H04**	**Lansdale (3669)**	
	54H04	† Rochester	15
HC	GD54HC04	† GoldStar	
	CD54HCU04	† Harris	
	CD54HC04	°† Harris	
	CD74HCU04	Harris	
	CD74HC04	° Harris	20
	HCS04MS	‡ Harris	
	HCTS04MS	‡ Harris	
	M74HCU04	Mitsubishi	
	MC74HC04A	Motorola	
	MM54HC04	† National	25
	MM74HC04	National	
	74HC04	° Philips	
	M74HC04	SGS-Thomson	
	SN54HC04	°† TI	
	SN74HC04	° TI	30
	TC74HCU04A	**Toshiba (3836)**	
	TC74HC04A	**Toshiba (3836)**	
HCMOS	74LVU04	ℓ Philips	
	74LV04	ℓ Philips	
HCT	GD54HCT04	† GoldStar	35
	GD74HCT04	GoldStar	
	CD54HCT04	°† Harris	
	CD74HCT04	° Harris	
	54HCTLS04	‡ **Ideal Semi (3643)**	
	74HCTLS04	‡ **Ideal Semi (3643)**	40
	MC54HCT04A	† Motorola	
	MC74HCT04A	Motorola	
	MM54HCT04	† National	
	MM74HCT04	National	
	MM74HCT34	National	45
	74HCT04	° Philips	
	54HCT04	Rochester	
	54HCT05	Rochester	
	54HCT34	Rochester	
	M74HCT04	SGS-Thomson	50
	SN54HCT04	† TI	
	TC74HCT04A	**Toshiba (3836)**	
LV	SN74LV04	ℓ TI	
LVC	74LVC04	ℓ Philips	
	SN74LVC04	ℓ† TI	55
LVQ	**TC74LVQ04**	ℓ **Toshiba (3837)**	
VHC	TC74VHCU04	Toshiba	
	TC74VHC04	**Toshiba (3837)**	
VHCT	**TC74VHCT04**	**Toshiba (3837)**	
	TC74VHCV04	**Toshiba (3837)**	60
4XXX	GD4069UB	‡ GoldStar	
	CD4069UB	‡ Harris	
	CD4069A	‡ Micrel	
	CD4069UB	‡ Micrel	
	MC14069UBC	Motorola	65
	CD4069C	National	
	CD4069M	† National	
		(Continued)	
Hex			
4XXX (Cont'd)			
	HEF4069UB	† Philips	
	BCL4069UB	R&E Intl	
	BCL4449UB	R&E Intl	70
	SCL4069UB	R&E Intl	
	SCL4449UB	R&E Intl	
	BU4069UB	ROHM	
	BU4584B	ROHM	
	HCC4069UB	† SGS-Thomson	75
	HCF4069UB	SGS-Thomson	
	TC4069UB	**Toshiba (3838)**	
Hex Inverter			
LVX	**TC74LVX04**	ℓ **Toshiba (3837)**	
Hex Inverter Buffer, Three-State			
	54ACT368	† National	
	74ACT368	National	80
Hex Inverter (Open Drain)			
AC	**TC74AC05**	**Toshiba (3836)**	
Hex, Open Collector			
AC	54AC05	GoldStar	
	CD54AC05	°‡ Harris	
	CD74AC05	° Harris	
ACT	CD54ACT05	°† Harris	85
	CD74ACT05	° Harris	
AHCT	**54AHCT05**	‡ **Ideal Semi (3644)**	
	74AHCT05	‡ **Ideal Semi (3644)**	
HC	GD54HC05	† GoldStar	
	GD74HC05	GoldStar	90
	MM54HC05	† National	
	MM74HC05	National	
	SN54HC05	°† TI	
	SN74HC05	° TI	
	TC74HC05A	**Toshiba (3836)**	95
HCT	GD54HCT05	† GoldStar	
	GD74HCT05	GoldStar	
	54HCTLS05	‡ **Ideal Semi (3643)**	
	74HCTLS05	‡ **Ideal Semi (3643)**	
	MM54HCT05	† National	100
Hex Schmitt Trigger			
	TC7S14F	Toshiba	
	TC7W14F	Toshiba	
AC	CD74AC14	Harris	
	MC74AC14	Motorola	
	74AC11014	Philips	105
	TC74AC14	**Toshiba (3836)**	
ACT	CD74ACT14	Harris	
	MC74ACT14	Motorola	
	TC74ACT14	**Toshiba (3836)**	
ACTQ	54ACTQ14	† National	110
	74ACTQ14	National	
AHCT	**54AHCT14**	‡ **Ideal Semi (3644)**	
	74AHCT14	‡ **Ideal Semi (3644)**	
HC	M74HC14	Mitsubishi	
	TC74HC14A	**Toshiba (3836)**	115
HCMOS	74LV14	ℓ Philips	
HCT	MC54HCT14A	† Motorola	
	MC74HCT14A	Motorola	
HCTLS	**54HCTLS14**	‡ **Ideal Semi (3643)**	
	74HCTLS14	‡ **Ideal Semi (3643)**	120
LV	SN74LV14	ℓ TI	
LVQ	**TC74LVQ14**	ℓ **Toshiba (3837)**	
LVX	**TC74LVX14**	ℓ **Toshiba (3837)**	
VHC	74VHC14	National	
	TC74VHC14	**Toshiba (3837)**	125
		(Continued)	
Hex Schmitt Trigger (Cont'd)			
4XXX	MC14106B	Motorola	
Hex Unbuffered			
HC	GD74HCU04	GoldStar	
	MC54HCU04	† Motorola	
	MC74HCU04	Motorola	
	MM54HCU04	† National	130
	MM74HCU04	National	
	74HCU04	Philips	
	M74HCU04	SGS-Thomson	
	SN54HCU04	TI	
	SN74HCU04	TI	135
LVC	SN74LVCU04	ℓ TI	
Hex Three-State	MM70C96	‡ Micrel	
	MM70C98	‡ Micrel	
	MM70C98	† National	
	MM80C96	National	140
	MM80C98	National	
4XXX	HEF40098B	Philips	
Octal Schmitt Trigger Buffer/Line Driver			
HC	74HC7541	Philips	
HCT	74HCT7541	Philips	
Octal Schmitt Trigger Buffer/Line Driver, Inverting			
HC	74HC7540	Philips	145
HCT	74HCT7540	Philips	
Nine Wide Schmitt Trigger Buffer, Inverting			
HC	74HC9114	Philips	
HCT	74HCT9114	Philips	
Nine-Wide Schmitt Trigger Buffer			
HC	74HC9115	Philips	
HCT	74HCT9115	Philips	150
Nine-Wide Schmitt Trigger Buffer/Line Driver			
HC	74HC9015	Philips	
HCT	74HCT9015	Philips	
Nine-Wide Schmitt Trigger Buffer/Line Driver, Inverting			
HC	74HC9014	Philips	
HCT	74HCT9014	Philips	
3-Stage	TC4S69F	Toshiba	155

Bus-Oriented Circuits

Function	Device	Source	Line
Bus Buffer, 10-Bit			
	AM29C827AC	AMD	
	AM29C828AC	AMD	
Bus Interface Latch, 9-Bit			
	AM29C843AC	AMD	
Bus Interface Latch, 10-Bit			
	AM29C841AC	AMD	
Bus Interface Register, 9-Bit			
	AM29C821AC	AMD	160
Bus Interface Register, 10-Bit			
	AM29C823AC	AMD	
Bus Transceiver, 9-Bit			
	AM29C863AC	AMD	
Bus Transceiver, 10-Bit			
	AM29C861AC	AMD	
NuBus Controller, 16-Bit			
ACT	SN74ACT2441	TI	
NuBus Interface Controller			
ACT	SN74ACT2440	° TI	165
Parity Bus Transceiver, 8-Bit (9-Bit parity checker/generator)			
	AM29C833AC	AMD	
	AM29C853AC	AMD	
Pipeline Register with SSR Diagnostics, 8-Bit			
	AM29C818A	AMD	
Dual Octal Buffer/Line Driver, Three-State, True			
ALVC	74ALVC16244	ℓ Philips	
Dual, Octal Bus Transceiver/Register with Direction Pin, Three-State, True			
ALVC	74ALVC16646	ℓ Philips	170

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
Dual Octal Bus Transceiver/Register with Dual Enable, Three-State, True			
ALVC	74ALVC16652	ℓ Philips	
	74ALVC16952	ℓ Philips	
Dual Octal Bus Transceiver, Three-State, True			
ALVC	74ALVC16245	ℓ Philips	
Dual Octal Registered Transceiver, D-Type, Three-State, True			
ALVC	74ALVC16543	ℓ Philips	
Quad Two Port Register			
FCT	IDT54FCT399AT	† IDT	5
	IDT54FCT399CT	† IDT	
	IDT54FCT399T	† IDT	
	IDT74FCT399AT	IDT	
	IDT74FCT399CT	IDT	
	IDT74FCT399T	IDT	10
Octal Bidirectional Transceiver			
AC	MC74AC245	Motorola	
	MC74AC620	Motorola	
	MC74AC623	Motorola	
	MC74AC643	Motorola	
	MC74AC646	Motorola	15
ACT	MC74ACT245	Motorola	
	MC74ACT620	Motorola	
	MC74ACT623	Motorola	
	MC74ACT643	Motorola	
Octal Bidirectional Transceiver, Inverting			
FCT	IDT54FCT640AT	† IDT	20
	IDT54FCT640CT	† IDT	
	IDT54FCT640T	† IDT	
	IDT74FCT640T	IDT	
Octal Bidirectional Transceiver with 8-bit Parity Generator/Check, Three-State			
	MC74AC657	Motorola	
Octal Bidirectional Transceiver, Three-State			
ACQ	54ACQ245	† National	25
	74ACQ245	National	
ACTQ	54ACTQ245	† National	
	74ACTQ245	National	
Octal BiDirectional Transceiver, 3.3V			
	IDT54FCT3245	ℓ IDT	
	IDT54FCT3245A	ℓ IDT	30
	IDT74FCT3245	ℓ IDT	
	IDT74FCT3245A	ℓ IDT	
Octal Buffer/Line Driver			
AC	MC74AC540	Motorola	
	MC74AC541	Motorola	
ACT	MC74ACT540	Motorola	35
	MC74ACT541	Motorola	
Octal Buffer/Line Driver, Inverting			
FCT	IDT54FCT240T	IDT	
Octal Buffer/Line Driver/Line Receiver, Three-State, Inverting			
HC	MC54HC240A	† Motorola	
	MC54HC241A	† Motorola	
	MC54HC244A	† Motorola	40
	MC74HC240A	Motorola	
	MC74HC241A	Motorola	
	MC74HC244A	Motorola	
Octal Buffer/Line Driver w/9-Bit Parity Generator/Checker, Three-State, Inverting			
AC	74AC11655	Philips	
	74AC11656	Philips	45
Octal Buffer/Line Driver with Parity Generator Checker, Inverting			
4XXX	ML14559B	Lansdale	
	MC14559BC	Motorola	
Octal Buffer/Line Driver/Three State			
	CD74FCT244AT	Harris	
Octal Buffer/Line Driver/Three State/Inverting			
	CD74FCT240AT	Harris	
Octal Buffer/Line Driver, Three-State			
AC	74AC11241	Philips	50
	74AC11244	Philips	
ACQ	54ACQ240	† National	
	54ACQ244	† National	
	74ACQ240	National	
	74ACQ244	National	55
ACTQ	54ACTQ240	† National	
	54ACTQ244	† National	
	74ACTQ240	National	
	74ACTQ244	National	
FCT	CD54FCT241	† Harris	60
	CD54FCT244	† Harris	
	CD54FCT541	† Harris	
	CD74FCT241	Harris	
	CD74FCT244	Harris	
	CD74FCT541	Harris	65
	54FCT541	† National	
Octal Buffer/Line Driver, Three-State, Inverting			
AC	ACTS240MS	‡ Harris	
	MC74AC240	Motorola	
	54AC240	°† National	
	74AC240	° National	70
	74AC11240	Philips	
	54AC11240	† TI	
	74AC11240	° TI	
	TC74AC240	**Toshiba (3836)**	
ACT	CD54ACT240	°† Harris	75
	CD74ACT240	° Harris	
	MC74ACT240	Motorola	
	54ACT240	°† National	
	74ACT240	° National	
	54ACT11240	† TI	80
	74ACT11240	° TI	
AHCT	**54AHCT240**	**‡ Ideal Semi (3644)**	
	74AHCT240	**‡ Ideal Semi (3644)**	
BCT	SN54BCT240	† TI	
	SN74BCT240	TI	85
C	MM54C240	‡ Micrel	
	MM54C240	† National	
	MM74C240	National	
FCT	CD54FCT240	† Harris	
	CD54FCT540	† Harris	90
	CD74FCT240	Harris	
	CD74FCT540	Harris	
	IDT54FCT240	°† IDT	
	IDT54FCT240A	°† IDT	
	IDT54FCT240C	°† IDT	95
	IDT74FCT240	° IDT	
	IDT74FCT240A	° IDT	
	IDT74FCT240C	° IDT	
	54FCT540	† National	
	P54PCT240	Performance	100
	P54PCT240A	Performance	
	P74FCT240	Performance	
	P74FCT240A	Performance	
	P74FCT240AT	Performance	
	P74FCT244AT	Performance	105
	QS74FCT2540	Quality Semi	
	QS74FCT540	Quality Semi	
	QS74FCT828	Quality Semi	
HC	GD74HC240	GoldStar	
	CD54HC240	°† Harris	110
	CD74HC240	Harris	
	HCTS240MS	‡ Harris	
	M74HC240	Mitsubishi	
	MM54HC240	† National	
	MM74HC240	National	115
	M74HC240	SGS-Thomson	
	SN54HC240	† TI	
	SN74HC240	TI	
	TC74HC240A	**Toshiba (3836)**	
	TC74HC7240A	**Toshiba (3836)**	120
		(Continued)	
Octal Buffer/Line Driver, Three-State, Inverting (Cont'd)			
HCMOS	74LV240	ℓ Philips	
HCT	MV74HCT240	GEC Plessey	
	54HCT240SOS	GEC Plessey	
	74HCT240	GEC Plessey	
	CD54HCT240	°† Harris	125
	CD74HCT240	° Harris	
	54HCTLS240	**‡ Ideal Semi (3643)**	
	74HCTLS240	**‡ Ideal Semi (3643)**	
	M74HCT240	Mitsubishi	
	MC54HCT240A	† Motorola	130
	MC74HCT240A	Motorola	
	MM54HCT240	† National	
	MM74HCT240	National	
	M74HCT240	SGS-Thomson	
	SN54HCT240	† TI	135
	SN74HCT240	TI	
	TC74HCT240A	Toshiba	
HLL	74HL33240	ℓ Philips	
LV	SN74LV240	ℓ TI	
LVC	74LVC240	ℓ Philips	140
	SN74LVC240	ℓ TI	
LVQ	**TC74LVQ240**	**ℓ Toshiba (3837)**	
LVT	SN54LVT240	ℓ† TI	
	SN74LVT240	ℓ TI	
LVX	**TC74LVX240**	**ℓ Toshiba (3837)**	145
VHC	**TC74VHC240**	**Toshiba (3837)**	
VHCT	**TC74VHCT240**	**Toshiba (3837)**	
4XXX	HEF40240B	Philips	
Octal Buffer/Line Driver, Three-State, Inverting (dual)			
AC	DPLAC240Y	Dense-Pac	
ACT	DPLACT240Y	Dense-Pac	150
FCT	DPLFCT240Y	Dense-Pac	
HC	DPLHC240Y	Dense-Pac	
	DPLXXX240Y	Dense-Pac	
HCT	DPLHCT240Y	Dense-Pac	
	SN54HCT540	† TI	155
	SN74HCT540	TI	
Octal Buffer/Line Driver, Three-State, True			
	74LVX244	ℓ National	
AC	ACTS244MS	‡ Harris	
	54AC241	°† National	
	54AC244	°† National	160
	74AC241	° National	
	74AC244	° National	
	74AC11241	TI	
	74AC11244	TI	
	TC74AC241	**Toshiba (3836)**	165
	TC74AC244	**Toshiba (3836)**	
ACQ	54ACQ241	† National	
	74ACQ241	National	
ACT	CD54ACT241	°† Harris	
	CD54ACT244	°† Harris	170
	CD74ACT241	° Harris	
	CD74ACT244	° Harris	
	54ACT241	°† National	
	54ACT244	°† National	
	74ACT241	° National	175
	74ACT244	° National	
	74ACT11241	° TI	
	74ACT11244	° TI	
ACTQ	54ACTQ241	† National	
	74ACTQ241	National	180
AHCT	**54AHCT241**	**‡ Ideal Semi (3644)**	
	54AHCT244	**‡ Ideal Semi (3644)**	
	74AHCT241	**‡ Ideal Semi (3644)**	
	74AHCT244	**‡ Ideal Semi (3644)**	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
Octal Buffer/Line Driver, Three-State, True (Cont'd)			
BCT	SN54BCT241	† TI	
	SN54BCT244	† TI	
	SN74BCT241	TI	
C	MM54C244	‡ Micrel	
	MM54C244	National	5
	MM74C244	National	
FCT	IDT54FCT241	°† IDT	
	IDT54FCT241A	°† IDT	
	IDT54FCT241C	°† IDT	
	IDT54FCT244	°† IDT	10
	IDT54FCT244A	°† IDT	
	IDT54FCT244AT	°† IDT	
	IDT54FCT244C	°† IDT	
	IDT54FCT244CT	°† IDT	
	IDT54FCT244DT	IDT	15
	IDT54FCT244T	°‡ IDT	
	IDT74FCT244	° IDT	
	IDT74FCT244A	° IDT	
	IDT74FCT244AT	° IDT	
	IDT74FCT244C	° IDT	20
	IDT74FCT244CT	° IDT	
	IDT74FCT244DT	IDT	
	IDT74FCT244T	° IDT	
	P54PCT241	‡ Performance	
	P54PCT241A	‡ Performance	25
	P54PCT244	‡ Performance	
	P54PCT244A	‡ Performance	
	P74FCT241	Performance	
	P74FCT241A	Performance	
	P74FCT241AT	Performance	30
	P74FCT244	Performance	
	P74FCT244A	Performance	
	P74FCT244CT	Performance	
	QS74FCT2541	Quality Semi	
	QS74FCT541	Quality Semi	35
	QS74FCT827	Quality Semi	
HC	GD54HC241	† GoldStar	
	GD54HC244	† GoldStar	
	GD74HC241	GoldStar	
	GD74HC244	GoldStar	40
	CD54HC241	°‡ Harris	
	CD54HC244	°† Harris	
	CD74HC241	° Harris	
	CD74HC244	° Harris	
	HCS244MS	‡ Harris	45
	HCTS244MS	‡ Harris	
	M74HC241	Mitsubishi	
	M74HC244	Mitsubishi	
	MM54HC241	† National	
	MM54HC244	† National	50
	MM74HC241	National	
	MM74HC244	National	
	74HC244	° Philips	
	54HC241	† Rochester	
	M74HC241	SGS-Thomson	55
	M74HC244	SGS-Thomson	
	SN54HC241	† TI	
	SN54HC244	† TI	
	SN74HC241	TI	
	SN74HC244	TI	60
	TC74HC241A	**Toshiba (3836)**	
	TC74HC244A	**Toshiba (3836)**	
	TC74HC7241A	**Toshiba (3836)**	
	TC74HC7244A	**Toshiba (3836)**	
HCMOS	74LV244	ℓ Philips	65
HCT	MV74HCT241	GEC Plessey	
	MV74HCT244	GEC Plessey	
	54HCT241SOS	GEC Plessey	
	54HCT244SOS	GEC Plessey	
	74HCT241	GEC Plessey	70
	74HCT244	GEC Plessey	

(Continued)

Function	Device	Source	Line
Octal Buffer/Line Driver, Three-State, True			
HCT (Cont'd)			
	GD54HCT241	† GoldStar	
	GD54HCT244	† GoldStar	
	GD74HCT241	GoldStar	
	GD74HCT244	GoldStar	75
	CD54HCT241	°† Harris	
	CD54HCT244	°† Harris	
	CD74HCT241	° Harris	
	CD74HCT244	° Harris	
	54HCTLS241	**‡ Ideal Semi (3643)**	80
	54HCTLS244	**‡ Ideal Semi (3643)**	
	74HCTLS241	**‡ Ideal Semi (3643)**	
	74HCTLS244	**‡ Ideal Semi (3643)**	
	IDT74FCT241	°† IDT	
	IDT74FCT241A	°† IDT	85
	IDT74FCT241C	°† IDT	
	M74HCT241	Mitsubishi	
	M74HCT244	Mitsubishi	
	MC54HCT241A	† Motorola	
	MC54HCT244A	† Motorola	90
	MC74HCT241A	Motorola	
	MC74HCT244A	† Motorola	
	MM54HCT241	† National	
	MM54HCT244	† National	
	MM74HCT241	National	95
	MM74HCT244	National	
	74HCT244	° Philips	
	M74HCT241	SGS-Thomson	
	M74HCT244	SGS-Thomson	
	SN54HCT241	† TI	100
	SN54HCT244	† TI	
	SN74HCT241	TI	
	SN74HCT244	TI	
	TC74HCT241A	**Toshiba (3836)**	
	TC74HCT244A	**Toshiba (3836)**	105
HLL	74HL33241	ℓ Philips	
	74HL33244	ℓ Philips	
LV	SN74LV244	ℓ TI	
LVC	74LVC241	ℓ Philips	
	74LVC244	ℓ Philips	110
	SN74LVC244	ℓ TI	
LVQ	**TC74LVQ241**	**ℓ Toshiba (3837)**	
	TC74LVQ244	**ℓ Toshiba (3837)**	
LVT	SN54LVT244	ℓ† TI	
	SN74LVT244	ℓ TI	115
LVX	**TC74LVX244**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC244**	**Toshiba (3837)**	
VHCT	**TC74VHCT244**	**Toshiba (3837)**	
4XXX	HEF40244B	Philips	
Octal Buffer/Line Driver, Three-State, True (Data Flow-Thru Pinout)			
	CD4541BC	National	120
	CD4541BM	† National	
AC	MC74AC241	Motorola	
	MC74AC244	Motorola	
ACT	MC74ACT241	Motorola	
	MC74ACT244	Motorola	125
AHCT	**54AHCT541**	**‡ Ideal Semi (3644)**	
	74AHCT541	**‡ Ideal Semi (3644)**	
HC	HCC4541B	SGS-Thomson	
	HCF4541B	SGS-Thomson	
	SN54HC541	† TI	130
	SN74HC541	TI	
	TC74HC541A	**Toshiba (3836)**	
HCT	**TC74HCT541A**	**Toshiba (3836)**	
VHC	**TC74VHC541**	**Toshiba (3837)**	
VHCT	**TC74VHCT541**	**Toshiba (3837)**	135

Function	Device	Source	Line
Octal Buffer/Line Driver, Three-State, True (dual)			
AC	DPLAC244Y	Dense-Pac	
ACT	DPLACT244Y	Dense-Pac	
AHCT	DPLAHCT244Y	Dense-Pac	
FCT	DPLFCT244Y	Dense-Pac	
HC	DPLHC244Y	Dense-Pac	140
	DPLXXX244Y	Dense-Pac	
HCT	DPLHCT244Y	Dense-Pac	
Octal Bus Parallel/Serial Converter			
ACT	SCANPSC100F	National	
Octal Bus Transceiver			
AC	**TC74AC623**	**Toshiba (3836)**	
ACT	**TC74ACT646**	**Toshiba (3836)**	145
	TC74ACT648	**Toshiba (3836)**	
HC	M74HC7240	SGS-Thomson	
	M74HC7241	SGS-Thomson	
	M74HC7244	SGS-Thomson	
	M74HC7640	SGS-Thomson	150
	M74HC7643	SGS-Thomson	
	M74HC7645	SGS-Thomson	
	SN54HC620	°† TI	
	TC74HC7640A	Toshiba	
HCT	MC54HCT640A	† Motorola	155
	MC74HCT640A	Motorola	
Octal Bus Transceiver, Inverting			
FCT	QS29FCT2053	Quality Semi	
	QS29FCT2053A	Quality Semi	
	QS29FCT2053B	Quality Semi	
	QS29FCT2053C	Quality Semi	160
Octal Bus Transceiver, Inverting, Three-State			
BCT	74BCT640	TI	
Octal Bus Transceiver/Register			
AC	CD74AC647	° Harris	
	MC74AC648	Motorola	
ACT	CD74ACT647	° Harris	
	MC74ACT648	Motorola	165
Octal Bus Transceiver/Register, Inverting			
AC	CD74AC649	° Harris	
	CD74AC653	Harris	
ACT	CD74ACT649	° Harris	
	CD74ACT653	Harris	
Octal Bus Transceiver/Register, Open Drain			
FCT	CD74FCT653	Harris	170
Octal Bus Transceiver/Register with Direction Pin, Three-State, True			
AC	CD74AC646	° Harris	
	CD74AC648	° Harris	
	54AC646	† National	
	54AC648	† National	
	74AC646	National	175
	74AC648	National	
	54AC11646	† TI	
	54AC11648	† TI	
	74AC11646	° TI	
	74AC11648	TI	180
	TC74AC646	**Toshiba (3836)**	
	TC74AC648	**Toshiba (3836)**	
ACT	CD74ACT646	° Harris	
	CD74ACT648	° Harris	
	54ACT646	† National	185
	74ACT646	National	
	54ACT11646	† TI	
	54ACT11648	† TI	
	74ACT11646	° TI	
	74ACT11648	TI	190
ACTQ	54ACTQ646	† National	
	74ACTQ646	National	
AHCT	**54AHCT646**	**‡ Ideal Semi (3644)**	
	54AHCT648	**‡ Ideal Semi (3644)**	

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
Octal Bus Transceiver/Register with Direction Pin, Three-State, True			
AHCT		(Cont'd)	
	74AHCT646	**‡ Ideal Semi (3644)**	
	74AHCT648	**‡ Ideal Semi (3644)**	
FCT	IDT54FCT646	°† IDT	
	IDT54FCT646A	°† IDT	
	IDT54FCT646AT	°† IDT	5
	IDT54FCT646C	† IDT	
	IDT54FCT646CT	† IDT	
	IDT54FCT646DT	† IDT	
	IDT54FCT646T	°† IDT	
	IDT54FCT648	°† IDT	10
	IDT54FCT648A	°† IDT	
	IDT54FCT648AT	† IDT	
	IDT54FCT648CT	† IDT	
	IDT54FCT648T	† IDT	
	IDT54FCT651AT	† IDT	15
	IDT54FCT651CT	† IDT	
	IDT54FCT651T	† IDT	
	IDT54FCT652AT	† IDT	
	IDT54FCT652CT	† IDT	
	IDT54FCT652DT	† IDT	20
	IDT54FCT652T	† IDT	
	IDT74FCT646	° IDT	
	IDT74FCT646A	° IDT	
	IDT74FCT646AT	° IDT	
	IDT74FCT646CT	IDT	25
	IDT74FCT646DT	IDT	
	IDT74FCT646T	° IDT	
	IDT74FCT648	° IDT	
	IDT74FCT648A	° IDT	
	IDT74FCT648AT	IDT	30
	IDT74FCT648CT	IDT	
	IDT74FCT648T	IDT	
	IDT74FCT652AT	IDT	
	IDT74FCT652CT	IDT	
	IDT74FCT652DT	IDT	35
	IDT74FCT652T	IDT	
	P54FCT646	Performance	
	P54FCT646A	Performance	
	P54FCT646AT	Performance	
	P54FCT646CT	Performance	40
	P54FCT646T	Performance	
	P54FCT648	Performance	
	P54FCT648A	Performance	
	P54FCT648AT	Performance	
	P54FCT648CT	Performance	45
	P54FCT648T	Performance	
	P54PCT646	‡ Performance	
	P54PCT646A	‡ Performance	
	P54PCT648	‡ Performance	
	P54PCT648A	‡ Performance	50
	P74FCT646A	Performance	
	P74FCT646AT	Performance	
	P74FCT646C	Performance	
	P74FCT646CT	Performance	
	P74FCT646T	Performance	55
	P74FCT648A	Performance	
	P74FCT648AT	Performance	
	P74FCT648CT	Performance	
	P74FCT648T	Performance	
	QS54FCT2646	† Quality Semi	60
	QS54FCT2646A	† Quality Semi	
	QS54FCT2646C	† Quality Semi	
	QS54FCT2646D	† Quality Semi	
	QS54FCT2648	† Quality Semi	
	QS54FCT2648A	† Quality Semi	65
	QS54FCT2648C	† Quality Semi	
	QS54FCT646	† Quality Semi	
	QS54FCT646A	† Quality Semi	
	QS54FCT646C	† Quality Semi	
	QS54FCT646D	† Quality Semi	70
	QS54FCT648	† Quality Semi	
		(Continued)	
Octal Bus Transceiver/Register with Direction Pin, Three-State, Inverting			
FCT		(Cont'd)	
	QS54FCT648A	† Quality Semi	
	QS54FCT648C	† Quality Semi	
	QS74FCT2646	Quality Semi	
	QS74FCT2646A	Quality Semi	75
	QS74FCT2646C	Quality Semi	
	QS74FCT2646D	Quality Semi	
	QS74FCT2648	Quality Semi	
	QS74FCT2648A	Quality Semi	
	QS74FCT2648C	Quality Semi	80
	QS74FCT646	Quality Semi	
	QS74FCT646A	Quality Semi	
	QS74FCT646C	Quality Semi	
	QS74FCT646D	Quality Semi	
	QS74FCT648	Quality Semi	85
	QS74FCT648A	Quality Semi	
	QS74FCT648C	Quality Semi	
HC	GD54HC646	† GoldStar	
	GD54HC648	† GoldStar	
	GD74HC646	GoldStar	90
	GD74HC648	GoldStar	
	CD54HC646	† Harris	
	CD54HC648	°† Harris	
	CD74HC646	Harris	
	CD74HC648	° Harris	95
	HCTS646MS	‡ Harris	
	MC54HC646	† Motorola	
	MC54HC648	† Motorola	
	MC74HC646	Motorola	
	MC74HC648	Motorola	100
	MM54HC646	† National	
	MM54HC648	† National	
	MM74HC646	National	
	MM74HC648	National	
	74HC646	° Philips	105
	74HC648	° Philips	
	54HC646	Rochester	
	M74HC646	SGS-Thomson	
	M74HC648	SGS-Thomson	
	SN74HC646	TI	110
	SN74HC648	TI	
	TC74HC646A	**Toshiba (3836)**	
	TC74HC648A	**Toshiba (3836)**	
HCT	GD54HCT646	† GoldStar	
	GD54HCT648	† GoldStar	115
	GD74HCT646	GoldStar	
	GD74HCT648	GoldStar	
	CD54HCT646	† Harris	
	CD54HCT648	°† Harris	
	CD74HCT646	Harris	120
	CD74HCT648	° Harris	
	54HCTLS646	**‡ Ideal Semi (3643)**	
	54HCTLS648	**‡ Ideal Semi (3643)**	
	74HCTLS646	**‡ Ideal Semi (3643)**	
	74HCTLS648	**‡ Ideal Semi (3643)**	125
	MC74HCT646	Motorola	
	74HCT646	° Philips	
	74HCT648	° Philips	
	M74HCT646	SGS-Thomson	
	M74HCT648	SGS-Thomson	130
	SN74HCT646	TI	
	SN74HCT648	TI	
	TC74HCT646A	Toshiba	
	TC74HCT648A	**Toshiba (3836)**	
HLL	74HL33646	ℓ Philips	135
	74HL33648	ℓ Philips	
LVC	74LVC646	ℓ Philips	
	74LVC648	ℓ Philips	
	SN74LVC646	ℓ TI	
LVT	SN54LVT646	ℓ† TI	140
	SN74LVT646	ℓ† TI	
Octal Bus Transceiver/Register with Open Drain			
FCT	CD74FCT647	Harris	
Octal Bus Transceiver/Register with Open Drain, Inverting			
FCT	CD74FCT649	Harris	
Octal Bus Transceiver/Register with Dual Enable, Three-State, Inverting			
AC	54AC11651	† TI	
	54AC11652	† TI	145
	74AC11470	TI	
	74AC11471	TI	
	74AC11651	TI	
	74AC11652	TI	
ACT	54ACT11651	† TI	150
	54ACT11652	† TI	
	74ACT11470	TI	
	74ACT11471	TI	
	74ACT11651	TI	
	74ACT11652	TI	155
BCT	SN54BCT652	† TI	
	SN74BCT652	TI	
FCT	IDT54FCT651	† IDT	
	IDT54FCT651A	† IDT	
	IDT54FCT652	°† IDT	160
	IDT54FCT652A	°† IDT	
	IDT74FCT651	° IDT	
	IDT74FCT651A	° IDT	
	IDT74FCT652	° IDT	
	IDT74FCT652A	° IDT	165
	P54FCT651	Performance	
	P54FCT651A	Performance	
	P54FCT651AT	Performance	
	P54FCT651CT	Performance	
	P54FCT651T	Performance	170
	P54FCT652	Performance	
	P54FCT652A	Performance	
	P54FCT652AT	Performance	
	P54FCT652CT	Performance	
	P54FCT652T	Performance	175
	P54PCT651	‡ Performance	
	P54PCT651A	‡ Performance	
	P74FCT651	Performance	
	P74FCT651A	Performance	
	P74FCT651AT	Performance	180
	P74FCT651CT	Performance	
	P74FCT651T	Performance	
	P74FCT652	Performance	
	P74FCT652A	Performance	
	P74FCT652AT	Performance	185
	P74FCT652CT	Performance	
	P74FCT652T	Performance	
	QS54FCT2651	† Quality Semi	
	QS54FCT2651A	† Quality Semi	
	QS54FCT2651C	† Quality Semi	190
	QS54FCT2652	† Quality Semi	
	QS54FCT2652A	† Quality Semi	
	QS54FCT2652C	† Quality Semi	
	QS54FCT651	† Quality Semi	
	QS54FCT651A	† Quality Semi	195
	QS54FCT651C	† Quality Semi	
	QS54FCT652	† Quality Semi	
	QS54FCT652A	† Quality Semi	
	QS54FCT652C	† Quality Semi	
	QS74FCT2651	Quality Semi	200
	QS74FCT2651A	Quality Semi	
	QS74FCT2651C	Quality Semi	
	QS74FCT2652	Quality Semi	
	QS74FCT2652A	Quality Semi	
	QS74FCT2652C	Quality Semi	205
	QS74FCT651	Quality Semi	
	QS74FCT651A	Quality Semi	
	QS74FCT651C	Quality Semi	
	QS74FCT652	Quality Semi	
	QS74FCT652A	Quality Semi	210
	QS74FCT652C	Quality Semi	
HC	M74HC651	SGS-Thomson	
	M74HC652	SGS-Thomson	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
Octal Bus Transceiver/Register with Dual Enable, Three-State, Inverting			
HC		(Cont'd)	
	SN74HC651	TI	
	SN74HC652	TI	
	TC74HC651A	**Toshiba (3836)**	
	TC74HC652A	**Toshiba (3836)**	
HCT	M74HCT651	SGS-Thomson	5
	M74HCT652	SGS-Thomson	
	SN74HCT651	TI	
	SN74HCT652	TI	
	TC74HCT651A	**Toshiba (3836)**	
	TC74HCT652A	**Toshiba (3836)**	10
HLL	74HL33651	ℓ Philips	
	74HL33652	ℓ Philips	
LVC	74LVC651	ℓ Philips	
LVT	SN54LVT652	ℓ† TI	
	SN74LVT652	ℓ† TI	15
PCT	P54PCT652	‡ Performance	
	P54PCT652A	‡ Performance	
Octal Bus Transceiver/Register, Three-State			
FCT	CD74FCT646	Harris	
	CD74FCT652	Harris	
	54FCT646	† National	20
	54FCT646A	† National	
	74FCT646	National	
	74FCT646A	National	
HC	CD74HC651	Harris	
	CD74HC652	Harris	25
HCT	CD74HCT651	Harris	
	CD74HCT652	Harris	
LVC	SN74LVC2952	ℓ TI	
Octal Bus Transceiver/Register, Three-State; Inverting			
AC	CD74AC651	° Harris	
ACT	CD74ACT651	° Harris	30
Octal Bus Transceiver/Register, Three-State, Inverting			
ACT	CD54ACT7651	† Harris	
	CD74ACT7651	Harris	
FCT	CD74FCT648	Harris	
	CD74FCT651	Harris	
Octal Bus Transceiver, True			
FCT	QS29FCT2052	Quality Semi	35
	QS29FCT2052A	Quality Semi	
	QS29FCT2052B	Quality Semi	
	QS29FCT2052C	Quality Semi	
Octal Bus Transceiver with Direction Pin, Three-State, Inverting (dual)			
AC	DPLAC640Y	Dense-Pac	
	54AC11640	† TI	40
	74AC11640	TI	
	TC74AC640	**Toshiba (3836)**	
ACT	DPLACT640Y	Dense-Pac	
	SN54ACT11640	°† TI	
	54ACT11640	† TI	45
	74ACT11640	° TI	
	TC74ACT640	**Toshiba (3836)**	
AHCT	**54AHCT640**	**‡ Ideal Semi (3644)**	
	74AHCT640	**‡ Ideal Semi (3644)**	
BCT	SN54BCT640	† TI	50
	SN74BCT640	TI	
FCT	IDT54FCT640	† IDT	
	IDT54FCT640A	† IDT	
	IDT54FCT640C	† IDT	
	IDT74FCT640	IDT	55
	IDT74FCT640A	IDT	
	IDT74FCT640C	IDT	
	P54FCT640AT	Performance	
	P54FCT640CT	Performance	
	P54FCT640T	Performance	60
		(Continued)	
Octal Bus Transceiver with Direction Pin, Three-State, Inverting			
FCT		(Cont'd)	
	P74FCT640AT	Performance	
	P74FCT640CT	Performance	
	P74FCT640T	Performance	
	QS54FCT2640	† Quality Semi	
	QS54FCT2640A	† Quality Semi	65
	QS54FCT640	† Quality Semi	
	QS54FCT640A	† Quality Semi	
	QS74FCT2640	Quality Semi	
	QS74FCT2640A	Quality Semi	
	QS74FCT640	Quality Semi	70
	QS74FCT640A	Quality Semi	
HC	DPLHC640Y	Dense-Pac	
	DPLXXX640Y	Dense-Pac	
	CD54HC640	† Harris	
	CD74HC640	Harris	75
	M74HC640	Mitsubishi	
	M74HC640-1	Mitsubishi	
	MM54HC640	† National	
	MM74HC640	National	
	74HC640	Philips	80
	M74HC640	SGS-Thomson	
	SN54HC640	TI	
	SN74HC640	TI	
	TC74HC640A	**Toshiba (3836)**	
HCT	DPLHCT640Y	Dense-Pac	85
	CD54HCT640	† Harris	
	CD74HCT640	Harris	
	54HCTLS640	**‡ Ideal Semi (3643)**	
	74HCTLS640	**‡ Ideal Semi (3643)**	
	M74HCT640-1	Mitsubishi	90
	MM54HCT640	† National	
	MM74HCT640	National	
	74HCT640	Philips	
	54HCT640	Rochester	
	M74HCT640	SGS-Thomson	95
	SN74HCT640	TI	
	TC74HCT640A	**Toshiba (3836)**	
	US74HCT640	Universal	
HLL	74HL33640	ℓ Philips	
LVC	74LVC640	ℓ Philips	100
Octal Bus Transceiver with Storage, Open-Collector			
FCT	IDT54FCT621AT	† IDT	
	IDT54FCT621CT	† IDT	
	IDT54FCT621T	† IDT	
	IDT54FCT622AT	† IDT	
	IDT54FCT622CT	† IDT	105
	IDT54FCT622T	† IDT	
	IDT74FCT621AT	IDT	
	IDT74FCT621CT	IDT	
	IDT74FCT621T	IDT	
	IDT74FCT622AT	IDT	110
	IDT74FCT622CT	IDT	
	IDT74FCT622T	IDT	
Octal Bus Transceiver with Dual Enable, Three-State,			
True	CD54AC623	° Harris	
AC	CD74AC623	° Harris	
	54AC11620	† TI	115
	54AC11623	† TI	
	74AC11620	° TI	
	74AC11623	TI	
	TC74AC620	**Toshiba (3836)**	
ACT	CD54ACT623	°† Harris	120
	CD74ACT623	° Harris	
	54ACT11620	† TI	
	54ACT11623	† TI	
	74ACT11620	° TI	
	74ACT11623	° TI	125
BCT	SN54BCT623	† TI	
	SN74BCT620	TI	
	SN74BCT623	TI	
		(Continued)	
Octal Bus Transceiver with Dual Enable, Three-State, Inverting		(Cont'd)	
FCT	IDT54FCT620AT	† IDT	
	IDT54FCT620CT	† IDT	130
	IDT54FCT620T	† IDT	
	IDT54FCT623AT	† IDT	
	IDT54FCT623CT	† IDT	
	IDT54FCT623T	† IDT	
	IDT74FCT620AT	IDT	135
	IDT74FCT620CT	IDT	
	IDT74FCT620T	IDT	
	IDT74FCT623AT	IDT	
	IDT74FCT623CT	IDT	
	IDT74FCT623T	IDT	140
	P74FCT620AT	Performance	
	P74FCT620CT	Performance	
	P74FCT620T	Performance	
	P74FCT623AT	Performance	
	P74FCT623CT	Performance	145
	P74FCT623T	Performance	
	54FCT620AT	Performance	
	54FCT620CT	Performance	
	54FCT620T	Performance	
	54FCT623AT	Performance	150
	54FCT623CT	Performance	
	54FCT623T	Performance	
HC	MM54HC620	† National	
	MM54HC623	† National	
	MM74HC620	National	155
	MM74HC623	National	
	54HC620	Rochester	
	M74HC620	SGS-Thomson	
	M74HC623	SGS-Thomson	
	SN54HC623	† TI	160
	SN74HC620	° TI	
	SN74HC623	TI	
	TC74HC620A	**Toshiba (3836)**	
	TC74HC623A	**Toshiba (3836)**	
HCT	54HCT620	Rochester	165
	SN74HCT620	TI	
	SN74HCT623	TI	
HLL	74HL33620	ℓ Philips	
	74HL33623	ℓ Philips	
LVC	74LVC620	ℓ Philips	170
	74LVC623	ℓ Philips	
Octal Bus Transceiver with 8-Bit Parity Generator/Checker, Three-State, True			
AC	54AC11657	† TI	
	74AC11657	TI	
ACT	54ACT657	† National	
	74ACT657	National	175
	54ACT11657	† TI	
	74ACT11657	‡ TI	
ACTQ	54ACTQ657	† National	
	74ACTQ657	National	
FCT	P74FCT657AT	Performance	180
	P74FCT657CT	Performance	
	P74FCT657T	Performance	
Octal Bus Transceiver, Three State, True			
HC	**TC74HC7645A**	**Toshiba (3836)**	
Octal Bus Transceiver/Three-State			
	CD74FCT245AT	Harris	
FCT	CD54FCT245	† Harris	185
	CD54FCT623	† Harris	
	CD74FCT245	Harris	
	CD74FCT623	Harris	
HCTLS	**54HCTLS245**	**‡ Ideal Semi (3643)**	
	74HCTLS245	**‡ Ideal Semi (3643)**	190
HCTS	HCTS245MS	‡ Harris	
Octal Bus Transceiver, Three-State Inputs/Outputs			
HCT	MV74HCT545	GEC Plessey	

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　•Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
Octal Bus Transceiver, Three-State, Inverting			
FCT	P29FCT53A	Performance	
	P29FCT53AT	Performance	
	P29FCT53B	Performance	
	P29FCT53BT	Performance	
	P29FCT53CT	Performance	5
	QS29FCT53	Quality Semi	
	QS29FCT53A	Quality Semi	
	QS29FCT53B	Quality Semi	
	QS29FCT53C	Quality Semi	
HC	CD54HC242	† Harris	10
	CD74HC242	Harris	
	M74HC242	Mitsubishi	
	MC54HC242	† Motorola	
	MC54HC640A	† Motorola	
	MC74HC242	Motorola	15
	MC74HC640A	Motorola	
	MM54HC242	† National	
	MM74HC242	National	
	74HC242	Philips	
	54HC242	† Rochester	20
	M74HC242	SGS-Thomson	
	SN54HC242	°† TI	
	SN74HC242	° TI	
	TC74HC242A	**Toshiba (3836)**	
HCT	CD54HCT242	† Harris	25
	CD74HCT242	Harris	
	74HCT242	Philips	
	SN74HCT242	TI	
HLL	74HL33953	ℓ Philips	
Octal Bus Transceiver, Three-State, True			
	MC54HC245A	Motorola	30
	MC74HC245A	Motorola	
	74LVX245	ℓ National	
AC	ACS245MS	‡ Harris	
	ACTS245MS	‡ Harris	
	CD54AC245	°† Harris	35
	CD74AC245	° Harris	
	54AC245	°† National	
	74AC245	° National	
	54AC11245	°† TI	
	74AC11245	° TI	40
	TC74AC245	**Toshiba (3836)**	
ACT	CD54ACT245	°† Harris	
	CD74ACT245	° Harris	
	54ACT245	† National	
	74ACT245	National	45
	54ACT11245	°† TI	
	74ACT11245	° TI	
	TC74ACT245	**Toshiba (3836)**	
AHCT	**54AHCT245**	**‡ Ideal Semi (3644)**	
	74AHCT245	**‡ Ideal Semi (3644)**	50
BCT	54BCT245	National	
	74BCT245	National	
	SN54BCT245	† TI	
	SN74BCT1245	TI	
	SN74BCT245	TI	55
FCT	DPLFCT245Y	† Dense-Pac	
	IDT29FCT52A	IDT	
	IDT29FCT52B	IDT	
	IDT29FCT52C	IDT	
	IDT29FCT53A	IDT	60
	IDT29FCT53B	IDT	
	IDT29FCT53C	IDT	
	IDT54FCT245	°† IDT	
	IDT54FCT245A	°† IDT	
	IDT54FCT245AT	°† IDT	65
	IDT54FCT245C	°† IDT	
	IDT54FCT245CT	°† IDT	
	IDT54FCT245DT	IDT	

(Continued)

Function	Device	Source	Line
Octal Bus Transceiver, Three-State, True			
FCT (Cont'd)			
	IDT54FCT245T	°† IDT	
	IDT54FCT645	† IDT	70
	IDT54FCT645A	† IDT	
	IDT54FCT645C	† IDT	
	IDT74FCT245	° IDT	
	IDT74FCT245A	° IDT	
	IDT74FCT245AT	° IDT	75
	IDT74FCT245C	° IDT	
	IDT74FCT245CT	° IDT	
	IDT74FCT245DT	IDT	
	IDT74FCT245T	° IDT	
	IDT74FCT645	IDT	80
	IDT74FCT645A	IDT	
	IDT74FCT645C	IDT	
	54FCT2245AT	† National	
	54FCT2245T	† National	
	P29FCT52A	Performance	85
	P29FCT52AT	Performance	
	P29FCT52B	Performance	
	P29FCT52BT	Performance	
	P29FCT52CT	Performance	
	P54FCT245	Performance	90
	P54FCT245A	Performance	
	P54FCT245AT	Performance	
	P54FCT245T	Performance	
	P54PCT245	‡ Performance	
	P54PCT245A	‡ Performance	95
	P74FCT245	Performance	
	P74FCT245A	Performance	
	P74FCT245C	Performance	
	P74PCT245	Performance	
	P74PCT245A	Performance	100
	P74PCT245C	Performance	
	54FCT245CT	Performance	
	54FCT645AT	Performance	
	54FCT645CT	Performance	
	54FCT645T	Performance	105
	74FCT245AT	Performance	
	74FCT245CT	Performance	
	74FCT245T	Performance	
	74FCT645AT	Performance	
	74FCT645T	Performance	110
	QS29FCT52	Quality Semi	
	QS29FCT52A	Quality Semi	
	QS29FCT52B	Quality Semi	
	QS29FCT52C	Quality Semi	
	QS54FCT2245	† Quality Semi	115
	QS54FCT2245A	† Quality Semi	
	QS54FCT2245C	† Quality Semi	
	QS54FCT245	† Quality Semi	
	QS54FCT245A	† Quality Semi	
	QS54FCT245C	† Quality Semi	120
	QS54FCT245D	† Quality Semi	
	QS74CFT245C	Quality Semi	
	QS74FCT2245	Quality Semi	
	QS74FCT2245A	Quality Semi	
	QS74FCT2245C	Quality Semi	125
	QS74FCT245	Quality Semi	
	QS74FCT245A	Quality Semi	
	QS74FCT245C	Quality Semi	
	QS74FCT245D	Quality Semi	
HC	GD54HC245	† GoldStar	130
	GD74HCT245	† GoldStar	
	GD74HC245	GoldStar	
	CD54HC243	† Harris	
	CD54HC245	°† Harris	
	CD74HC243	Harris	135
	CD74HC245	° Harris	
	HCS245MS	‡ Harris	
	M74HC243	Mitsubishi	
	M74HC245	Mitsubishi	
	M74HC245-1	Mitsubishi	140
	M74HC645	Mitsubishi	
	M74HC645-1	Mitsubishi	
	MM54HC243	† National	
	MM54HC245A	† National	
	MM74HC243	National	145

(Continued)

Function	Device	Source	Line
Octal Bus Transceiver, Three-State, True			
HC (Cont'd)			
	MM74HC245A	National	
	74HC243	Philips	
	74HC245	° Philips	
	54HC243	† Rochester	
	M74HC243	SGS-Thomson	150
	M74HC245	SGS-Thomson	
	SN54HC243	† TI	
	SN54HC245	† TI	
	SN54HC645	† TI	
	SN74HC243	TI	155
	SN74HC245	TI	
	SN74HC645	TI	
	TC74HC243A	**Toshiba (3836)**	
	TC74HC245A	**Toshiba (3836)**	
	TC74HC7643A	**Toshiba (3836)**	160
HCMOS	74LV245	ℓ Philips	
HCT	MV74HCT245	GEC Plessey	
	54HCT245SOS	GEC Plessey	
	74HCT245	GEC Plessey	
	GD54HCT245	† GoldStar	165
	CD54HCT243	† Harris	
	CD54HCT245	°† Harris	
	CD74HCT243	Harris	
	CD74HCT245	° Harris	
	M74HCT245-1	Mitsubishi	170
	M74HCT645-1	Mitsubishi	
	MC54HCT245A	† Motorola	
	MC74HCT245A	Motorola	
	MM54HCT245	† National	
	MM74HCT245	National	175
	74HCT243	Philips	
	74HCT245	° Philips	
	M74HCT245	SGS-Thomson	
	SN54HCT245	† TI	
	SN74HCT243	TI	180
	SN74HCT245	TI	
	SN74HCT645	TI	
	TC74HCT245A	**Toshiba (3836)**	
HLL	74HL33245	ℓ Philips	
	74HL33952	ℓ Philips	185
LV	SN74LV245	ℓ TI	
LVC	74LVC245	ℓ Philips	
	SN74LVC245	ℓ TI	
LVQ	**TC74LVQ245**	**ℓ Toshiba (3837)**	
LVT	SN54LVT245	ℓ† TI	190
	SN74LVT245	ℓ TI	
LVX	**TC74LVX245**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC245**	**Toshiba (3837)**	
VHCT	**TC74VHCT245**	**Toshiba (3837)**	
4XXX	HEF40245B	Philips	195
Octal Bus Transceiver, Three-State, True (dual)			
AC	DPLAC245Y	Dense-Pac	
ACT	DPLACT245Y	Dense-Pac	
HC	DPLHC245Y	Dense-Pac	
	DPLXXX245Y	Dense-Pac	
	DPLXXX645Y	Dense-Pac	200
HCT	DPLHCT245Y	Dense-Pac	
Octal Bus Transceiver, Three-State, True, Inverting			
AC	54AC11643	† TI	
	74AC11643	° TI	
	TC74AC643	**Toshiba (3836)**	
ACT	54ACT11643	† TI	205
	74ACT11643	° TI	
AHCT	**54AHCT643**	**‡ Ideal Semi (3644)**	
	74AHCT643	**‡ Ideal Semi (3644)**	
FCT	P74FCT643AT	Performance	
	P74FCT643T	Performance	210
HC	CD54HC643	† Harris	
	CD74HC643	Harris	
	M74HC643	Mitsubishi	
	M74HC643-1	Mitsubishi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
Octal Bus Transceiver, Three-State, True/Inverting			
HC		(Cont'd)	
	MM54HC643	† National	
	MM74HC643	National	
	74HC643	Philips	
	M74HC643	SGS-Thomson	
	SN54HC643	† TI	5
	SN74HC643	TI	
	TC74HC643A	Toshiba	
HCT	CD54HCT643	† Harris	
	CD74HCT643	Harris	
	54HCTLS643	**‡ Ideal Semi (3643)**	10
	74HCTLS643	**‡ Ideal Semi (3643)**	
	M74HCT643-1	Mitsubishi	
	MM54HCT643	† National	
	MM74HCT643	National	
	74HCT643	Philips	15
	54HCT643	Rochester	
	M74HCT643	SGS-Thomson	
	SN74HCT643	TI	
	TC74HCT643A	Toshiba	
PCT	P54PCT643	‡ Performance	20
Octal Latched Transceiver with Dual Enable, Three-State			
AC	74AC11543	Philips	
	74AC11544	Philips	
Octal Latched-Transceiver, Three-State, True			
FCT	IDT54FCT543AT	† IDT	
	IDT54FCT543CT	† IDT	
	IDT54FCT543DT	† IDT	25
	IDT54FCT543T	† IDT	
	IDT74FCT543AT	IDT	
	IDT74FCT543CT	IDT	
	IDT74FCT543DT	IDT	
	IDT74FCT543T	IDT	30
Octal Register/Transceiver with Parity			
	IDT73210	† IDT	
	IDT73210A	IDT	
	IDT73210B	IDT	
	IDT73211	† IDT	
	IDT73211A	IDT	35
Octal Register-Transceiver/Three-State			
	CD74FCT543AT	Harris	
FCT	CD54FCT543	† Harris	
	CD74FCT543	Harris	
	P74FCT543AT	Performance	
Octal Register-Transceiver, Three-State, Inverting			
FCT	CD54FCT544	† Harris	40
	CD74FCT544	Harris	
	54FCT544	† National	
	54FCT544A	† National	
	74FCT544	National	
	74FCT544A	National	45
	P54FCT544	Performance	
	P54FCT544A	Performance	
	P54FCT544AT	Performance	
	P54FCT544CT	Performance	
	P54FCT544T	Performance	50
	QS54FCT2544	† Quality Semi	
	QS54FCT2544A	† Quality Semi	
	QS54FCT544	† Quality Semi	
	QS54FCT544A	† Quality Semi	
	QS74FCT2544	Quality Semi	55
	QS74FCT2544A	Quality Semi	
	QS74FCT544	Quality Semi	
	QS74FCT544A	Quality Semi	
Octal Register-Transceiver, Three-State, True			
FCT	P54FCT543AT	Performance	
	P54FCT543CT	Performance	60
	P74FCT543CT	Performance	
	P74FCT543T	Performance	
	QS54FCT2543	† Quality Semi	
	QS54FCT2543A	† Quality Semi	
		(Continued)	
Octal Register-Transceiver, Three-State, True			
FCT		(Cont'd)	
	QS54FCT543	† Quality Semi	65
	QS54FCT543A	† Quality Semi	
	QS54FCT543C	† Quality Semi	
	QS74FCT2543	Quality Semi	
	QS74FCT2543A	Quality Semi	
	QS74FCT543	Quality Semi	70
	QS74FCT543A	Quality Semi	
	QS74FCT543C	Quality Semi	
Octal Registered Transceiver with Dual Enable, Three-State, Inverting			
AC	74AC11544	TI	
ACQ	54ACQ543	† National	
	54ACQ544	† National	75
	74ACQ543	National	
	74ACQ544	National	
ACT	54ACT543	† National	
	54ACT544	† National	
	74ACT543	National	80
	74ACT544	National	
	74ACT11544	TI	
ACTQ	54ACTQ543	† National	
	54ACTQ544	† National	
	74ACTQ543	National	85
	74ACTQ544	National	
BCT	SN54BCT543	°† TI	
	SN54BCT544	† TI	
	SN74BCT543	° TI	
	SN74BCT544	TI	90
FCT	IDT54FCT543	°† IDT	
	IDT54FCT543A	°† IDT	
	IDT54FCT543C	† IDT	
	IDT74FCT543	° IDT	
	IDT74FCT543A	° IDT	95
	IDT74FCT543C	IDT	
	P54FCT543	Performance	
	P54FCT543A	Performance	
	P54FCT543T	Performance	
	P54PCT543	‡ Performance	100
	P54PCT543A	‡ Performance	
	P54PCT544	‡ Performance	
	P54PCT544A	‡ Performance	
	P74FCT543	Performance	
	P74FCT543A	Performance	105
	P74FCT544	Performance	
	P74FCT544A	Performance	
	P74FCT544CT	Performance	
	P74FCT544T	Performance	
LVC	74LVC543	ℓ Philips	110
	SN74LVC543	ℓ TI	
LVT	SN54LVT543	ℓ† TI	
	SN74LVT543	ℓ TI	
PCT	P74FCT544AT	Performance	
Octal Transceiver			
AC	MC74AC640	Motorola	115
ACT	MC74ACT640	Motorola	
Octal Transceiver, Inverting			
FCT	IDT74FCT640AT	IDT	
	IDT74FCT640CT	IDT	
Octal Transceiver/Register with Direction Pin, Three-State			
AC	74AC11646	Philips	
	74AC11648	Philips	120
Octal Transceiver/Register with Dual Enable, Three-State			
AC	74AC11470	Philips	
	74AC11471	Philips	
	74AC11651	Philips	
	74AC11652	Philips	
Octal Transceiver, True			
FCT	IDT54FCT645AT	IDT	125
	IDT54FCT645CT	IDT	
	IDT54FCT645DT	IDT	
	IDT54FCT645T	IDT	
		(Continued)	
Octal Transceiver, True			
FCT		(Cont'd)	
	IDT74FCT645AT	IDT	
	IDT74FCT645CT	IDT	130
	IDT74FCT645DT	IDT	
	IDT74FCT645T	IDT	
Octal Transceiver with Direction Pin, Three-State			
AC	74AC11245	Philips	
	74AC11640	Philips	
Octal Transceiver with Dual Enable, Three-State, Inverting			
AC	74AC11620	Philips	135
	74AC11623	Philips	
Octal Transceiver with 8-Bit Parity Generator/Checker			
AC	74AC11657	Philips	
Octal Transceiver, Three-State, True/Inverting			
AC	74AC11643	Philips	
8-Bit Bus Interface Register, Three-State, True			
FCT	P54FCT825A	Performance	
	P54FCT825AT	Performance	140
	P54FCT825B	Performance	
	P54FCT825BT	Performance	
	P54FCT825CT	Performance	
	P74FCT825AT	Performance	
	P74FCT825BT	Performance	145
	P74FCT825CT	Performance	
	QS54FCT825A	† Quality Semi	
	QS54FCT825B	† Quality Semi	
	QS54FCT825C	† Quality Semi	
	QS74FCT825A	Quality Semi	150
	QS74FCT825B	Quality Semi	
	QS74FCT825C	Quality Semi	
8-Bit Bus Transceiver with Parity Checker/Generator			
FCT	P54FCT853AT	Performance	
	P54FCT853BT	Performance	
	P54FCT853CT	Performance	155
	P54PCT833A	‡ Performance	
	P54PCT833B	‡ Performance	
	P74FCT833AT	Performance	
	P74FCT833BT	Performance	
	P74FCT833CT	Performance	160
	P74FCT853AT	Performance	
	P74FCT853B	Performance	
	P74FCT853CT	Performance	
8-Bit Parity Bus Transceiver with Latch			
	AM29C853A	AMD	
8-Bit Parity Bus Transceiver with Register			
	AM29C833A	AMD	165
8-Bit Transceiver with Parity			
FCT	P54FCT833AT	Performance	
	P54FCT833BT	Performance	
	P54FCT833CT	Performance	
	P74FCT854AT	Performance	
	P74FCT854BT	Performance	170
	P74FCT854CT	Performance	
9-Bit Bus Interface Register, Three-State, True			
FCT	IDT54FCT823A	°† IDT	
	IDT54FCT823B	°† IDT	
	IDT54FCT823C	† IDT	
	IDT74FCT823A	° IDT	175
	IDT74FCT823B	° IDT	
	IDT74FCT823C	IDT	
	54FCT823A	† National	
	54FCT823B	† National	
	74FCT823A	National	180
	74FCT823B	National	
	P54FCT823AT	Performance	
	P54FCT823BT	Performance	
	P54FCT823CT	Performance	
	P74FCT823AT	Performance	185
	P74FCT823BT	Performance	
	P74FCT823CT	Performance	
	QS54FCT2823A	† Quality Semi	
	QS54FCT2823B	† Quality Semi	
	QS54FCT823A	† Quality Semi	190
	QS54FCT823B	† Quality Semi	
		(Continued)	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
9-Bit Bus Interface Register, Three-State, True			
FCT (Cont'd)			
	QS54FCT823C	† Quality Semi	
	QS54FCT823D	† Quality Semi	
	QS74FCT2823A	Quality Semi	
	QS74FCT2823B	Quality Semi	
	QS74FCT823A	Quality Semi	5
	QS74FCT823B	Quality Semi	
	QS74FCT823C	Quality Semi	
	QS74FCT823D	Quality Semi	
9-Bit Bus Transceiver/Register with Dual Enable, Three-State, True			
AC	74AC11474	TI	
	74AC11475	TI	10
ACT	74ACT11474	TI	
	74ACT11475	TI	
9-Bit Bus Transceiver with Latch			
HC	CD54HC7038	† Harris	
	CD74HC7038	Harris	
HCT	CD54HCT7038	† Harris	15
	CD74HCT7038	Harris	
9-Bit Bus Transceiver with Latched 8-Bit Parity Error, Three-State	LC8951	Sanyo	
9-Bit Bus Transceiver with NORED Enables			
	AM29C863A	AMD	
9-Bit Bus Transceiver with Dual Enable, Three-State, True			
AC	74AC11472	TI	
	74AC11473	TI	20
ACT	74ACT11472	TI	
	74ACT11473	TI	
9-Bit Bus Transceiver, Three-State, Inverting			
AC	54AC11864	† TI	
	74AC11864	TI	
ACT	54ACT11864	† TI	25
	74ACT11864	TI	
BCT	SN74BCT29864	° TI	
FCT	IDT54FCT864A	°† IDT	
	IDT54FCT864B	°† IDT	
	IDT74FCT864A	° IDT	30
	IDT74FCT864B	IDT	
	P54FCT864AT	Performance	
	P54FCT864BT	Performance	
	P54FCT864CT	Performance	
	P74FCT864AT	Performance	35
	P74FCT864BT	Performance	
	P74FCT864CT	Performance	
	QS54FCT2864A	† Quality Semi	
	QS54FCT2864B	† Quality Semi	
	QS54FCT864A	† Quality Semi	40
	QS54FCT864B	† Quality Semi	
	QS74FCT2864	Quality Semi	
	QS74FCT2864A	Quality Semi	
	QS74FCT2864B	Quality Semi	
	QS74FCT864	Quality Semi	45
	QS74FCT864A	Quality Semi	
	QS74FCT864B	Quality Semi	
9-Bit Bus Transceiver, Three-State, True			
AC	54AC11863	† TI	
	74AC11863	TI	
ACT	54ACT11863	† TI	50
	74ACT11863	TI	
BCT	SN54BCT29863	°† TI	
	SN74BCT29863	° TI	
FCT	IDT54FCT863A	† IDT	
	IDT54FCT863B	† IDT	55
	IDT74FCT863A	IDT	
	IDT74FCT863B	IDT	
	P54FCT863AT	Performance	
	P54FCT863BT	Performance	
	P74FCT863AT	Performance	60
(Continued)			
9-Bit Bus Transceiver, Three-State, True			
FCT (Cont'd)			
	P74FCT863BT	Performance	
	P74FCT863CT	Performance	
	QS54FCT2863A	† Quality Semi	
	QS54FCT2863B	† Quality Semi	
	QS54FCT863A	† Quality Semi	65
	QS54FCT863B	† Quality Semi	
	QS74FCT2863	Quality Semi	
	QS74FCT2863A	Quality Semi	
	QS74FCT2863B	Quality Semi	
	QS74FCT863	Quality Semi	70
	QS74FCT863A	Quality Semi	
	QS74FCT863B	Quality Semi	
LVC	SN74LVC863	ℓ TI	
9-Bit Latch with Preset, Clear			
	AM29C843A	AMD	
9-Bit with Clock Enable, Clear			
	AM29C823A	AMD	75
9-Bit x 4-Port Multiple Bus Exchange with Parity			
	AM29C985	AMD	
9-Wide Latched Transceiver with Dual Enable, Three-State			
AC	74AC11472	Philips	
	74AC11473	Philips	
9-Wide Transceiver/Register with Dual Enable, Three-State			
AC	74AC11474	Philips	
	74AC11475	Philips	80
10-Bit Buffer/Line Driver, Three-State, Inverting			
	AM29C828A	AMD	
FCT	CD54FCT828A	† Harris	
	QS74FCT2828	Quality Semi	
10-Bit Buffer/Line Driver, Three-State, True			
	AM29C827A	AMD	
FCT	CD54FCT827A	† Harris	85
	QS74FCT2827	Quality Semi	
10-Bit Bus Interface Register, Three-State, Non-Inverting	AM29C821A	AMD	
10-Bit Bus Interface Register, Three-State, True			
FCT	IDT54FCT821A	°† IDT	
	IDT54FCT821AT	°† IDT	
	IDT54FCT821B	°† IDT	90
	IDT54FCT821BT	°† IDT	
	IDT54FCT821C	°† IDT	
	IDT54FCT821CT	°† IDT	
	IDT54FCT821DT	† IDT	
	IDT54FCT823AT	† IDT	95
	IDT54FCT823BT	† IDT	
	IDT54FCT823CT	† IDT	
	IDT54FCT823DT	† IDT	
	IDT54FCT825AT	† IDT	
	IDT54FCT825BT	† IDT	100
	IDT54FCT825CT	† IDT	
	IDT54FCT826AT	† IDT	
	IDT54FCT826BT	† IDT	
	IDT74FCT821A	° IDT	
	IDT74FCT821AT	° IDT	105
	IDT74FCT821AT	°† IDT	
	IDT74FCT821B	° IDT	
	IDT74FCT821BT	IDT	
	IDT74FCT821C	° IDT	
	IDT74FCT821CT	°† IDT	110
	IDT74FCT821DT	IDT	
	IDT74FCT823AT	IDT	
	IDT74FCT823BT	IDT	
	IDT74FCT823CT	IDT	
	IDT74FCT823DT	IDT	115
	IDT74FCT825AT	IDT	
	IDT74FCT825BT	IDT	
	IDT74FCT825CT	IDT	
(Continued)			
10-Bit Bus Interface Register, Three-State, True			
FCT (Cont'd)			
	IDT74FCT826AT	IDT	
	IDT74FCT826BT	IDT	120
	IDT74FCT826CT	IDT	
	54FCT821A	† National	
	54FCT821B	† National	
	74FCT821A	National	
	74FCT821B	National	125
	P54FCT821A	Performance	
	P54FCT821AT	Performance	
	P54FCT821B	Performance	
	P54FCT821BT	Performance	
	P54FCT821CT	Performance	130
	P54FCT823A	Performance	
	P54FCT823B	Performance	
	P74FCT821AT	Performance	
	P74FCT821BT	Performance	
	P74FCT821CT	Performance	135
	QS54FCT2821A	† Quality Semi	
	QS54FCT2821B	† Quality Semi	
	QS54FCT2825A	† Quality Semi	
	QS54FCT2825B	† Quality Semi	
	QS54FCT821A	† Quality Semi	140
	QS54FCT821B	† Quality Semi	
	QS54FCT821C	† Quality Semi	
	QS54FCT821D	† Quality Semi	
	QS74FCT2821A	Quality Semi	
	QS74FCT2821B	Quality Semi	145
	QS74FCT2825A	Quality Semi	
	QS74FCT2825B	Quality Semi	
	QS74FCT821A	Quality Semi	
	QS74FCT821B	Quality Semi	
	QS74FCT821C	Quality Semi	150
	QS74FCT821D	Quality Semi	
10-Bit Bus Transceiver, Three-State, Inverting			
AC	54AC11862	† TI	
	74AC11862	TI	
ACT	54ACT11862	† TI	
	74ACT11862	TI	155
BCT	SN74BCT29862	° TI	
FCT	IDT74FCT862A	IDT	
	QS54FCT2862A	† Quality Semi	
	QS54FCT2862B	† Quality Semi	
	QS54FCT862A	† Quality Semi	160
	QS54FCT862B	† Quality Semi	
	QS74FCT2862	Quality Semi	
	QS74FCT2862A	Quality Semi	
	QS74FCT2862B	Quality Semi	
	QS74FCT862	Quality Semi	165
	QS74FCT862A	Quality Semi	
	QS74FCT862B	Quality Semi	
10-Bit Bus Transceiver, Three-State, True			
	AM29C861A	AMD	
AC	54AC11861	† TI	
	74AC11861	TI	170
ACT	54ACT11861	† TI	
	74ACT11861	TI	
BCT	SN54BCT29861	† TI	
	SN74BCT29861	° TI	
FCT	IDT54FCT861A	† IDT	175
	IDT54FCT861B	† IDT	
	IDT74FCT861A	IDT	
	IDT74FCT861B	IDT	
	P54FCT861AT	Performance	
	P54FCT861BT	Performance	180
	P54FCT861CT	Performance	
	P74FCT861AT	Performance	
	P74FCT861BT	Performance	
	P74FCT861CT	Performance	
	QS54FCT2861A	† Quality Semi	185
	QS54FCT2861B	† Quality Semi	
	QS54FCT861A	† Quality Semi	
	QS54FCT861B	† Quality Semi	
	QS74FCT2861	Quality Semi	
	QS74FCT2861A	Quality Semi	190
(Continued)			

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
10-Bit Bus Transceiver, Three-State, True			
FCT		(Cont'd)	
	QS74FCT2861B	Quality Semi	
	QS74FCT861	Quality Semi	
	QS74FCT861A	Quality Semi	
	QS74FCT861B	Quality Semi	
LVC	SN74LVC861	ℓ TI	5
10-Bit Latch	AM29C841A	AMD	
16 Bit Bidirectional Transceiver			
AC	54AC16620	† TI	
	74AC16620	TI	
ACT	74ACT16620	TI	
16 Bit Bidirectional Transceiver with 8-bit Parity Generator/Check, Three-State			
	54AC16657	† TI	10
	74AC16657	TI	
16 Bit Buffer/Line Driver, Three-State, Inverting			
AC	54AC16240	† TI	
	74AC16240	TI	
ACT	54ACT16240	† TI	
	74ACT16240	TI	15
FCT	IDT54FCT16240AT	IDT	
	IDT54FCT16240CT	IDT	
	IDT54FCT16240T	IDT	
	IDT74FCT16240AT	IDT	
	IDT74FCT16240CT	IDT	20
	IDT74FCT16240T	IDT	
16 Bit Buffer/Line Driver, Three-State, True			
AC	54AC16241	† TI	
	54AC16244	TI	
	74AC16241	TI	
	74AC16244	TI	25
ACT	54ACT16241	† TI	
	54ACT16244	† TI	
	54ACT16245	† TI	
	54AC16245	TI	
	74ACT16241	TI	30
	74ACT16244	TI	
	74ACT16245	TI	
	74AC16245	TI	
FCT	IDT54FCT16244AT	IDT	
	IDT54FCT16244CT	IDT	35
	IDT54FCT16244T	IDT	
	IDT74FCT16244AT	IDT	
	IDT74FCT16244CT	IDT	
	IDT74FCT16244T	IDT	
16 Bit Bus Transceiver/Register with Direction Pin, Three-State, True			
AC	54AC16646	† TI	40
	54AC16648	† TI	
	74AC16646	TI	
	74AC16648	TI	
ACT	54ACT16646	† TI	
	54ACT16648	† TI	45
	74ACT16646	TI	
	74ACT16648	TI	
16 Bit Bus Transceiver/Register, Three-State; Inverting			
AC	54AC16651	† TI	
	74AC16651	† TI	
ACT	54ACT16651	† TI	50
	74ACT16651	TI	
ALVC	SN74ALVC16652	ℓ TI	
16 Bit Bus Transceiver with Direction Pin, Three-State, Inverting			
ACT	54ACT16640	† TI	
16 Bit Bus Transceiver with Dual Enable, Three-State, True	54AC16623	† TI	
AC	74AC16623	TI	55
ACT	54ACT16620	† TI	
	54ACT16623	† TI	
	74ACT16623	TI	
16 Bit Bus Transceiver with 8-Bit Parity Generator/Checker, Three-State, True			
ACT	54ACT16657	† TI	
	74ACT16657	TI	60
16 Bit Register, Three-State, True			
FCT	IDT54FCT162374AT	IDT	
	IDT54FCT162374CT	IDT	
	IDT54FCT162374T	IDT	
	IDT54FCT16374AT	IDT	
	IDT54FCT16374CT	IDT	65
	IDT54FCT16374T	IDT	
	IDT74FCT162374AT	IDT	
	IDT74FCT162374CT	IDT	
	IDT74FCT162374T	IDT	
	IDT74FCT16374AT	IDT	70
	IDT74FCT16374CT	IDT	
	IDT74FCT16374T	IDT	
16-Bit BiDirectional Transceiver, 3.3V			
	IDT54FCT163245	ℓ IDT	
	IDT74FCT163245	ℓ IDT	
16-Bit Buffer/Line Driver, Three-State			
ACTQ	54ACTQ16244	† National	75
	74ACTQ16244	National	
16-Bit Buffer/Line Driver, Three-State, Inverting			
ACTQ	54ACTQ16240	† National	
	74ACTQ16240	National	
ALVC	74ALVC16240	ℓ Philips	
16-Bit Buffer/Line Driver, Three-State, True			
ALVC	SN74ALVC16245	ℓ TI	80
16-Bit Bus Transceiver/Register with Direction Pin, Three-State, True			
ACTQ	54ACTQ16646	† National	
	74ACTQ16646	National	
16-Bit Bus Transceiver/Register, Three-State, True			
ALVC	SN74ALVC16646	ℓ TI	
LVT	SN54LVT16652	ℓ† TI	
	SN74LVT16652	ℓ TI	85
16-Bit Bus Transceiver/Registers, 3.3V			
	IDT54FCT163646	ℓ IDT	
	IDT54FCT163646A	ℓ IDT	
	IDT74FCT16346	ℓ IDT	
	IDT74FCT16346A	ℓ IDT	
16-Bit Bus Transceiver, Three-State, Inverting			
ACT	54ACT16862	† TI	90
	74ACT16862	TI	
16-Bit Bus Transceiver, Three-State, True			
ACT	54ACT16861	† TI	
	54ACT16863	† TI	
	54ACT16864	† TI	
	74ACT16861	TI	95
	74ACT16863	TI	
	74ACT16864	TI	
ALVC	SN74ALVC16500	ℓ TI	
FCT	74FR16245	National	
LVT	74LVT16245	ℓ Philips	100
	SN54LVT16245	ℓ† TI	
	SN74LVT16245	ℓ† TI	
16-Bit Positive Edge Triggered Transceiver, Three-State, True			
LVT	SN54LVT16646	ℓ† TI	
	SN74LVT16646	ℓ TI	
16-Bit Register, Three-State, 3.3V			
	IDT54FCT163374	ℓ IDT	105
	IDT54FCT163374A	ℓ IDT	
		(Continued)	
16-Bit Register, Three-State, 3.3V		(Cont'd)	
	IDT74FCT163374	ℓ IDT	
	IDT74FCT163374A	ℓ IDT	
16-Bit Registered Transceiver, True			
FCT	IDT54FCT162646AT	IDT	
	IDT54FCT162646CT	IDT	110
	IDT54FCT162646T	IDT	
	IDT54FCT162652AT	IDT	
	IDT54FCT162652CT	IDT	
	IDT54FCT162652T	IDT	
	IDT54FCT162952AT	IDT	115
	IDT54FCT162952BT	IDT	
	IDT54FCT162952CT	IDT	
	IDT54FCT162952DT	IDT	
	IDT54FCT16646AT	IDT	
	IDT54FCT16646CT	IDT	120
	IDT54FCT16646T	IDT	
	IDT54FCT16652AT	IDT	
	IDT54FCT16652CT	IDT	
	IDT54FCT16652T	IDT	
	IDT54FCT16952AT	IDT	125
	IDT54FCT16952BT	IDT	
	IDT54FCT16952CT	IDT	
	IDT54FCT16952DT	IDT	
	IDT74FCT162646AT	IDT	
	IDT74FCT162646CT	IDT	130
	IDT74FCT162646T	IDT	
	IDT74FCT162652AT	IDT	
	IDT74FCT162652CT	IDT	
	IDT74FCT162652T	IDT	
	IDT74FCT162952AT	IDT	135
	IDT74FCT162952BT	IDT	
	IDT74FCT162952CT	IDT	
	IDT74FCT162952DT	IDT	
	IDT74FCT16646AT	IDT	
	IDT74FCT16646CT	IDT	140
	IDT74FCT16646T	IDT	
	IDT74FCT16652AT	IDT	
	IDT74FCT16652CT	IDT	
	IDT74FCT16652T	IDT	
	IDT74FCT16952AT	IDT	145
	IDT74FCT16952BT	IDT	
	IDT74FCT16952CT	IDT	
	IDT74FCT16952DT	IDT	
16-Bit Registered Transceiver with Dual Enable, Three-State, True			
ACT	54ACT16543	† TI	
	54ACT16544	† TI	150
	74ACT16543	TI	
	74ACT16544	TI	
ACTQ	54ACTQ16543	† National	
	74ACTQ16543	National	
16-Bit Registered Transceiver, Three-State, True			
ALVC	SN74ALVC16543	ℓ TI	155
LVT	SN54LVT16543	ℓ† TI	
	SN54LVT16952	ℓ† TI	
	SN74LVT16543	ℓ TI	
	SN74LVT16952	ℓ TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
16-Bit Transceiver			
AC	54AC16640	† TI	
	74AC16640	TI	
ACT	74ACT16640	TI	
16-Bit Transceiver, True			
FCT	IDT54FCT162245AT	IDT	
	IDT54FCT162245CT	IDT	5
	IDT54FCT162245T	IDT	
	IDT54FCT16245AT	IDT	
	IDT54FCT16245CT	IDT	
	IDT54FCT16245T	IDT	
	IDT54FCT162543AT	IDT	10
	IDT54FCT162543CT	IDT	
	IDT54FCT162543DT	IDT	
	IDT54FCT162543T	IDT	
	IDT54FCT16543AT	IDT	
	IDT54FCT16543CT	IDT	15
	IDT54FCT16543DT	IDT	
	IDT54FCT16543T	IDT	
	IDT74FCT162245AT	IDT	
	IDT74FCT162245CT	IDT	
	IDT74FCT162245T	IDT	20
	IDT74FCT16245AT	IDT	
	IDT74FCT16245CT	IDT	
	IDT74FCT16245T	IDT	
	IDT74FCT162543AT	IDT	
	IDT74FCT162543CT	IDT	25
	IDT74FCT162543DT	IDT	
	IDT74FCT162543T	IDT	
	IDT74FCT16543AT	IDT	
	IDT74FCT16543CT	IDT	
	IDT74FCT16543DT	IDT	30
	IDT74FCT16543T	IDT	
17-Bit Positive Edge Triggered Transceiver, TTL Buffer, True			
LVT	SN74LVT16615	ℓ TI	
18 Bit Negative Edge Triggered Registered Transceiver, True			
FCT	IDT54FCT162500AT	IDT	
	IDT54FCT162500CT	IDT	
	IDT54FCT16500AT	IDT	35
	IDT54FCT16500CT	IDT	
	IDT74FCT162500AT	IDT	
	IDT74FCT162500CT	IDT	
	IDT74FCT16500AT	IDT	
	IDT74FCT16500CT	IDT	40
18 Bit Non-inverting Positive Edge Triggered Registered Transceiver			
FCT	IDT74FCT16501AT	IDT	
18 Bit Positive Edge Triggered Registered Transceiver, True			
FCT	IDT54FCT162501AT	IDT	
	IDT54FCT162501CT	IDT	
	IDT54FCT16501AT	IDT	
	IDT54FCT16501CT	IDT	45
	IDT74FCT162501AT	IDT	
	IDT74FCT162501CT	IDT	
	IDT74FCT16501CT	IDT	

Function	Device	Source	Line
18-Bit Buffer/Line Driver, Three-State, Inverting, TAP			
TTL	SCAN18540T	National	
18-Bit Buffer/Line Driver, Three-State, True, TAP			
TTL	SCAN18541T	National	50
18-Bit Bus Transceiver, Three-State, True			
ALVC	SN74ALVC16501	ℓ TI	
18-Bit Negative Edge Triggered Transceiver, Three-State, True			
LVT	SN54LVT16500	ℓ† TI	
	SN74LVT16500	ℓ TI	
18-Bit Positive Edge Triggered Transceiver, True			
LVT	SN74LVT16611	ℓ TI	
18-Bit Positive Edge Triggered Transceiver, Three-State, True			
LVT	SN54LVT16501	ℓ† TI	55
	SN74LVT16501	ℓ TI	
18-Bit Register with Clear & Reset, True			
FCT	IDT54FCT162823AT	IDT	
	IDT54FCT162823BT	IDT	
	IDT54FCT162823CT	IDT	
	IDT54FCT16823AT	IDT	60
	IDT54FCT16823BT	IDT	
	IDT54FCT16823CT	IDT	
	IDT74FCT162823AT	IDT	
	IDT74FCT162823BT	IDT	
	IDT74FCT162823CT	IDT	65
	IDT74FCT16823AT	IDT	
	IDT74FCT16823BT	IDT	
	IDT74FCT16823CT	IDT	
18-Bit Registered Bus Transceiver, 3.3V			
	IDT54FCT163501	ℓ IDT	
	IDT54FCT163501A	ℓ IDT	70
	IDT74FCT163501	ℓ IDT	
	IDT74FCT163501A	ℓ IDT	
18-Bit Registered Transceiver, Three-State, True			
ALVC	SN74ALVC16600	ℓ TI	
	SN74ALVC16601	ℓ TI	
20-Bit Buffer, Three-State, True			
FCT	IDT54FCT162827AT	IDT	75
	IDT54FCT162827BT	IDT	
	IDT54FCT162827CT	IDT	
	IDT54FCT16827AT	IDT	
	IDT54FCT16827BT	IDT	
	IDT54FCT16827CT	IDT	80
	IDT74FCT162827AT	IDT	
	IDT74FCT162827BT	IDT	
	IDT74FCT162827CT	IDT	
	IDT74FCT16827AT	IDT	
	IDT74FCT16827BT	IDT	85
	IDT74FCT16827CT	IDT	
32-Bit Bus Transceiver with Parity Checker/Generator			
ACTQ	54ACTQ3283T	† National	
	74ACTQ3283T	National	

Counters, Binary

Function	Device	Source	Line
Asynchronous Presettable 4-Bit with Single Clock			
AC	74AC11191	Philips	
Clock Generator with 4-Bit Counter			
5XXX	**TC5018**	**Toshiba (3838)**	90
Divide by 2, 8 or 16			
C	MM74C93	National	
Divider with 4-Bit Counter			
5XXX	**TC5027B**	**Toshiba (3838)**	
Presettable Synchronous, Asynchronous Clear			
	MC54HCT161A	Motorola	
	MC54HC161A	Motorola	
	MC74HCT161A	Motorola	95
	MC74HC161A	Motorola	
AC	CD54AC161	*† Harris	
	CD74AC161	* Harris	
	MC74AC161	Motorola	
	54AC161	† National	100
	74AC161	National	
	54AC11161	† TI	
	74AC11161	TI	
	TC74AC161	**Toshiba (3836)**	
ACT	CD54ACT161	*† Harris	105
	CD74ACT161	* Harris	
	MC74ACT161	Motorola	
	MC74ACT163	Motorola	
	54ACT161	† National	
	74ACT161	National	110
	54ACT11161	† TI	
	74ACT11161	TI	
	TC74ACT161	**Toshiba (3836)**	
	TC74ACT163	**Toshiba (3836)**	
AHCT	**54AHCT161**	**‡ Ideal Semi (3644)**	115
	74AHCT161	**‡ Ideal Semi (3644)**	
C	MM54C161	‡ Micrel	
	MM54C161	† National	
	MM74C161	National	
Cell	SN74161A	TI	120
	SN74161A-Cell	TI	
FCT	IDT54FCT161	*† IDT	
	IDT54FCT161A	*† IDT	
	IDT54FCT161C	† IDT	
	IDT74FCT161	* IDT	125
	IDT74FCT161A	* IDT	
	IDT74FCT161C	IDT	
	P54FCT161	Performance	
	P54FCT161A	Performance	
	P54FCT161AT	Performance	130
	P54FCT161CT	Performance	
	P54FCT161T	Performance	
	P54PCT161	‡ Performance	
	P54PCT161A	‡ Performance	
	P54PCT163	‡ Performance	135
	P54PCT163A	‡ Performance	
	P74FCT161	Performance	
	P74FCT161A	Performance	
	P74FCT161AT	Performance	
	P74FCT161CT	Performance	140
	P74FCT161T	Performance	
	P74FCT163T	Performance	
	QS54FCT161	† Quality Semi	
	QS54FCT161A	† Quality Semi	
	QS54FCT161C	† Quality Semi	145
	QS54FCT2161	† Quality Semi	
	QS54FCT2161A	† Quality Semi	
	QS74FCT161	Quality Semi	
	QS74FCT161A	Quality Semi	
	QS74FCT161C	Quality Semi	150
	QS74FCT2161	Quality Semi	
	QS74FCT2161A	Quality Semi	
HC	GD54HC161	† GoldStar	
	GD74HC161	GoldStar	
	CD54HC161	*† Harris	155
	CD74HC161	* Harris	
	HCS161MS	‡ Harris	
	MM54HC161	† National	
	MM74HC161	National	
	74HC161	* Philips	160
	M74HC161	SGS-Thomson	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Counters, Binary (Cont'd)			
Presettable Synchronous, Asynchronous Clear			
HC (Cont'd)			
	SN54HC161	† TI	
	SN74HC161	TI	
	TC74HC161A	**Toshiba (3836)**	
	US74HC161	Universal	
HCT	GD54HCT161	† GoldStar	5
	GD74HCT161	GoldStar	
	CD54HCT161	°† Harris	
	CD74HCT161	° Harris	
	54HCTLS161A	**‡ Ideal Semi (3643)**	
	74HCTLS161A	**‡ Ideal Semi (3643)**	10
	74HCT161	° Philips	
PCT	P74FCT163AT	Performance	
VHC	**TC74VHC161**	**Toshiba (3837)**	
4XXX	GD40161B	GoldStar	
	CD40161B	† Harris	15
	CD40161B	‡ Micrel	
	MC14161BC	Motorola	
	CD40161BC	National	
	CD40161BM	† National	
	HEF40161B	Philips	20
	HCC40161B	† SGS-Thomson	
	HCF40161B	SGS-Thomson	
	TC40161B	**Toshiba (3838)**	
Presettable Synchronous, Synchronous Clear			
	MC54HCT163A	Motorola	
	MC54HC163A	Motorola	25
	MC74HCT163A	Motorola	
	MC74HC163A	Motorola	
AC	CD54AC163	°† Harris	
	CD74AC163	° Harris	
	MC74AC163	Motorola	30
	54AC163	† National	
	74AC163	National	
	54AC11163	† TI	
	74AC11163	TI	
	TC74AC163	**Toshiba (3836)**	35
ACT	CD54ACT163	°† Harris	
	CD74ACT163	° Harris	
	54ACT163	† National	
	74ACT163	National	
	54ACT11163	† TI	40
	74ACT11163	TI	
AHCT	**54AHCT163**	**‡ Ideal Semi (3644)**	
	74AHCT163	**‡ Ideal Semi (3644)**	
	KS74AHCT163	Samsung	
C	MM54C163	‡ Micrel	45
	MM54C163	† National	
	MM74C163	National	
Cell	SN74163A	TI	
FCT	IDT54FCT163	°† IDT	
	IDT54FCT163A	°† IDT	50
	IDT54FCT163C	† IDT	
	IDT74FCT163	° IDT	
	IDT74FCT163A	° IDT	
	IDT74FCT163C	IDT	
	P54FCT163	Performance	55
	P54FCT163A	Performance	
	P54FCT163AT	Performance	
	P54FCT163CT	Performance	
	P54FCT163T	Performance	
	P74FCT163	Performance	60
	P74FCT163A	Performance	
	P74FCT163CT	Performance	
	QS54FCT163	† Quality Semi	
	QS54FCT163A	† Quality Semi	
	QS54FCT163C	† Quality Semi	65
	QS54FCT2163	† Quality Semi	
	QS54FCT2163A	† Quality Semi	
		(Continued)	
Presettable Synchronous, Synchronous Clear			
FCT (Cont'd)			
	QS74FCT163	Quality Semi	
	QS74FCT163A	Quality Semi	
	QS74FCT163C	Quality Semi	70
	QS74FCT2163	Quality Semi	
	QS74FCT2163A	Quality Semi	
HC	GD54HC163	† GoldStar	
	GD74HC163	GoldStar	
	CD54HC163	°† Harris	75
	CD74HC163	° Harris	
	HCTS163MS	‡ Harris	
	MM54HC163	† National	
	MM74HC163	National	
	74HC163	° Philips	80
	M74HC163	SGS-Thomson	
	SN54HC163	TI	
	SN74HC163	TI	
	TC74HC163A	**Toshiba (3836)**	
	US74HC163	Universal	85
HCT	GD54HCT163	† GoldStar	
	GD74HCT163	GoldStar	
	CD54HCT163	°† Harris	
	CD74HCT163	° Harris	
	74HCT163	° Philips	90
HCTLS	**74HCTLS163A**	**‡ Ideal Semi (3643)**	
VHC	**TC74VHC163**	**Toshiba (3837)**	
4XXX	GD40163B	GoldStar	
	CD40163B	† Harris	
	CD40163B	‡ Micrel	95
	MC14163BC	Motorola	
	CD40163BC	National	
	CD40163BM	† National	
	F40163BC	National	
	F40163BM	National	100
	HEF40163B	Philips	
	HCC40163B	† SGS-Thomson	
	HCF40163	SGS-Thomson	
	TC40163B	**Toshiba (3838)**	
Presettable Up/Down			
AC	CD54AC191	°† Harris	105
	CD54AC193	°† Harris	
	CD74AC191	° Harris	
	CD74AC193	° Harris	
	54AC191	† National	
	74AC191	National	110
	54AC11168	† TI	
	54AC11191	† TI	
	54AC11193	† TI	
	54AC11569	† TI	
	74AC11168	TI	115
	74AC11191	TI	
	74AC11193	TI	
	74AC11569	TI	
ACT	CD54ACT191	°† Harris	
	CD54ACT193	°† Harris	120
	CD74ACT191	° Harris	
	CD74ACT193	° Harris	
	54ACT11168	TI	
	54ACT11191	† TI	
	54ACT11193	† TI	125
	54ACT11569	† TI	
	54ACT11579	† TI	
	74ACT11168	TI	
	74ACT11191	TI	
	74ACT11193	TI	130
	74ACT11569	TI	
	74ACT11579	TI	
C	MM54C193	‡ Micrel	
	MM54C193	† National	
	MM74C193	National	135
FCT	IDT54FCT191	°† IDT	
	IDT54FCT191A	°† IDT	
	IDT74FCT191	° IDT	
	IDT74FCT191A	° IDT	
		(Continued)	
Presettable Up/Down (Cont'd)			
HC	GD54HC191	† GoldStar	140
	GD74HC191	GoldStar	
	CD54HC191	°† Harris	
	CD54HC193	°† Harris	
	CD54HC4516	† Harris	
	CD74HC191	° Harris	145
	CD74HC193	° Harris	
	CD74HC4516	Harris	
	HCS193MS	‡ Harris	
	HCTS191MS	‡ Harris	
	HCTS193MS	‡ Harris	150
	M74HC191	Mitsubishi	
	MM54HC191	† National	
	MM54HC193	† National	
	MM74HC191	National	
	MM74HC193	National	155
	74HC191	° Philips	
	74HC193	° Philips	
	74HC4516	Philips	
	HCC40193	SGS-Thomson	
	HCF40193B	SGS-Thomson	160
	M74HC191	SGS-Thomson	
	M74HC193	SGS-Thomson	
	TC74HC193A	**Toshiba (3836)**	
	US74HC191	Universal	
	US74HC193	Universal	165
HCT	GD54HCT191	† GoldStar	
	GD74HCT191	GoldStar	
	CD54HCT191	† Harris	
	CD54HCT193	°† Harris	
	CD54HCT4516	† Harris	170
	CD74HCT191	° Harris	
	CD74HCT193	° Harris	
	CD74HCT4516	Harris	
	MM54HCT191	† National	
	MM54HCT193	† National	175
	MM74HCT191	National	
	MM74HCT193	National	
	74HCT191	° Philips	
	74HCT193	° Philips	
	74HCT4516	Philips	180
4XXX	GD4516B	GoldStar	
	CD40193B	† Harris	
	CD4516B	† Harris	
	CD40193B	‡ Micrel	
	CD4516B	‡ Micrel	185
	MC14516BC	Motorola	
	CD40193BC	National	
	CD40193BM	† National	
	CD4516BC	National	
	CD4516BM	† National	190
	HEF40193B	Philips	
	HEF4516B	Philips	
	BCL4516B	R&E Intl	
	SCL4516B	R&E Intl	
	HCC4516B	† SGS-Thomson	195
	HCF4516B	SGS-Thomson	
	TC40193B	**Toshiba (3838)**	
	TC4516B	**Toshiba (3838)**	
Presettable 8-Bit Down			
HC	**TC74HC40103A**	**Toshiba (3836)**	
4XXX	HCC40103B	† SGS-Thomson	200
	HCF40103B	SGS-Thomson	
	TC40103B	**Toshiba (3838)**	
Presettable 8-Bit Down Counters			
4XXX	CD40103B	† Harris	
Programmable Divide-by-N, 4-Bit			
4XXX	GD4526B	GoldStar	
	ML14526B	Lansdale	205
	MC14526BC	Motorola	
	CD4526BC	National	
	CD4526BM	† National	
	HEF4526B	Philips	
	BCL4526B	R&E Intl	210
	SCL4526B	R&E Intl	
	TC4526B	**Toshiba (3838)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Counters, Binary (Cont'd)

Function	Device	Source	Line
Programmable Divider			
HC	M74HC7292	SGS-Thomson	
	M74HC7294	SGS-Thomson	
Ripple Carry/Binary Counter/Divider			
	NJU4020B	NJR	
	NJU4040B	NJR	
Synchronous, Asynchronous Clear, Up/Down			
FCT	IDT54FCT193	°† IDT	5
	IDT54FCT193A	°† IDT	
	IDT74FCT193	° IDT	
	IDT74FCT193A	° IDT	
HC	M74HC193	Mitsubishi	
Synchronous Presetable 8-Bit, Asynchronous Reset			
AC	74AC11461	Philips	10
Synchronous, Presettable 4-Bit Up/Down with Synchronous/Ascynchronous Reset			
AC	MC74AC569	Motorola	
	74AC11569	Philips	
Synchronous Presettable 4-Bit Binary Counter, Asynchronous Reset			
AC	74AC11161	Philips	
	74AC11163	Philips	
Synchronous Presettable 8-Bit, Synchronous Reset			
AC	74AC11463	Philips	15
Synchronous Binary Counter with Asynchronous Master Reset			
FCT	IDT54FCT161AT	IDT	
	IDT54FCT161CT	IDT	
	IDT54FCT161T	IDT	
	IDT74FCT161AT	IDT	
	IDT74FCT161CT	IDT	20
	IDT74FCT161T	IDT	
Synchronous Binary Counter with Synchronous Reset			
FCT	IDT54FCT163AT	IDT	
	IDT54FCT163CT	IDT	
	IDT54FCT163T	IDT	
	IDT74FCT163AT	IDT	25
	IDT74FCT163CT	IDT	
	IDT74FCT163T	IDT	
Synchronous 4-Bit			
HCTLS	**54HCTLS163A**	**‡ Ideal Semi (3643)**	
Synchronous 8-Bit			
AC	74AC11461	TI	
	74AC11463	TI	30
ACT	74ACT11461	TI	
	74ACT11463	TI	
Synchronous 8-Bit Up/Down			
AC	74AC11469	TI	
ACT	74ACT11469	TI	
Synchronous 8-Bit with Input Registers, Asynchronous Reset			
AC	74AC11592	Philips	35
	74AC11593	Philips	
Synchronous 8-Bit with Output Registers, Asynchronous Reset			
AC	74AC11590	Philips	
Up/Down Binary Counter with Preset and Ripple Clock			
FCT	IDT54FCT191AT	IDT	
	IDT54FCT191T	IDT	
	IDT74FCT191AT	IDT	40
	IDT74FCT191T	IDT	
Up/Down Binary Counter with Separate Up/Down Clocks			
FCT	IDT54FCT193AT	IDT	
	IDT54FCT193T	IDT	
	IDT74FCT193AT	IDT	
	IDT74FCT193T	IDT	45
Dual Synchronous			
AHCT	**54AHCT393**	**‡ Ideal Semi (3644)**	
	74AHCT393	**Ideal Semi (3644)**	
Cell	SN74393	TI	
HC	CD54HC393	°† Harris	
	CD54HC4520	† Harris	50
	CD74HC393	° Harris	
	CD74HC4520	Harris	
	HCTS393MS	‡ Harris	
	MC54HC393	† Motorola	
	MC74HC393	Motorola	55
	MM54HC393	† National	
	MM74HC393	National	
	MM74HC4520	National	
	74HC393	° Philips	
	74HC4520	Philips	60
	M74HC393	SGS-Thomson	
	SN54HC393	† TI	
	SN74HC393	TI	
	TC74HC393A	**Toshiba (3836)**	
	TC74HC4520A	**Toshiba (3836)**	65
HCT	CD54HCT393	°† Harris	
	CD54HCT4520	† Harris	
	CD74HCT393	° Harris	
	CD74HCT4520	Harris	
	54HCTLS393	**‡ Ideal Semi (3643)**	70
	74HCTLS393	**‡ Ideal Semi (3643)**	
	74HCT393	° Philips	
	74HCT4520	Philips	
VHC	74VHC393	National	
	TC74VHC393	**Toshiba (3837)**	75
4XXX	GD4520B	GoldStar	
	CD4520B	† Harris	
	CD4520B	‡ Micrel	
	MC14520BC	Motorola	
	CD4520BC	National	80
	CD4520BM	† National	
	HEF4520B	Philips	
	BCL4520B	R&E Intl	
	SCL4520B	R&E Intl	
	HCC4520B	† SGS-Thomson	85
	HCF4520B	SGS-Thomson	
	TC4520B	**Toshiba (3838)**	
Dual BCD Programmable			
HC	M74HC40102	SGS-Thomson	
Dual 4-Bit			
HC	GD54HC393	† GoldStar	
	GD74HC393	GoldStar	90
HCT	GD54HCT393	† GoldStar	
	GD74HCT393	GoldStar	
4-Bit	MM54C93	† National	
HC	M74HC691	SGS-Thomson	
	M74HC693	SGS-Thomson	95
	M74HC699	SGS-Thomson	
4-Bit Presettable (CMOS/SOS)			
HC	HCTS161MS	‡ Harris	
4-Bit, Ripple			
HC	CD54HC93	† Harris	
	CD74HC93	Harris	
	HCTS93MS	‡ Harris	100
	74HC93	Philips	
HCT	CD54HCT93	† Harris	
	CD74HCT93	Harris	
	74HCT93	Philips	
4-Bit Synchronous with Output Registers, Asynchronous Clear			
HC	**TC74HC691A**	**Toshiba (3836)**	105
4-Bit Synchronous with Output Registers, Synchronous Clear			
HC	**TC74HC693A**	**Toshiba (3836)**	
4-Bit Synchronous Binary Up/Down with Output Registers			
HC	**TC74HC697A**	**Toshiba (3836)**	
	TC74HC699A	**Toshiba (3836)**	
4-Bit Up/Down, Asynchronous Load			
	SN74191	TI	
	SN74193	TI	110
AHCT	**54AHCT191**	**‡ Ideal Semi (3644)**	
	74AHCT191	**‡ Ideal Semi (3644)**	
HC	SN54HC191	† TI	
	SN54HC193	† TI	
	SN74HC191	TI	115
	SN74HC193	TI	
	TC74HC191A	**Toshiba (3836)**	
HCT	**54HCTLS191**	**‡ Ideal Semi (3643)**	
	74HCTLS191	**‡ Ideal Semi (3643)**	
4-Bit Up/Down Synchronous			
AC	54AC169	† National	120
	74AC169	National	
	54AC11169	TI	
	74AC11169	TI	
	TC74AC169	**Toshiba (3836)**	
ACT	54ACT169	† National	125
	74ACT169	National	
	54ACT11169	TI	
	74ACT11169	TI	
4-Bit Binary Bidirectional			
	MC74ACT569	Motorola	
5, 6, 7, 8, 9-Stage			
5XXX	**TC5048**	**Toshiba (3838)**	130
7-Stage			
HC	CD54HC4024	† Harris	
	CD74HC4024	Harris	
	M74HC4024	Mitsubishi	
	MC54HC4024	† Motorola	
	MC74HC4024	Motorola	135
	MM74HC4024	National	
	74HC4024	Philips	
	M74HC4024	SGS-Thomson	
	SN54HC4024	† TI	
	SN74HC4024	TI	140
	TC74HC4024A	**Toshiba (3836)**	
HCT	CD54HCT4024	† Harris	
	CD74HCT4024	Harris	
	74HCT4024	Philips	
4XXX	GD4024B	GoldStar	145
	CD4024B	‡ Harris	
	CD4024A	‡ Micrel	
	CD4024B	‡ Micrel	
	MC14024BC	Motorola	
	CD4024BC	National	150
	CD4024BM	† National	
	HEF4024B	Philips	
	BCL4024B	R&E Intl	
	BCL4042B	R&E Intl	
	SCL4024B	R&E Intl	155
	SCL4042B	R&E Intl	
	HCC4024B	† SGS-Thomson	
	HCF4024B	SGS-Thomson	
	TC4024B	**Toshiba (3838)**	
7-Stage Ripple Counter			
AC	54AC4024	† National	160
	74AC4024	National	
8 Stage			
4XXX	BCL4404B	R&E Intl	
	SCL4404B	R&E Intl	
8-Bit			
AC	**TC74AC393**	**Toshiba (3836)**	
ACT	54ACT11269	† TI	165
	74ACT11269	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Counters, Binary (Cont'd)

Function	Device	Source	Line
8-Bit		(Cont'd)	
HC	M74HC590	SGS-Thomson	
	M74HC592	SGS-Thomson	
	M74HC593	SGS-Thomson	
8-Bit Bidirectional			
AC	54AC269	† National	
	74AC269	National	5
8-Bit, Down			
HC	CD54HC40103	°† Harris	
	CD74HC40103	° Harris	
	74HC40103	° Philips	
	M74HC40103	SGS-Thomson	
HCT	CD54HCT40103	°† Harris	10
	CD74HCT40103	° Harris	
	74HCT40103	° Philips	
8-Bit Synchronous			
AC	54AC11579	† TI	
	74AC11579	TI	
8-Bit Synchronous Directional			
ACT	74ACT11867	TI	15
	74ACT11869	TI	
8-Bit with Bidirectional Input Register/Counter Output			
HCTLS	**54HCTLS593**	**‡ Ideal Semi (3643)**	
	74HCTLS593	**‡ Ideal Semi (3643)**	
8-Bit with Input Registers			
AC	74AC11592	TI	
	74AC11593	TI	20
ACT	74ACT11592	TI	
	74ACT11593	TI	
AHCT	**54AHCT592**	**‡ Ideal Semi (3644)**	
	54AHCT593	**‡ Ideal Semi (3644)**	
	74AHCT592	**‡ Ideal Semi (3644)**	25
	74AHCT593	**‡ Ideal Semi (3644)**	
HC	MM74HC592	National	
	MM74HC593	National	
	TC74HC592A	**Toshiba (3836)**	
	TC74HC593A	**Toshiba (3836)**	30
HCTLS	**54HCTLS592**	**‡ Ideal Semi (3643)**	
	74HCTLS592	**‡ Ideal Semi (3643)**	
8-Bit with Output Registers			
AC	74AC11590	TI	
ACT	74ACT11590	TI	
AHCT	**54AHCT590**	**‡ Ideal Semi (3644)**	35
	74AHCT590	**‡ Ideal Semi (3644)**	
HC	MM74HC590	National	
	SN54HC590A	† TI	
	SN74HC590A	TI	
	TC74HC590A	**Toshiba (3836)**	40
HCTLS	**54HCTLS590**	**‡ Ideal Semi (3643)**	
	74HCTLS590	**‡ Ideal Semi (3643)**	
12-Bit Asynchronous			
HC	SN54HC4040	† TI	
12-Stage			
AC	MC74AC4040	Motorola	
HC	CD54HC4040	°† Harris	45
	CD74HC4040	° Harris	
	M74HC4040	Mitsubishi	
	MM54HC4040	† National	
	MM74HC4040	National	
		(Continued)	

Function	Device	Source	Line
12-Stage			
HC		(Cont'd)	
	74HC4040	° Philips	50
	M74HC4040	SGS-Thomson	
	SN74HC4040	TI	
	TC74HC4040A	**Toshiba (3836)**	
HCT	CD54HCT4040	°† Harris	
	CD74HCT4040	° Harris	55
	74HCT4040	° Philips	
VHC	**TC74VHC4040**	**Toshiba (3837)**	
4XXX	GD4040B	† GoldStar	
	CD4040B	°† Harris	
	CD4040A	‡ Micrel	60
	CD4040B	‡ Micrel	
	MC14040BC	Motorola	
	CD4040BC	National	
	CD4040BM	† National	
	HEF4040B	Philips	65
	BCL4040B	R&E Intl	
	SCL4040B	R&E Intl	
	HCC4040B	† SGS-Thomson	
	HCF4040B	SGS-Thomson	
	TC4040B	**Toshiba (3838)**	70
12-Stage Ripple			
HC	MC54HC4040	† Motorola	
	MC74HC4040	Motorola	
14, 15, 16-Stage (with reset)			
5XXX	**TC5036**	**Toshiba (3838)**	
14-Bit Asynchronous			
HC	SN54HC4020	† TI	
14-Stage	MC54HC4020	Motorola	75
	MC74ACT4020	Motorola	
	MC74HC4020	Motorola	
AC	MC74AC4020	Motorola	
HC	CD54HC4020	°† Harris	
	CD74HC4020	° Harris	80
	M74HC4020	Mitsubishi	
	MM54HC4020	† National	
	MM74HC4020	National	
	74HC4020	° Philips	
	M74HC4020	SGS-Thomson	85
	SN74HC4020	TI	
	TC74HC4020A	Toshiba	
HCT	CD54HCT4020	°† Harris	
	CD74HCT4020	° Harris	
	74HCT4020	° Philips	90
4XXX	GD4020B	‡ GoldStar	
	CD4020B	‡ Harris	
	CD4020BE	Harris	
	CD4020A	‡ Micrel	
	CD4020B	‡ Micrel	95
	MC14020BC	Motorola	
	CD4020BC	National	
	CD4020BM	† National	
	HEF4020B	Philips	
	BCL4020B	R&E Intl	100
	SCL4020B	R&E Intl	
	HCC4020B	† SGS-Thomson	
	HCF4020B	SGS-Thomson	
	TC4020B	**Toshiba (3838)**	
14-Stage Ripple Counter with Oscillator			
AC	CD54AC7060	°† Harris	105
	CD54AC7061	† Harris	
	CD74AC7060	° Harris	
	CD74AC7061	Harris	
ACT	CD54ACT7060	°† Harris	
	CD54ACT7061	† Harris	110
	CD74ACT7060	° Harris	
	CD74ACT7061	Harris	
14-Stage with Oscillator			
	MC54HC4060	† Motorola	
	MC74HC4060	Motorola	
HC	CD54HC4060	† Harris	115
	CD74HC4060	Harris	
		(Continued)	

Function	Device	Source	Line
14-Stage with Oscillator			
HC		(Cont'd)	
	MM54HC4060	† National	
	MM74HC4060	National	
	74HC4060	† Philips	
	54HC4060	† Rochester	120
	M74HC4060	SGS-Thomson	
	SN74HC4060	TI	
	TC74HC4060A	**Toshiba (3836)**	
HCMOS	74LV4060	ℓ Philips	
HCT	CD54HCT4060	Harris	125
	CD74HCT4060	Harris	
	74HCT4060	† Philips	
4XXX	CD4060B	† Harris	
	MC14060B	Motorola	
	CD4060BC	National	130
	CD4060BM	† National	
	HEF4060B	Philips	
	BCL4060B	R&E Intl	
	SCL4060B	R&E Intl	
	HCC4060B	† SGS-Thomson	135
	HCF4060B	SGS-Thomson	
16-Bit Synchronous			
FCT	IDT49FCT661	IDT	

Counters, Binary Count Up/Down

Function	Device	Source	Line
Asynchronous Presettable 4-Bit with Dual Clock			
AC	74AC11193	Philips	
Presettable Up-Down Counter (dual clock with reset)			
4XXX	RCL4192B	R&E Intl	
	RCL4193B	R&E Intl	140
	SCL4192B	R&E Intl	
	SCL4193B	R&E Intl	
Presettable BCD Counter with 1 Asynchronous Reset			
HC	M74HC160	Mitsubishi	
Presettable BCD Up/Down Counter with Reset			
HC	M74HC192	Mitsubishi	
Synchronous			
HCT	MM54HCT192	† National	145
	MM74HCT192	National	
Synchronous Presettable 4-Bit			
AC	74AC11169	Philips	
Synchronous Presettable 8-Bit			
AC	74AC11269	Philips	
	74AC11469	Philips	
	54AC11269	† TI	150
	74AC11269	TI	
4-Bit Synchronous, Presettable			
AC	**TC74AC191**	**Toshiba (3836)**	
HCTS	HCTS191MS	‡ Harris	
4-Bit with Asynchronous Clear			
FCT	P54FCT193AT	Performance	
	P54FCT193CT	Performance	155
	P54FCT193T	Performance	
	QS54FCT193	† Quality Semi	
	QS54FCT193A	† Quality Semi	
	QS54FCT2193	† Quality Semi	
	QS54FCT2193A	† Quality Semi	160
	QS74FCT193	Quality Semi	
	QS74FCT193A	Quality Semi	
	QS74FCT2193	Quality Semi	
	QS74FCT2193A	Quality Semi	
4-Bit with Synchronous Clear			
FCT	P54FCT191AT	Performance	165
	P54FCT191CT	Performance	
	P54FCT191T	Performance	
	P74FCT191AT	Performance	
	P74FCT191CT	Performance	
	P74FCT191T	Performance	170
	QS54FCT191	† Quality Semi	
	QS54FCT191A	† Quality Semi	
	QS54FCT191C	† Quality Semi	
	QS54FCT2191	† Quality Semi	
	QS54FCT2191A	† Quality Semi	175
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Counters, Binary Count Up/Down (Cont'd)

Function	Device	Source	Line
4-Bit with Synchronous Clear			
FCT (Cont'd)	QS74FCT191	Quality Semi	
	QS74FCT191A	Quality Semi	
	QS74FCT191C	Quality Semi	
	QS74FCT2191	Quality Semi	
	QS74FCT2191A	Quality Semi	5
8-Bit with Synchronous/Asynchronous Reset			
AC	74AC11579	Philips	

Counters, Decade

Function	Device	Source	Line
Asynchronous Presettable BCD Decade Up/Down with Dual Clock			
AC	74AC11192	Philips	
Asynchronous Presettable Decade Up/Down with Single Clock			
AC	74AC11190	Philips	
Counter/Divider, 7 Segment Display Output and Display Enable			
4XXX	CD4026B	† Harris	
	CD4033B	† Harris	10
	BCL4026AB	R&E Intl	
	BCL4033AB	R&E Intl	
	SCL4026AB	R&E Intl	
	SCL4033AB	R&E Intl	
	HCC4026B	† SGS-Thomson	15
	HCC4033B	† SGS-Thomson	
	HCF4026B	SGS-Thomson	
	HCF4033B	SGS-Thomson	
Counter/Divider, 10 Line Output			
HC	CD54HC4017	† Harris	
	CD74HC4017	Harris	20
	MC54HC4017	† Motorola	
	MC74HC4017	Motorola	
	MM54HC4017	† National	
	MM74HC4017	National	
	74HC4017	Philips	25
	M74HC4017	SGS-Thomson	
	SN74HC4017	TI	
	TC74HC4017A	**Toshiba (3836)**	
HCT	CD54HCT4017	† Harris	
	CD74HCT4017	Harris	30
	74HCT4017	Philips	
4XXX	GD4017B	‡ GoldStar	
	CD4017B	‡ Harris	
	CD4017A	‡ Micrel	
	CD4017B	‡ Micrel	35
	MC14017BC	Motorola	
	CD4017BC	National	
	CD4017BM	† National	
	HEF4017B	Philips	
	BCL4017B	R&E Intl	40
	SCL4017B	R&E Intl	
	HCC4017B	† SGS-Thomson	
	HCF4017B	SGS-Thomson	
	TC4017B	**Toshiba (3838)**	
Counter/Latch/Display Driver			
	ICM7208	Harris	45
	ICM7208I	Harris	
Presettable, Fully Synchronous, Synchronous Clear			
AC	MC74AC162	Motorola	
	54AC11162	† TI	
	74AC11162	° TI	
ACT	MC74ACT162	Motorola	50
	54ACT11162	† TI	
	74ACT11162	TI	
C	MM54C162	‡ Micrel	
	MM54C162	† National	
	MM74C162	National	55
HC	GD54HC162	† GoldStar	
	GD74HC162	GoldStar	
		(Continued)	
Presettable Fully Synchronous, Synchronous Clear			
HC (Cont'd)	CD54HC162	°† Harris	
	CD74HC162	° Harris	
	MC54HC162	† Motorola	60
	MC74HC162	Motorola	
	MM54HC162	† National	
	MM74HC162	National	
	74HC162	° Philips	
	54HC162	† Rochester	65
	M74HC162	SGS-Thomson	
	SN74HC162	TI	
	TC74HC162A	**Toshiba (3836)**	
	US74HC162	Universal	
HCT	GD54HCT162	† GoldStar	70
	GD74HCT162	GoldStar	
	CD54HCT162	°† Harris	
	CD74HCT162	° Harris	
	74HCT162	° Philips	
4XXX	CD40162B	† Harris	75
	CD40162B	‡ Micrel	
	MC14162BC	Motorola	
	CD40162BC	National	
	CD40162BM	† National	
	HEF40162B	Philips	80
	HCC40162B	† SGS-Thomson	
	HCF40162B	SGS-Thomson	
	TC40162B	**Toshiba (3838)**	
Presettable (sets to 0 or 9, divides by 2, 5 or 10)			
C	MM54C90	† National	
	MM74C90	National	85
Presettable Synchronous, Asynchronous Clear			
AC	MC74AC160	Motorola	
	54AC11160	† TI	
	74AC11160	° TI	
	TC74AC160	**Toshiba (3836)**	
ACT	MC74ACT160	Motorola	90
	54ACT11160	† TI	
	74ACT11160	TI	
C	MM54C160	‡ Micrel	
	MM54C160	† National	
	MM74C160	National	95
HC	GD54HC160	† GoldStar	
	GD74HC160	GoldStar	
	CD54HC160	°† Harris	
	CD74HC160	° Harris	
	HCTS160MS	‡ Harris	100
	MC54HC160	† Motorola	
	MC74HC160	Motorola	
	MM54HC160	† National	
	MM74HC160	National	
	M74HC160	SGS-Thomson	105
	SN54HC160	† TI	
	SN74HC160	TI	
	TC74HC160A	**Toshiba (3836)**	
	US74HC160	Universal	
HCS	HCS160MS	‡ Harris	110
HCT	GD54HCT160	† GoldStar	
	GD74HCT160	GoldStar	
	CD54HCT160	°† Harris	
	CD74HCT160	° Harris	
4XXX	CD40160B	† Harris	115
	CD40160B	‡ Micrel	
	MC14160BC	Motorola	
	CD40160BC	National	
	CD40160BM	† National	
	HEF40160B	Philips	120
	HCC40160B	† SGS-Thomson	
	HCF40160B	SGS-Thomson	
	TC40160B	**Toshiba (3838)**	
Presettable Synchronous BCD Decade Up/Down Counter			
HC	GD54HC190	† GoldStar	
	GD74HC190	GoldStar	125
	74HC190	Mitsubishi	
		(Continued)	
Presettable Synchronous BCD Decade Up/Down Counter (Cont'd)			
HCT	GD54HCT190	† GoldStar	
	GD74HCT190	GoldStar	
	54HCT190	† National	
	74HCT190	National	130
Presettable Up/Down			
AC	54AC11192	† TI	
	74AC11192	TI	
ACT	54ACT11192	† TI	
	74ACT11192	TI	
AHCT	**54AHCT193**	**‡ Ideal Semi (3644)**	135
	74AHCT193	**Ideal Semi (3644)**	
C	MM54C192	‡ Micrel	
	MM54C192	† National	
	MM74C192	National	
HC	GD54HC192	† GoldStar	140
	GD74HC192	GoldStar	
	CD54HC192	°† Harris	
	CD74HC192	° Harris	
	MM54HC192	† National	
	MM74HC192	National	145
	74HC192	° Philips	
	M74HC192	SGS-Thomson	
	SN54HC192	† TI	
	SN74HC192	TI	
	TC74HC192A	**Toshiba (3836)**	150
	US74HC192	Universal	
HCT	GD54HCT192	† GoldStar	
	GD74HCT192	GoldStar	
	CD54HCT192	°† Harris	
	CD74HCT192	° Harris	155
	74HCT192	° Philips	
	74HCT4510	Philips	
4XXX	GD40192B	GoldStar	
	GD4510B	GoldStar	
	CD40192B	† Harris	160
	CD4510B	† Harris	
	CD40192B	‡ Micrel	
	CD4510B	‡ Micrel	
	MC14510BC	Motorola	
	CD40192BC	National	165
	CD40192BM	† National	
	CD4510BC	National	
	CD4510BM	† National	
	HEF40192B	Philips	
	HEF4510B	Philips	170
	BCL4510B	R&E Intl	
	SCL4510B	R&E Intl	
	HCC40192B	† SGS-Thomson	
	HCC4510B	† SGS-Thomson	
	HCF40192B	SGS-Thomson	175
	HCF4510B	SGS-Thomson	
	TC40192B	**Toshiba (3838)**	
	TC4510B	**Toshiba (3838)**	
Presettable Up/Down with mode control			
HC	74HC190	° Philips	
HCT	74HCT190	° Philips	180
Presettable 2-Decade Down, BCD			
HC	**TC74HC40102A**	**Toshiba (3836)**	
4XXX	HCC40102B	† SGS-Thomson	
	TC40102B	**Toshiba (3838)**	
Presettable 2-Decade Down, BCD			
HC	CD54HC40102	† Harris	
	CD74HC40102	Harris	185
	74HC40102	Philips	
HCT	CD54HCT40102	† Harris	
	CD74HCT40102	Harris	
	74HCT40102	Philips	
4XXX	HCF40102B	SGS-Thomson	190
Programmable Divide-by-N, 4-bit			
4XXX	GD4522B	GoldStar	
	MC14522BC	Motorola	
		(Continued)	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   •Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Counters, Decade (Cont'd)

Function	Device	Source	Line
Programmable Divide-by-N, 4-Bit			
4XXX		(Cont'd)	
	CD4522BC	National	
	CD4522BM	† National	
	HEF4522B	Philips	
	BCL4522B	R&E Intl	
	SCL4522B	R&E Intl	5
	TC4522B	**Toshiba (3838)**	
Synchronous, Preset, with Mode Control	MC74ACT190	Motorola	
Synchronous Presettable BCD Decade Counter, Asynchronous Reset			
AC	74AC11160	Philips	
Synchronous Presettable BCD Decade Counter, Synchronous Reset			
AC	74AC11162	Philips	
Synchronous Presettable BCD Decade Up/Down Counter w/Sync/Async Reset			
AC	74AC11568	Philips	10
Synchronous Up/Down BCD Decade Counter			
AC	74AC11168	Philips	
Synchronous with Output Registers, Asynchronous Clear			
HC	**TC74HC690A**	**Toshiba (3836)**	
Synchronous with Output Registers, Synchronous Clear			
HC	**TC74HC692A**	**Toshiba (3836)**	
Up/Down Counter/Decoder/Latch/Driver (direct 7-segment driver)			
4XXX	CD40110B	† Harris	
Up/Down, Programmable			
HC	CD54HC4510	† Harris	15
	CD74HC4510	Harris	
	74HC4510	Philips	
HCT	CD54HCT4510	† Harris	
	CD74HCT4510	Harris	
Up/Down, Synchronous			
AC	MC74AC190	Motorola	20
	54AC11190	† TI	
	74AC11190	TI	
ACT	54ACT11190	† TI	
	74ACT11190	TI	
HC	CD54HC190	°† Harris	25
	CD74HC190	° Harris	
	HCTS190MS	‡ Harris	
	MM54HC190	† National	
	MM74HC190	National	
	M74HC190	SGS-Thomson	30
	M74HC696	SGS-Thomson	
	M74HC698	SGS-Thomson	
	SN54HC190	† TI	
	SN74HC190	TI	
	TC74HC190A	**Toshiba (3836)**	35
	US74HC190	Universal	
HCT	CD54HCT190	°† Harris	
	CD74HCT190	° Harris	
Up/Down, Synchronous with Output Registers			
HC	**TC74HC696A**	**Toshiba (3836)**	
	TC74HC698A	**Toshiba (3836)**	40
Up/Down, Three-State			
AC	54AC11568	† TI	
	74AC11568	TI	
ACT	54ACT11568	† TI	
	74ACT11568	TI	
Dual			
HC	CD54HC390	† Harris	45
	CD74HC390	Harris	
	HCTS390MS	‡ Harris	
	MC54HC390	† Motorola	
	MM54HC390	† National	
	MM74HCA390	National	50
	MM74HC390	National	
	74HC390	° Philips	
		(Continued)	

Function	Device	Source	Line
Dual			
HC		(Cont'd)	
	SN54HC390	† TI	
	SN74HC390	TI	
	SN74HC490	TI	55
	TC74HC390A	**Toshiba (3836)**	
HCT	CD54HCT390	† Harris	
	CD74HCT390	Harris	
	74HCT390	° Philips	
Dual Synchronous			
HC	CD54HC4518	† Harris	60
	CD74HC4518	Harris	
	MC74HC390	Motorola	
	MM74HC4518	National	
	74HC4518	Philips	
	M74HC390	SGS-Thomson	65
	M74HC4518	SGS-Thomson	
	TC74HC4518A	**Toshiba (3836)**	
HCT	CD54HCT4518	† Harris	
	CD74HCT4518	Harris	
	74HCT4518	Philips	70
4XXX	CD4518B	† Harris	
	CD4518B	‡ Micrel	
	MC14518BC	Motorola	
	CD4518BC	National	
	CD4518BM	† National	75
	HEF4518B	Philips	
	BCL4518B	R&E Intl	
	SCL4518B	R&E Intl	
	HCC4518B	† SGS-Thomson	
	HCF4518B	SGS-Thomson	80
	TC4518B	**Toshiba (3838)**	
Decade Counter			
HC	M74HC690	SGS-Thomson	
	M74HC692	SGS-Thomson	
3–1/2 Digit Counter to BCD Driver			
	HC6010	Hughes	
HCT	HC4010	Hughes	85
3-Decade Multiplexed Output			
4XXX	ML14553B	Lansdale	
3-Decade Multiplexed Output			
4XXX	MC14553BC	Motorola	
4–1/2 Digit Up Counter/Decoder/Driver			
	ICM7224	Harris	
	ICM7224I	Harris	
	ICM7224RI	Harris	90
	ICM7224	Maxim	
	ICM7225	Maxim	
4–1/2 Digit Up-Down Counter/Latch/Decoder Driver, LCD			
C	MM74C946	National	
4-Bit Bidirectional			
AC	MC74AC568	Motorola	
4-Bit BCD Bidirectional			
	MC74ACT568	Motorola	95
4-Digit			
5XXX	**TC5001**	**Toshiba (3838)**	
4-Digit, Multiplexed Output, Left Digit Counts to 2-(Maximum count 1999.)			
C	MM74C928	National	
4-Digit, Multiplexed Output, Second Digit Counts to 6 (Maximum count 9599.)			
C	MM74C927	National	
4-Digit Up/Down, Counter/Latch/Decoder Driver, LCD			
C	MM74C945	Maxim	
	MM74C947	Maxim	100
	MM74C945	National	
	MM74C947	National	
4-Digit Up/Down Counter/Latch/Display Driver			
	ICM7217	Harris	
	ICM7217A	Harris	
	ICM7217AI	Harris	105
	ICM7217BI	Harris	
	ICM7217C	Harris	
		(Continued)	

Function	Device	Source	Line
4-Digit Up/Down Counter/Latch/Display Driver		(Cont'd)	
	ICM7217CI	Harris	
	ICM7217I	Harris	
	ICM7217	Maxim	110
	ICM7217A	Maxim	
	ICM7217B	Maxim	
	ICM7217C	Maxim	
4-Decade			
5XXX	**TC5037**	**Toshiba (3838)**	
	TC5051	**Toshiba (3838)**	115
	TC5052	**Toshiba (3838)**	
	TC5053	**Toshiba (3838)**	
	TC5054	**Toshiba (3838)**	
4-Decade Divider	**RDD104**	**LSI Comp (3681)**	
4-Decade			
4XXX	HEF4737	Philips	120
4-Decade Divide-by-N			
HC	CD54HC4059	† Harris	
	CD74HC4059	Harris	
	74HC4059	Philips	
HCT	CD54HCT4059	† Harris	
	CD74HCT4059	Harris	125
	74HCT4059	Philips	
4XXX	CD4059A	† Harris	
	HEF4059B	Philips	
4-Decade, Multiplexed Output (The 926 gives carry at 6000.)			
C	MM74C925	National	
	MM74C926	National	130
5-Decade, Multiplexed Output			
4XXX	HEF4534B	† Philips	
6-Bit, Universal, to 999999			
5XXX	**TC5070**	**Toshiba (3838)**	
6-Digit			
5XXX	**TC5032**	**Toshiba (3838)**	
8-Bit			
AC	**TC74AC162**	**Toshiba (3836)**	
	TC74AC390	**Toshiba (3836)**	135
8-Stage Presettable Down Counters, 2-Decade BCD Type			
4XXX	CD40102B	† Harris	

Counters, Miscellaneous

Function	Device	Source	Line
Counter/Latch Decoder/Driver			
	MIC4350	Micrel	
Divide-by–8 Counter/Divider, Decoded Output			
HC	**TC74HC4022A**	**Toshiba (3836)**	
4XXX	GD4022B	‡ GoldStar	
	CD4022B	‡ Harris	140
	CD4021A	‡ Micrel	
	CD4021B	‡ Micrel	
	CD4022A	‡ Micrel	
	CD4022B	‡ Micrel	
	MC14022BC	Motorola	145
	CD4022BC	National	
	CD4022BM	† National	
	HEF4022B	Philips	
	BCL4021B	R&E Intl	
	BCL4022B	R&E Intl	150
	SCL4021B	R&E Intl	
	SCL4022B	R&E Intl	
	HCC4022B	† SGS-Thomson	
	HCF4022B	SGS-Thomson	
	TC4022B	**Toshiba (3838)**	155
Divide-by–60, BCD Output (industrial time base generator)			
4XXX	MC14566BC	Motorola	
Frequency Counter			
	ICM7216AI	Harris	
	ICM7216BI	Harris	
	ICM7216DI	Harris	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Counters, Miscellaneous (Cont'd)

Function	Device	Source	Line
Phase Comparator and Programmable Counter			
4XXX	ML14568B	Lansdale	
	MC14568BC	Motorola	
Presettable Divide-by-N			
4XXX	GD4018B	GoldStar	
	CD4018B	‡ Harris	
	CD4018A	‡ Micrel	5
	CD4018B	‡ Micrel	
	MC14018BC	Motorola	
	CD4018BC	National	
	CD4018BM	† National	
	HEF4018B	Philips	10
	BCL4018B	R&E Intl	
	SCL4018B	R&E Intl	
	HCC4018B	† SGS-Thomson	
	HCF4018B	SGS-Thomson	
	TC4018B	**Toshiba (3838)**	15
Presettable Up/Down Binary or Decade			
4XXX	GD4029B	GoldStar	
	CD4029B	† Harris	
	CD4029A	‡ Micrel	
	CD4029B	‡ Micrel	
	MC14029BC	Motorola	20
	CD4029BC	National	
	CD4029BM	† National	
	HEF4029B	Philips	
	BCL4029B	R&E Intl	
	SCL4029B	R&E Intl	25
	HCC4029B	† SGS-Thomson	
	HCF4029B	SGS-Thomson	
	TC4029B	**Toshiba (3838)**	
Binary/Decade with Two Reset Functions			
5XXX	**TC5026B**	**Toshiba (3838)**	
Dual Programmable Divide-by-N Binary/Decade			
4XXX	MC14569BC	† Motorola	30
Octal Counter/Divider			
HC	M74HC4022	SGS-Thomson	
	SN74HC4022	TI	
	SN74HC7022	TI	
Decade Counter/7-Segment Decoder/Drivers			
4XXX	BCL4426AB	R&E Intl	
	BCL4433AB	R&E Intl	35
	SCL4426AB	R&E Intl	
	SCL4433AB	R&E Intl	
Decade Up/Down Counter			
HC	HCC40110B	SGS-Thomson	
	HCF40110B	SGS-Thomson	
4-Bit, Synchronous			
4XXX	BCL4160B	R&E Intl	40
	BCL4161B	R&E Intl	
	BCL4162B	R&E Intl	
	BCL4163B	R&E Intl	
	SCL4160B	R&E Intl	
	SCL4161B	R&E Intl	45
	SCL4162B	R&E Intl	
	SCL4163B	R&E Intl	
8-Bit Synchronous Directional Counter			
AC	74AC11867	TI	
	74AC11869	TI	
24-Bit Multimode Counter			
	LS7166	**LSI Comp (3681)**	50

Decoders

Function	Device	Source	Line
LCD, 4-Digit, Microprocessor Interface			
	CD7211AM	Harris	
	CD7211M	Harris	
	ICM7211AM	Maxim	
	ICM7211M	Maxim	
LCD, 4-Digit, Multiplexed BCD to LCD Decoder/Driver, AC Drive	CD7211A	Harris	55
	ICM7211	Maxim	
	ICM7211A	Maxim	
LED, 4-Digit BCD or Binary to 7-Segment Decoder/Driver, Data and Digit Select Input Latches for µP Interface	ICM7212AM	Maxim	
	ICM7212M	Maxim	
N-Bit (for I/O interface)			
	HB1853	† Hughes	60
	HB1853C	† Hughes	
HC	HC1853	Hughes	
	HC1853C	Hughes	
N-Bit 1 of 8 (for I/O interface)			
	CDP1853	Harris	
	CDP1853/3	Harris	65
	CDP1853C	Harris	
	CDP1853C/3	Harris	
Binary-to-Octal			
4XXX	BCL4428B	R&E Intl	
	SCL4428B	R&E Intl	
BCD-to-Decimal			
C	MM54C42	‡ Micrel	70
	MM54C42	† National	
	MM74C42	National	
HC	GD54HC42	† GoldStar	
	GD74HC42	GoldStar	
	CD54HC42	† Harris	75
	CD74HC42	Harris	
	M74HC42	Mitsubishi	
	MC54HC42	† Motorola	
	MC74HC42	Motorola	
	MM54HC42	† National	80
	MM74HC42	National	
	74HC42	Philips	
	M74HC4028	SGS-Thomson	
	M74HC42	SGS-Thomson	
	SN54HC42	† TI	85
	SN74HC42	TI	
	TC74HC4028A	**Toshiba (3836)**	
	TC74HC42A	**Toshiba (3836)**	
HCT	GD54HCT42	† GoldStar	
	GD74HCT42	GoldStar	90
	CD54HCT42	† Harris	
	CD74HCT42	Harris	
	74HCT42	Philips	
4XXX	GD4028B	‡ GoldStar	
	CD4028B	‡ Harris	95
	CD4028A	‡ Micrel	
	CD4028B	‡ Micrel	
	MC14028BC	Motorola	
	CD4028BC	National	
	CD4028BM	† National	100
	HEF4028B	Philips	
	BCL4028B	R&E Intl	
	SCL4028B	R&E Intl	
	BU4028B	ROHM	
	HCC4028B	† SGS-Thomson	105
	HCF4028B	SGS-Thomson	
	TC4028B	**Toshiba (3838)**	
BCD-to–7 Segment Decoder/Driver			
4XXX	MC14547BC	Motorola	
BCD-to–7-Segment			
C	MM54C48	† National	
	MM74C48	National	110
BCD-to–7-Segment Decoder/Driver			
4XXX	**TC5022B**	**Toshiba (3838)**	
5XXX	**TC5002B**	**Toshiba (3838)**	
BCD-to–7 Segment			
	MC14558B	Motorola	
Dual Binary to 1 of 4 Decoder/Demultiplexer (high)			
4XXX	GD4555B	GoldStar	
	CD4555B	Harris	115
	CD4556B	† Harris	
	ML14556B	Lansdale	
	MC14555BC	Motorola	
	MC14556BC	Motorola	
	HEF4555B	Philips	120
	HEF4556B	Philips	

(Continued)

Function	Device	Source	Line
Dual Binary to 1 of 4 Decoder/Demultiplexer (high) (Cont'd)			
4XXX			
	BCL4555B	R&E Intl	
	BCL4556B	R&E Intl	
	SCL4555B	R&E Intl	
	SCL4556B	R&E Intl	125
	HCC4555B	† SGS-Thomson	
	HCC4556B	† SGS-Thomson	
	HCF4555B	SGS-Thomson	
	HCF4556B	SGS-Thomson	
	TC4555B	**Toshiba (3838)**	130
	TC4556B	**Toshiba (3838)**	
Dual 1-Line to 4-Line Decoder			
FCT	IDT54FCT139AT	IDT	
	IDT54FCT139CT	IDT	
	IDT54FCT139T	IDT	
	IDT74FCT139AT	IDT	135
	IDT74FCT139CT	IDT	
	IDT74FCT139T	IDT	
Dual 1-Line to 4-Line Decoder/Demultiplexer			
AHCT	**54AHCT139**	**‡ Ideal Semi (3644)**	
	74AHCT139	**‡ Ideal Semi (3644)**	
HCT	**54HCTLS139**	**‡ Ideal Semi (3643)**	140
	74HCTLS139	**‡ Ideal Semi (3643)**	
Dual 1-of–4 Decoder/Demultiplexer			
AC	MC74AC139	Motorola	
ACT	MC74ACT139	Motorola	
HC	M74HC139-1	Mitsubishi	
Dual 1-of–4 Decoder/Demultiplexer			
HCT	M74HCT139-1	Mitsubishi	145
Dual 2-Line to 4-Line Decoder/Demultiplexer			
AC	CD54AC139	°† Harris	
	CD74AC139	° Harris	
	54AC139	°† National	
	74AC139	° National	
	54AC11139	† TI	150
	54AC11239	† TI	
	74AC11139	TI	
	74AC11239	TI	
	TC74AC139	**Toshiba (3836)**	
ACT	CD54ACT139	°† Harris	155
	CD74ACT139	° Harris	
	54ACT139	† National	
	74ACT139	National	
	54ACT11139	† TI	
	54ACT11239	† TI	160
	74ACT11139	TI	
	74ACT11239	TI	
	TC74ACT139	**Toshiba (3836)**	
AHCT	**54AHCT155**	**‡ Ideal Semi (3644)**	
	74AHCT155	**‡ Ideal Semi (3644)**	165
Cell	74155	Rochester	
	SN74155	TI	
FCT	IDT54FCT139	°† IDT	
	IDT54FCT139A	°† IDT	
	IDT54FCT139C	† IDT	170
	IDT74FCT139	° IDT	
	IDT74FCT139A	° IDT	
	IDT74FCT139C	IDT	
	P54FCT139	Performance	
	P54FCT139A	Performance	175
	P54FCT139AT	Performance	
	P54FCT139C	Performance	
	P54FCT139CT	Performance	
	P54FCT139T	Performance	
	P54PCT139	‡ Performance	180
	P54PCT139A	‡ Performance	
	P74FCT139	Performance	
	P74FCT139A	Performance	
	P74FCT139AT	Performance	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Decoders (Cont'd)			
Dual 2-Line to 4-Line Decoder/Demultiplexer			
FCT (Cont'd)			
	P74FCT139CT	Performance	
	P74FCT139T	Performance	
	QS54FCT139	† Quality Semi	
	QS54FCT139A	† Quality Semi	
	QS54FCT139B	† Quality Semi	5
	QS54FCT139C	† Quality Semi	
	QS54FCT139D	† Quality Semi	
	QS54FCT239	† Quality Semi	
	QS54FCT239A	† Quality Semi	
	QS54FCT239B	† Quality Semi	10
	QS54FCT239C	† Quality Semi	
	QS54FCT239D	† Quality Semi	
	QS74FCT139	Quality Semi	
	QS74FCT139A	Quality Semi	
	QS74FCT139B	Quality Semi	15
	QS74FCT139C	Quality Semi	
	QS74FCT139D	Quality Semi	
	QS74FCT2139	Quality Semi	
	QS74FCT2239	Quality Semi	
	QS74FCT239	Quality Semi	20
	QS74FCT239A	Quality Semi	
	QS74FCT239B	Quality Semi	
	QS74FCT239C	Quality Semi	
	QS74FCT239D	Quality Semi	
HC	GD54HC139	† GoldStar	25
	GD54HC155	† GoldStar	
	GD74HC139	GoldStar	
	GD74HC155	GoldStar	
	CD54HC139	°† Harris	
	CD74HC139	° Harris	30
	M74HC155	Mitsubishi	
	MC54HC139A	† Motorola	
	MC74HC139A	Motorola	
	MM54HC139	† National	
	MM54HC155	† National	35
	MM74HC139	National	
	74HC139	° Philips	
	M74HC139	SGS-Thomson	
	M74HC155	SGS-Thomson	
	SN54HC139	† TI	40
	SN74HC139	TI	
	SN74HC239	TI	
	TC74HC139A	**Toshiba (3836)**	
HCMOS	74LV139	ℓ Philips	
HCT	MV74HCT139	GEC Plessey	45
	54HCT139SOS	GEC Plessey	
	54HCT239SOS	GEC Plessey	
	74HCT139	GEC Plessey	
	74HCT239	GEC Plessey	
	GD54HCT139	† GoldStar	50
	GD54HCT155	† GoldStar	
	GD74HCT139	GoldStar	
	GD74HCT155	GoldStar	
	CD54HCT139	°† Harris	
	CD74HCT139	° Harris	55
	54HCTLS155	**‡ Ideal Semi (3643)**	
	74HCTLS155	**‡ Ideal Semi (3643)**	
	MM54HCT139	† National	
	MM54HCT155	† National	
	MM74HCT139	National	60
	MM74HCT155	National	
	74HCT139	° Philips	
	SN74HCT139	TI	
	TC74HCT139A	**Toshiba (3836)**	
HCTS	HCTS139MS	‡ Harris	65
SC	MV74SC239	GEC Plessey	
VHC	**TC74VHC139**	**Toshiba (3837)**	
Dual 2-Line to 4-Line/3-Line to 8-Line Decoder/Demultiplexer			
HC	MM74HC155	National	
	TC74HC155A	**Toshiba (3836)**	

Function	Device	Source	Line
2-Line to 4-Line Decoder/Demultiplexer			
	TC7W139F	Toshiba	70
3-Line to 8-Line Decoder/Demultiplexer			
AC	CD54AC138	° Harris	
	CD54AC238	°† Harris	
	CD74AC138	° Harris	
	CD74AC238	° Harris	
	MC74AC138	Motorola	75
	54AC138	°† National	
	74AC138	° National	
	SN54AC11238	°† TI	
	54AC11138	† TI	
	74AC11138	° TI	80
	TC74AC138	**Toshiba (3836)**	
ACT	CD54ACT138	°† Harris	
	CD54ACT238	°† Harris	
	CD74ACT138	° Harris	
	CD74ACT238	Harris	85
	MC74ACT138	Motorola	
	54ACT138	† National	
	74ACT138	National	
	54ACT11138	† TI	
	54ACT11168	† TI	90
	54ACT11238	† TI	
	74ACT11138	TI	
	74ACT11238	° TI	
	TC74ACT138	**Toshiba (3836)**	
AHCT	**54AHCT138**	**‡ Ideal Semi (3644)**	95
	74AHCT138	**‡ Ideal Semi (3644)**	
C	HS54C138RH	‡ Harris	
FCT	IDT54FCT138	°‡ IDT	
	IDT54FCT138A	°† IDT	
	IDT54FCT138AT	°† IDT	100
	IDT54FCT138C	† IDT	
	IDT54FCT138CT	°† IDT	
	IDT54FCT138T	°† IDT	
	IDT74FCT138	° IDT	
	IDT74FCT138A	° IDT	105
	IDT74FCT138AT	° IDT	
	IDT74FCT138C	IDT	
	IDT74FCT138CT	° IDT	
	IDT74FCT138T	° IDT	
	54FCT138	† National	110
	54FCT138A	† National	
	74FCT138	National	
	74FCT138A	National	
	P54FCT138	Performance	
	P54FCT138A	Performance	115
	P54FCT138AT	Performance	
	P54FCT138C	Performance	
	P54FCT138CT	Performance	
	P54FCT138T	Performance	
	P54PCT138	‡ Performance	120
	P54PCT138A	‡ Performance	
	P74FCT138	Performance	
	P74FCT138AT	Performance	
	P74FCT138CT	Performance	
	P74FCT138T	Performance	125
	QS54FCT138	† Quality Semi	
	QS54FCT138A	† Quality Semi	
	QS54FCT138B	† Quality Semi	
	QS54FCT138C	† Quality Semi	
	QS54FCT138D	† Quality Semi	130
	QS74FCT138	Quality Semi	
	QS74FCT138A	Quality Semi	
	QS74FCT138B	Quality Semi	
	QS74FCT138C	Quality Semi	
	QS74FCT138D	Quality Semi	135
	QS74FCT2138	Quality Semi	
	QS74FCT2238	Quality Semi	
HC	GD54HC138	† GoldStar	
	GD74HC138	GoldStar	
	CD54HCT238	°† Harris	140

(Continued)

Function	Device	Source	Line
3-Line to 8-Line Decoder/Demultiplexer			
HC (Cont'd)			
	CD54HC138	°† Harris	
	CD54HC238	°† Harris	
	CD74HCT238	° Harris	
	CD74HC138	° Harris	
	CD74HC238	° Harris	145
	HCS138MS	‡ Harris	
	HCTS138MS	‡ Harris	
	M74HC138-1	Mitsubishi	
	MC54HC138A	† Motorola	
	MC74HC138A	Motorola	150
	MM54HC138	† National	
	MM74HC138	National	
	MM74HC238	National	
	74HC138	° Philips	
	74HC237	Philips	155
	74HC238	° Philips	
	M74HC138	SGS-Thomson	
	M74HC238	SGS-Thomson	
	SN54HC138	† TI	
	SN74HC138	TI	160
	TC74HC138A	**Toshiba (3836)**	
HCMOS	74LV138	ℓ Philips	
HCT	MV74HCT138	GEC Plessey	
	MV74HCT238	GEC Plessey	
	54HCT138SOS	GEC Plessey	165
	54HCT238SOS	GEC Plessey	
	74HCT138	GEC Plessey	
	74HCT238	GEC Plessey	
	GD54HCT138	† GoldStar	
	GD74HCT138	GoldStar	170
	CD54HCT138	°† Harris	
	CD74HCT138	° Harris	
	54HCTLS138	‡ Ideal Semi	
	74HCTLS138	‡ Ideal Semi	
	M74HCT138-1	Mitsubishi	175
	MC54HCT138A	† Motorola	
	MC74HCT138A	Motorola	
	MM54HCT138	† National	
	MM74HCT138	National	
	74HCT138	° Philips	180
	74HCT237	Philips	
	74HCT238	° Philips	
	M74HCT137	SGS-Thomson	
	M74HCT138	SGS-Thomson	
	SN54HCT138	† TI	185
	SN74HCT138	TI	
	TC74HCT138A	**Toshiba (3836)**	
LV	SN74LV138	ℓ TI	
LVC	SN74LVC138	ℓ TI	
LVQ	**TC74LVQ138**	**ℓ Toshiba (3837)**	190
LVX	**TC74LVX138**	**ℓ Toshiba (3837)**	
PCT	P74FCT138A	Performance	
VHC	**TC74VHC138**	**Toshiba (3837)**	
VHCT	**TC74VHCT138**	**Toshiba (3837)**	
3-Line to 8-Line Decoder/Demultiplexer, True			
AC	54AC11238	† TI	195
	74AC11238	° TI	
FCT	QS54FCT238	† Quality Semi	
	QS54FCT238A	† Quality Semi	
	QS54FCT238B	† Quality Semi	
	QS54FCT238C	† Quality Semi	200
	QS54FCT238D	† Quality Semi	
	QS74FCT238	Quality Semi	
	QS74FCT238A	Quality Semi	
	QS74FCT238B	Quality Semi	
	QS74FCT238C	Quality Semi	205
	QS74FCT238D	Quality Semi	
HC	SN54HC237	† TI	
	SN54HC238	† TI	
	SN74HC237	TI	
	SN74HC238	TI	210
	TC74HC237A	**Toshiba (3836)**	
	TC74HC238A	**Toshiba (3836)**	
HCT	SN54HCT237	† TI	
	SN54HCT238	† TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Function	Device	Source	Line
Decoders (Cont'd)			
3-Line to 8-Line Decoder/Demultiplexer, True			
HCT (Cont'd)	SN74HCT237	TI	
	SN74HCT238	TI	
VHC	**TC74VHC238**	**Toshiba (3837)**	
3-Line to 8-Line Decoder/Demultiplexer with Input Latches, Inverting			
HC	GD54HC137	† GoldStar	
	GD74HC137	GoldStar	5
	CD54HC137	† Harris	
	CD54HC237	† Harris	
	CD74HC137	Harris	
	CD74HC237	Harris	
	M74HC137	Mitsubishi	10
	M74HC237	Mitsubishi	
	MC54HC137	† Motorola	
	MC54HC237	† Motorola	
	MC74HC137	Motorola	
	MC74HC237	Motorola	15
	MM54HC137	† National	
	MM54HC237	† National	
	MM74HC137	National	
	MM74HC237	National	
	74HC137	Philips	20
	54HC237	† Rochester	
	M74HC137	SGS-Thomson	
	M74HC237	SGS-Thomson	
	SN54HC137	† TI	
	SN74HC137	TI	25
	TC74HC131A	**Toshiba (3836)**	
	TC74HC137A	**Toshiba (3836)**	
HCT	MV74HCT137	GEC Plessey	
	MV74HCT237	GEC Plessey	
	54HCT137SOS	GEC Plessey	30
	54HCT237SOS	GEC Plessey	
	74HCT137	GEC Plessey	
	74HCT237	GEC Plessey	
	GD54HCT137	† GoldStar	
	GD74HCT137	GoldStar	35
	CD54HCT137	† Harris	
	CD54HCT237	† Harris	
	CD74HCT137	Harris	
	CD74HCT237	Harris	
	74HCT137	Philips	40
	SN54HCT137	† TI	
	SN74HCT137	TI	
	TC74HCT137	Toshiba	
	TC74HCT137A	Toshiba	
SC	MV74SC137	GEC Plessey	45
	MV74SC237	GEC Plessey	
4-Bit Latch/4-to-16-Line Decoder (high)			
HC	CD54HC4514	† Harris	
	CD54HC4515	† Harris	
	CD74HC4514	Harris	
	CD74HC4515	Harris	50
	MC54HC4514	† Motorola	
	MC74HC4514	Motorola	
	MM54HC4514	† National	
	MM74HC4514	National	
	74HC4514	Philips	55
	74HC4515	Philips	
	M74HC4514	SGS-Thomson	
HCT	CD54HCT4514	† Harris	
	CD54HCT4515	† Harris	
	CD74HCT4514	Harris	60
	CD74HCT4515	Harris	
	74HCT4514	Philips	
	74HCT4515	Philips	
4XXX	CD4514B	† Harris	
	CD4515B	† Harris	65
	CD4514B	‡ Micrel	
	CD4515B	‡ Micrel	
	MC14514BC	Motorola	
	MC14515BC	Motorola	

(Continued)

Function	Device	Source	Line
4-Bit Latch/4-to-16-Line Decoder (high)			
4XXX (Cont'd)			
	CD4514BC	National	70
	CD4514BM	† National	
	CD4515BC	National	
	CD4515BM	† National	
	HEF4514B	Philips	
	HEF4515B	Philips	75
	BCL4514B	R&E Intl	
	BCL4515B	R&E Intl	
	SCL4514B	R&E Intl	
	SCL4515B	R&E Intl	
	HCC4514B	† SGS-Thomson	80
	HCC4515B	† SGS-Thomson	
	HCF4514B	SGS-Thomson	
	HCF4515B	SGS-Thomson	
	TC4514B	**Toshiba (3838)**	
4-Bit Latch/4-to-16-Line Decoder (low)			
4XXX	**TC4515B**	**Toshiba (3838)**	85
4-Line to 16-Line Decoder/Demultiplexer, Inverting			
HC	SN74HC4515	TI	
	TC74HC4515A	**Toshiba (3836)**	
4-Line to 16-Line Decoder/Demultiplexer, True			
HC	SN74HC4514	TI	
	TC74HC4514A	**Toshiba (3836)**	
4-Line-to-16-Line Decoder/Demultiplexer			
HC	GD54HC154	† GoldStar	90
	GD74HC154	GoldStar	
	HCS154MS	‡ Harris	
	MC54HC154	† Motorola	
	MC74HC154	Motorola	
	TC74HC154A	**Toshiba (3836)**	95
HCT	GD54HCT154	† GoldStar	
	GD74HCT154	GoldStar	
4-Line-to-16-Line Decoder/Demultiplexer			
C	MM54C154	† National	
	MM74C154	National	
HC	CD54HC154	† Harris	100
	CD74HC154	Harris	
	MM54HC154	† National	
	MM74HC154	National	
	74HC154	Philips	
	M74HC154	SGS-Thomson	105
	SN74HC154	TI	
	US74HC154	Universal	
HCT	CD54HCT154	† Harris	
	CD74HCT154	Harris	
	74HCT154	Philips	110
8-Line to 3-Line Priority Encoders			
HC	M74HC148	Mitsubishi	
	M74HC148	SGS-Thomson	
	SN54HC148	† TI	
	TC74HC148A	**Toshiba (3836)**	
HCTLS	**54HCTLS148**	**‡ Ideal Semi (3643)**	115
	74HCTLS148	**‡ Ideal Semi (3643)**	
8-Line to 8-Line Priority Encoder			
HC	MM54HC149	† National	
	MM74HC149	National	
HCT	MM54HCT149	† National	
	MM74HCT149	National	120
10-Line to 4-Line Priority Encoder			
HC	CD54HC147	† Harris	
	CD74HC147	Harris	
	HCTS147MS	‡ Harris	
	MC54HC147	† Motorola	
	MC74HC147	Motorola	125
	74HC147	Philips	
	M74HC147	SGS-Thomson	
HCT	CD54HCT147	† Harris	
	CD74HCT147	Harris	
	74HCT147	Philips	130

Function	Device	Source	Line
10-Line Decimal to 4-Line BCD Priority Encoder			
HC	M74HC147	Mitsubishi	
Delay Lines			
Delay Line, Adjustable (5 ns to 400 ns; 5 taps: 20, 40, 60, 80, 100% of Full-Scale Delay)	BT630	Brooktree	
Delay Line, Programmable 8-Bit (0.25 ns steps)	**DS1020-025**	**Dallas (3566)**	
Delay Line, Programmable 8-Bit (0.50 ns steps)	**DS1020-050**	**Dallas (3566)**	
Delay Line, Programmable 8-Bit (2 ns steps)	**DS1020-200**	**Dallas (3566)**	135
Delay Line (three independent 12 ns delays)	**DS1013-12**	**Dallas (3566)**	
Delay Line (three independent 35 ns delays)	**DS1013-35**	**Dallas (3566)**	
Delay Line (three independent 45 ns delays)	**DS1013-45**	**Dallas (3566)**	
Delay Line (three independent 65 ns delays)	**DS1013-65**	**Dallas (3566)**	
Delay Line (three independent 150 ns delays)	**DS1013-150**	**Dallas (3566)**	140
Delay Line (three independent 200 ns delays)	**DS1013-200**	**Dallas (3566)**	
Delay Line (three independent 10 ns delays)	**DS1013-10**	**Dallas (3566)**	
Delay Line (three independent 100 ns delays)	**DS1013-100**	**Dallas (3566)**	
Delay Line (three independent 15 ns delays)	**DS1013-15**	**Dallas (3566)**	
Delay Line (three independent 20 ns delays)	**DS1013-20**	**Dallas (3566)**	145
Delay Line (three independent 25 ns delays)	**DS1013-25**	**Dallas (3566)**	
Delay Line (three independent 30 ns delays)	**DS1013-30**	**Dallas (3566)**	
Delay Line (three independent 40 ns delays)	**DS1013-40**	**Dallas (3566)**	
Delay Line (three independent 50 ns delays)	**DS1013-50**	**Dallas (3566)**	
Delay Line (three independent 60 ns delays)	**DS1013-60**	**Dallas (3566)**	150
Delay Line (three independent 70 ns delays)	**DS1013-70**	**Dallas (3566)**	
Delay Line (three independent 75 nanosecond delays)	**DS1013-75**	**Dallas (3566)**	
Delay Line (three independent 80 ns delays)	**DS1013-80**	**Dallas (3566)**	
Delay Line (three independent 90 ns delays)	**DS1013-90**	**Dallas (3566)**	
Delay Line, Voltage Compensated (4-tap)	**DS1003**	**Dallas (3566)**	155
Delay Line (2 independent taps: 10 ns each)	MDU28C-10	Data Delay	
Delay Line (2 independent taps: 100 ns each)	MDU28C-100	Data Delay	
Delay Line (2 independent taps: 12 ns each)	MDU28C-12	Data Delay	
Delay Line (2 independent taps: 16 ns each)	MDU28C-16	Data Delay	
Delay Line (2 independent taps: 20 ns each)	MDU28C-20	Data Delay	160
Delay Line (2 independent taps: 30 ns each)	MDU28C-30	Data Delay	
Delay Line (2 independent taps: 35 ns each)	MDU28C-35	Data Delay	
Delay Line (2 independent taps: 40 ns each)	MDU28C-40	Data Delay	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source
Delay Lines (Cont'd)		
Delay Line (2 independent taps: 45 ns each)	MDU28C-45	Data Delay
Delay Line (2 independent taps: 50 ns each)	MDU28C-50	Data Delay
Delay Line (2 independent taps: 60 ns each)	MDU28C-60	Data Delay
Delay Line (2 independent taps: 75 ns each)	MDU28C-75	Data Delay
Delay Line (3 independent taps: 10 ns each)	MDU3C-10	Data Delay
Delay Line (3 independent taps: 100 ns each)	MDU3C-100	Data Delay
Delay Line (3 independent taps: 15 ns each)	MDU3C-15	Data Delay
Delay Line (3 independent taps: 20 ns each)	MDU3C-20	Data Delay
Delay Line (3 independent taps: 25 ns each)	MDU3C-25	Data Delay
Delay Line (3 independent taps: 30 ns each)	MDU3C-30	Data Delay
Delay Line (3 independent taps: 40 ns each)	MDU3C-40	Data Delay
Delay Line (3 independent taps: 50 ns each)	MDU3C-50	Data Delay
Delay Line (3 independent taps: 60 ns each)	MDU3C-60	Data Delay
Delay Line (3 independent taps: 75 ns each)	MDU3C-75	Data Delay
Delay Line, 3-Bit Programmable (5 ns steps)	TK16100	Toko
Delay Line, 5 Taps	**DS1000**	**Dallas** (3566)
Delay Line (5 taps: 10 ns each)	DDU222C-50	Data Delay
	DDU66C-50	Data Delay
	DDU8C5050	Data Delay
	SMD99C5050	Data Delay
	3D7005-50	**Data Delay** (3567)
Delay Line (5 taps: 100 ns each)	DDU4C5100	Data Delay
	3D7005-500	**Data Delay** (3567)
Delay Line (5 taps: 100,200,300,400 and 500 ns)	**DS1005-500**	**Dallas** (3566)
Delay Line (5 taps: 12 ns each)	DDU222C-60	Data Delay
	DDU66C-60	Data Delay
	DDU8C5060	Data Delay
	SMD99C5060	Data Delay
	3D7005-60	**Data Delay** (3567)
Delay Line (5 taps: 125 ns each)	DDU4C5125	Data Delay
Delay Line (5 taps: 15 ns each)	DDU222C-75	Data Delay
	DDU66C-75	Data Delay
	DDU8C5075	Data Delay
	SMD99C5075	Data Delay
	3D7005-75	**Data Delay** (3567)
Delay Line (5 taps: 150 ns each)	DDU4C5150	Data Delay
Delay Line (5 taps: 16 ns each)	**3D7005-80**	**Data Delay** (3567)
Delay Line (5 taps: 175 ns each)	DDU4C5175	Data Delay
Delay Line (5 taps: 2.5 ns each)	DDU222C-10	Data Delay
	DDU66C-10	Data Delay
Delay Line (5 taps: 20 ns each)	DDU222C-100	Data Delay
	DDU66C-100	Data Delay
	DDU8C5100	Data Delay
	SMD99C5100	Data Delay
	3D7005-100	**Data Delay** (3567)
Delay Line (5 taps: 200 ns each)	DDU4C5200	Data Delay
	DDU4C5250	Data Delay
Delay Line (5 taps: 25 ns each)	DDU222C-125	Data Delay
	DDU66C-125	Data Delay
	DDU8C5125	Data Delay
	SMD99C5125	Data Delay
	3D7005-125	**Data Delay** (3567)
Delay Line (5 taps: 30 ns each)	DDU222C-150	Data Delay
	DDU66C-150	Data Delay
	DDU8C5150	Data Delay
	SMD99C5150	Data Delay
	3D7005-150	**Data Delay** (3567)
Delay Line (5 taps: 300 ns each)	DDU4C5300	Data Delay
Delay Line (5 taps: 35 ns each)	DDU222C-175	Data Delay
	DDU66C-175	Data Delay
	DDU8C5175	Data Delay
	SMD99C5175	Data Delay
Delay Line (5 taps: 40 ns each)	DDU222C-200	Data Delay
	DDU66C-200	Data Delay
	DDU8C5200	Data Delay
	SMD99C5200	Data Delay
	3D7005-200	**Data Delay** (3567)
Delay Line (5 taps: 400 ns each)	DDU4C5400	Data Delay
Delay Line (5 taps: 45 ns each)	**3D7005-225**	**Data Delay** (3567)
Delay Line (5 taps: 5 ns each)	DDU222C-20	Data Delay
	DDU66C-20	Data Delay
	3D7005-25	**Data Delay** (3567)
Delay Line (5 taps: 50 ns each)	DDU222C-250	Data Delay
	DDU4C5050	Data Delay
	DDU66C-250	Data Delay
	DDU8C5250	Data Delay
	SMD99C5250	Data Delay
	3D7005-250	**Data Delay** (3567)
Delay Line (5 taps: 500 ns each)	DDU4C5500	Data Delay
Delay Line (5 taps: 6 ns each)	DDU222C-30	Data Delay
	DDU66C-30	Data Delay
	3D7005-30	**Data Delay** (3567)
Delay Line (5 taps: 60 ns each)	DDU4C5060	Data Delay
	3D7005-300	**Data Delay** (3567)
Delay Line (5 taps: 7 ns each)	**3D7005-35**	**Data Delay** (3567)
Delay Line (5 taps: 75 ns each)	DDU4C5075	Data Delay
Delay Line (5 taps: 8 ns each)	**3D7005-40**	**Data Delay** (3567)
Delay Line (5 taps: 80 ns each)	**3D7005-400**	**Data Delay** (3567)
Delay Line (5 taps: 9 ns each)	**3D7005-45**	**Data Delay** (3567)
Delay Line (5 taps 10, 20, 30, 40, and 50 ns)	**DS1005-50**	**Dallas** (3566)
Delay Line (5 taps 100, 200, 300, 400, and 500 ns)	**DS1000-500**	**Dallas** (3566)
Delay Line (5 taps 12, 24, 36, 48, and 60 ns)	**DS1005-60**	**Dallas** (3566)
Delay Line, 5 Taps, 2 to 5 ns Tap-to-Tap Increments	**DS1004**	**Dallas** (3566)
Delay Line, 6 to 50 ns Delays	**DS1035**	**Dallas** (3566)
Delay Line, 8 to 50 ns Delays	**DS1033**	ℓ **Dallas** (3566)
Delay Line (10 taps: 10 ns each)	DDU7C100	Data Delay
	3D7010-100	**Data Delay** (3567)
Delay Line (10 taps: 12.5 ns each)	**3D7010-125**	**Data Delay** (3567)
Delay Line (10 taps: 15 ns each)	DDU7C150	Data Delay
	3D7010-150	**Data Delay** (3567)
Delay Line (10 taps: 17.5 ns each)	**3D7010-175**	**Data Delay** (3567)
Delay Line (10 taps: 2.5 ns each)	DDU7C25	Data Delay
Delay Line (10 taps: 20 ns each)	DDU7C200	Data Delay
	3D7010-200	**Data Delay** (3567)
Delay Line (10 taps: 25 ns each)	DDU7C250	Data Delay
	3D7010-250	**Data Delay** (3567)
Delay Line (10 taps: 30 ns each)	DDU7C300	Data Delay
	3D7010-300	**Data Delay** (3567)
Delay Line (10 taps: 40 ns each)	DDU7C400	Data Delay
	3D7010-400	**Data Delay** (3567)
Delay Line (10 taps: 45 ns each)	**3D7010-450**	**Data Delay** (3567)
Delay Line (10 taps: 5 ns each)	**3D7010-50**	**Data Delay** (3567)
Delay Line (10 taps: 50 ns each)	DDU7C500	Data Delay
	3D7010-500	**Data Delay** (3567)
Delay Line (10 taps: 6 ns each)	**3D7010-60**	**Data Delay** (3567)
Delay Line (10 taps: 7.5 ns each)	**3D7010-75**	**Data Delay** (3567)
Delay Line (10 taps: 8 ns each)	**3D7010-80**	**Data Delay** (3567)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Delay Lines (Cont'd)			
Delay Line (10 taps: 9 ns each)			
	3D7010-90	**Data Delay (3567)**	
Delay Line (10 taps: 10 ns each)			
	DS1010-100	**Dallas (3566)**	
Delay Line (10 taps: 12.5 ns each)			
	DS1010-125	**Dallas (3566)**	
Delay Line (10 taps: 15 ns each)			
	DS1010-150	**Dallas (3566)**	
Delay Line (10 taps: 17.5 ns each)			
	DS1010-175	**Dallas (3566)**	5
Delay Line (10 taps: 20 ns each)			
	DS1010-200	**Dallas (3566)**	
Delay Line (10 taps: 25 ns each)			
	DS1010-250	**Dallas (3566)**	
Delay Line (10 taps: 30 ns each)			
	DS1010-300	**Dallas (3566)**	
Delay Line (10 taps: 35 ns each)			
	DS1010-350	**Dallas (3566)**	
Delay Line (10 taps: 40 ns each)			
	DS1010-400	**Dallas (3566)**	10
Delay Line (10 taps: 45 ns each)			
	DS1010-450	**Dallas (3566)**	
Delay Line (10 taps: 5 ns each)			
	DS1010-50	**Dallas (3566)**	
Delay Line (10 taps: 50 ns each)			
	DS1010-500	**Dallas (3566)**	
Delay Line (10 taps: 6 ns each)			
	DS1010-60	ℓ **Dallas (3566)**	
Delay Line (10 taps: 7.5 ns each)			
	DS1010-75	**Dallas (3566)**	15
Delay Line (10 taps: 8 ns each)			
	DS1010-80	**Dallas (3566)**	
Delay Line 2-in-1 (independent delays to outputs)			
	DS1012-D16	**Dallas (3566)**	
	DS1012-D20	**Dallas (3566)**	
	DS1012-D25	**Dallas (3566)**	
	DS1012-D33	**Dallas (3566)**	20
	DS1012-D50	**Dallas (3566)**	
	DS1012-V40	**Dallas (3566)**	
	DS1012-V50	**Dallas (3566)**	
	DS1012-V60	**Dallas (3566)**	
	DS1012-1	**Dallas (3566)**	25
	DS1012-2	**Dallas (3566)**	
	DS1012-3	**Dallas (3566)**	
	DS1012-4	**Dallas (3566)**	
	DS1012-5	**Dallas (3566)**	
	DS1012-7	**Dallas (3566)**	30
Delay Line (4 taps:6,4.5,9, and 4.5 ns)			
	DS1003-33	**Dallas (3566)**	
Delay Line (4 taps:6,4,8, and 4 ns)			
	DS1003-40	**Dallas (3566)**	
Delay Line (4 taps:8,6,12, and 6 ns)			
	DS1003-25	**Dallas (3566)**	
Delay Line (4 taps:8,6,14, and 8 ns)			
	DS1003-20	**Dallas (3566)**	
Delay Line (4 taps:8,6,16, and 10 ns)			
	DS1003-16	**Dallas (3566)**	35
Delay Line (5 taps: 12,24,36,48 and 60 ns)			
	DS1000-60	**Dallas (3566)**	
Delay Line (5 taps: 15,30,45,60 and 75 ns)			
	DS1000-75	**Dallas (3566)**	
	DS1005-75	**Dallas (3566)**	
Delay Line (5 taps: 20,40,60,80 and 100 ns)			
	DS1000-100	**Dallas (3566)**	
	DS1005-100	**Dallas (3566)**	40
Delay Line (5 taps: 25,50,75,100 and 125 ns)			
	DS1000-125	**Dallas (3566)**	
	DS1005-125	**Dallas (3566)**	

Function	Device	Source	Line
Delay Line (5 taps: 30,60,90,120 and 150 ns)			
	DS1000-150	**Dallas (3566)**	
	DS1005-150	**Dallas (3566)**	
Delay Line (5 taps: 35,70,105,140 and 175)			
	DS1000-175	**Dallas (3566)**	45
	DS1005-175	**Dallas (3566)**	
Delay Line (5 taps: 40,80,120,160 and 200 ns)			
	DS1000-200	**Dallas (3566)**	
	DS1005-200	**Dallas (3566)**	
Delay Line (5 taps: 50,100,150,200 and 250 ns)			
	DS1000-250	**Dallas (3566)**	
	DS1005-250	**Dallas (3566)**	50
Delay Line (5 taps: 70,140,210,280 and 350 ns)			
	DS1000-350	**Dallas (3566)**	
Delay Line (5 taps: 90,180,270,360 and 450 ns)			
	DS1000-450	**Dallas (3566)**	
Delay Line (5 taps:10,20,30,40 and 50 ns)			
	DS1000-50	**Dallas (3566)**	
Delay Line (5 taps:4,8,12,16 and 20 ns)			
	DS1000-20	**Dallas (3566)**	
Delay Line (5 taps:5,10,15,20 and 25 ns)			
	DS1000-25	**Dallas (3566)**	55
Delay Line (5 taps:6,12,18,24 and 30 ns)			
	DS1000-30	**Dallas (3566)**	
Delay Line (5 taps:7,14,21,28 and 35 ns)			
	DS1000-35	**Dallas (3566)**	
Delay Line (5 taps:8,16,24,32 and 40 ns)			
	DS1000-40	**Dallas (3566)**	
Delay Line (5 taps:9,18,27,36 and 45 ns)			
	DS1000-45	**Dallas (3566)**	
Delay Line (7 taps: 10,10,10,10,40,40, and 40 ns)			
	DS1007-10	**Dallas (3566)**	60
Delay Line (7 taps: 3,3,3,3,10,10, and 10 ns)			
	DS1007-3	**Dallas (3566)**	
Delay Line (7 taps: 3,4,5,6,9,13, and 18 ns)			
	DS1007-1	**Dallas (3566)**	
Delay Line (7 taps: 3,4,6,8,10,12 and 14 ns)			
	DS1007-11	**Dallas (3566)**	
Delay Line (7 taps: 3,4,6,8,10,15 and 20 ns)			
	DS1007-12	**Dallas (3566)**	
Delay Line (7 taps: 3,4,6,8,12,15 and 20 ns)			
	DS1007-13	**Dallas (3566)**	65
Delay Line (7 taps: 4,4,4,4,12,12, and 12 ns)			
	DS1007-4	**Dallas (3566)**	
Delay Line (7 taps: 4,6,8,10,12,14, and 16 ns)			
	DS1007-2	**Dallas (3566)**	
Delay Line (7 taps: 5,5,5,5,15,15, and 15 ns)			
	DS1007-5	**Dallas (3566)**	
Delay Line (7 taps: 6,6,6,6,20,20, and 20 ns)			
	DS1007-6	**Dallas (3566)**	
Delay Line (7 taps: 7,7,7,7,25,25, and 25 ns)			
	DS1007-7	**Dallas (3566)**	70
Delay Line (7 taps: 7,7,7,7,9,9 and 9 ns)			
	DS1007-14	**Dallas (3566)**	
Delay Line (7 taps: 8,8,8,8,30,30, and 30 ns)			
	DS1007-8	**Dallas (3566)**	
Delay Line (7 taps: 9,9,9,9,35,35, and 35 ns)			
	DS1007-9	**Dallas (3566)**	
Delay Line (7-in-1, custom set at factory)			
	DS1007	**Dallas (3566)**	
Delay Line, 8-Bit Programmable (0.25 ns steps)			
	DS1020-25	**Dallas (3566)**	75
Delay Line, 8-Bit Programmable (0.5 ns steps)			
	DS1020-50	**Dallas (3566)**	
Delay Line, 8-Bit Programmable (1 ns steps)			
	DS1020-100	**Dallas (3566)**	
Programmable Delay Line, 4-Bit Dual			
	DS1045	**Dallas (3566)**	

Function	Device	Source	Line
Programmable Length Delay Line			
	IMSA113	SGS-Thomson	
Programmable Pulse Generator (for delay lines)			
	DS1040	**Dallas (3566)**	80
Drivers			
Clock Driver			
AC	54AC2525	† National	
	54AC2526	† National	
	74AC2525	National	
	74AC2526	National	
Display Driver (50 V high voltage, LCD)			
	MIC8030	Micrel	85
Display Driver (100 V high voltage LCD)			
	MIC8031	Micrel	
LCD, Dot Matrix	HC0538A	Hughes	
	HC0539A	Hughes	
	HC0540	Hughes	
	HC0550	Hughes	90
	HC0551	Hughes	
	HC0607	Hughes	
LCD, BCD-to-7-Segment Decoder/Driver with "Display Frequency Output"			
4XXX	CD4055B	† Harris	
	CD4056B	† Harris	
	HCC4055B	† SGS-Thomson	95
	HCC4056B	† SGS-Thomson	
	HCF4055B	SGS-Thomson	
	HCF4056B	SGS-Thomson	
	TC4055B	**Toshiba (3838)**	
	TC4056B	**Toshiba (3838)**	100
LCD, BCD-to-7-Segment Latch/Decoder/Driver			
HC	CD54HC4543	† Harris	
	CD74HC4543	Harris	
	74HC4543	Philips	
	M74HC4543	SGS-Thomson	
	TC74HC4543A	Toshiba	105
HCT	CD54HCT4543	† Harris	
	CD74HCT4543	Harris	
	74HCT4543	Philips	
4XXX	MC14543BC	Motorola	
	CD4543BC	National	110
	CD4543BM	† National	
	HEF4543B	Philips	
	BCL4543B	R&E Intl	
	SCL4543B	R&E Intl	
	TC4543B	**Toshiba (3838)**	115
LCD, 4-Digit, Multiplexed BCD to LCD Decoder/Driver, AC Drive	ICM7211	Harris	
	ICM7211A	Harris	
LCD, 4-Digit Serial Input			
	HC0438A	Hughes	
LCD, 4-Line			
4XXX	CD4054B	† Harris	
	HCC4054B	† SGS-Thomson	120
	HCF4054B	SGS-Thomson	
	TC4054B	**Toshiba (3838)**	
LED, 4-Digit Multiplexed BCD or Binary to 7-Segment Decoder/Driver	ICM7212	Maxim	
	ICM7212A	Maxim	
LED, 4-Digit BCD or Binary to 7-Segment Decoder/Driver, Data and Digit Select Input Latches for µP Interface	ICM7212A	Harris	125
LED, 4-Digit, 17-Segment Alphanumeric Display with Memory, Decoder			
C	MM74C956	National	
BCD (hexadecimal) to 7-Segment Latch/Decoder/Driver			
4XXX	MC14495	Motorola	
BCD-to-7-Segment Latch/Decoder/Driver			
HC	CD54HC4511	† Harris	
	CD74HC4511	Harris	
	MC54HC4511	† Motorola	130
	MC74HC4511	Motorola	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Drivers (Cont'd)

Function	Device	Source	Line
BCD-to-7-Segment Latch/Decoder/Driver			
HC (Cont'd)	MM54HC4511	† National	
	MM74HC4511	National	
	74HC4511	Philips	
	M74HC4511	SGS-Thomson	
	TC74HC4511A	**Toshiba (3836)**	5
HCT	CD54HCT4511	† Harris	
	CD74HCT4511	Harris	
	74HCT4511	Philips	
4XXX	GD4511B	† GoldStar	
	CD4511B	† Harris	10
	MC14511BC	Motorola	
	MC14513BC	Motorola	
	CD4511BC	National	
	CD4511BM	† National	
	HEF4511B	Philips	15
	BCL4511B	R&E Intl	
	SCL4511B	R&E Intl	
	HCC4511B	† SGS-Thomson	
	HCF4511B	SGS-Thomson	
	TC4511B	**Toshiba (3838)**	20
5XXX	**TC5068B**	**Toshiba (3838)**	
	TC5069B	**Toshiba (3838)**	
BCD-to-7-Segment Latch/Decoder/LCD Driver			
HC	MM54HC4543	† National	
	MM74HC4543	National	
Dual High Voltage, Source 250 mA			
C	MM74C908	National	25
	MM74C918	National	
Dual 1-Line to 4-Line Clock Driver, Three-State			
AC	74AC11208	Philips	
	54AC11208	† TI	
	74AC11208	° TI	
ACT	54ACT11208	TI	30
	74ACT11208	° TI	
Triple 4-Input AND/NAND Drivers			
AC	74AC11800	TI	
ACT	74ACT11800	TI	
Triple 4-Input OR/NOR Line Driver			
AC	74AC11802	TI	
ACT	74ACT11802	TI	35
Hex			
HC	SN54HC367	† TI	
Hex Inverting Clock Driver/Buffers			
AC	74AC11204	TI	
Hex 2-Input AND Driver			
HC	SN74HC808	TI	
Hex 2-Input NAND Driver			
HC	SN74HC804	TI	
Hex 2-Input NOR Driver			
HC	SN74HC805	TI	40
Hex 2-Input OR Driver			
HC	SN74HC832	TI	
Octal Buffer/Line Driver			
AC	SN54AC11240	°† TI	
	SN54AC11241	°† TI	
	SN54AC11244	°† TI	
	54AC11241	† TI	45
	54AC11244	† TI	
ACT	SN54ACT11240	°† TI	
	SN54ACT11241	°† TI	
	SN54ACT11244	°† TI	
	54ACT11241	† TI	50
	54ACT11244	† TI	
4-Digit Display (stores segment and address data, drives 7–8 segment digits)			
C	MM74C911	National	
6-Digit BCD Display (stores segment and address data, drives 7–8 segment digits)			
C	MM74C912	National	

Function	Device	Source	Line
6-Digit Hex Display (stores segment and address data, drives 7-segment digits)			
C	MM74C917	National	
7-Segment to BCD Converter/Driver			
C	MM74C915	National	55
10-Bit Buffer/Driver, Three-State, Non-Inverting			
AC	74AC11827	TI	

Flip-Flops, D-Type

Function	Device	Source	Line
Digital, CMOS, Phase Lock Loop			
AC	CD74AC297	Harris	
ACT	CD74ACT297	Harris	
Single	TC7W74F	Toshiba	
Dual			
AC	ACTS74MS	‡ Harris	60
	CD54AC74	°† Harris	
	CD74AC74	° Harris	
	MC74AC74	Motorola	
	54AC74	°† National	
	74AC74	° National	65
	SN54AC11074	°† TI	
	54AC11074	† TI	
	74AC11074	° TI	
	TC74AC74	**Toshiba (3836)**	
ACT	CD54ACT74	°† Harris	70
	CD74ACT74	° Harris	
	MC74ACT74	Motorola	
	54ACT74	† National	
	74ACT74	National	
	SN54ACT11074	°† TI	75
	54ACT11074	† TI	
	74ACT11074	° TI	
AHCT	**54AHCT74**	**‡ Ideal Semi (3644)**	
	74AHCT74	**‡ Ideal Semi (3644)**	
C	MM54C74	† National	80
	MM74C74	National	
HC	GD54HC74	† GoldStar	
	GD74HC74	GoldStar	
	CD54HC74	°† Harris	
	CD74HC74	° Harris	85
	HCS74MS	‡ Harris	
	HCTS74MS	‡ Harris	
	M74HC74	Mitsubishi	
	MC54HC74A	† Motorola	
	MC74HC74A	Motorola	90
	MM54HC74	† National	
	MM74HC74	National	
	74HC74	° Philips	
	M74HC74	SGS-Thomson	
	SN54HC74	† TI	95
	SN74HC74	TI	
	TC74HC74A	**Toshiba (3836)**	
HCMOS	74LV74	ℓ Philips	
HCT	GD54HCT74	† GoldStar	
	GD74HCT74	GoldStar	100
	CD54HCT74	°† Harris	
	CD74HCT74	° Harris	
	54HCTLS74A	**‡ Ideal Semi (3643)**	
	74HCTLS74A	**‡ Ideal Semi (3643)**	
	MM54HCT74	† National	105
	MM74HCT74	National	
	74HCT74	° Philips	
	54HCT74	Rochester	
	M74HCT74	SGS-Thomson	
	SN74HCT74	TI	110
	TC74HCT74A	**Toshiba (3836)**	
LV	SN74LV74	ℓ TI	
LVC	74LVC74	ℓ Philips	
	SN74LVC74	ℓ TI	
LVQ	**TC74LVQ74**	**ℓ Toshiba (3837)**	115
LVX	**TC74LVX74**	**ℓ Toshiba (3837)**	

(Continued)

Function	Device	Source	Line
Dual (Cont'd)			
VHC	**TC74VHC74**	**Toshiba (3837)**	
VHCT	**TC74VHCT74**	**Toshiba (3837)**	
4XXX	GD4013B	‡ GoldStar	
	CD4013B	‡ Harris	120
	CD4013A	‡ Micrel	
	CD4013B	‡ Micrel	
	MC14013BA	† Motorola	
	MC14013BC	Motorola	
	CD4013BC	National	125
	CD4013BM	† National	
	HEF4013B	Philips	
	BCL4013B	R&E Intl	
	SCL4013B	R&E Intl	
	HCC4013B	† SGS-Thomson	130
	HCF4013B	SGS-Thomson	
	TC4013B	**Toshiba (3838)**	
Dual D-F/F w/Preset and Clear			
ACT	**TC74ACT74**	**Toshiba (3836)**	
Dual D-Type	NJU4013B	NJR	
4XXX	BU4013B	ROHM	135
Dual D-Type with Set and Reset (LSTTL compatible inputs)			
HCT	MC74HCT74A	Motorola	
Dual with Set/Reset			
4XXX	CD4013A	† Harris	
Dual with Set/Reset, Positive-Edge Triggered			
AC	74AC11074	Philips	
Dual Octal Three-State, True			
ALVC	74ALVC16374	ℓ Philips	
Dual 4-Bit			
ACT	54ACT11874	† TI	140
	74ACT11874	TI	
Dual 4-Bit Edge-Triggered, True			
AC	54AC11874	† TI	
	74AC11874	TI	
Quad	SN74175	TI	
AC	CD74AC175	° Harris	145
	54AC175	† National	
	74AC175	National	
	54AC11175	† TI	
	74AC11175	TI	
	TC74AC175	**Toshiba (3836)**	150
ACT	CD74ACT175	° Harris	
	54ACT175	† National	
	74ACT175	National	
	54ACT11175	† TI	
	74ACT11175	TI	155
	TC74ACT175	**Toshiba (3836)**	
AHCT	**54AHCT175**	**‡ Ideal Semi (3644)**	
	74AHCT175	**‡ Ideal Semi (3644)**	
C	MM54C175	‡ Micrel	
	MM54C175	† National	160
	MM74C175	National	
HC	GD54HC175	† GoldStar	
	GD74HC175	GoldStar	
	CD54HC175	°† Harris	
	CD74HC175	° Harris	165
	MC54HC175	† Motorola	
	MC74HC175	Motorola	
	MM54HC175	† National	
	MM74HC175	National	
	74HC175	° Philips	170
	M74HC175	SGS-Thomson	
	SN54HC175	† TI	
	SN74HC175	TI	
	TC74HC175A	**Toshiba (3836)**	
	US74HC175	Universal	175
HCT	GD54HCT175	† GoldStar	
	GD74HCT175	GoldStar	
	CD54HCT175	°† Harris	
	CD74HCT175	° Harris	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Flip-Flops, D-Type (Cont'd)

Function	Device	Source	Line
Quad			
HCT		(Cont'd)	
	54HCTLS175	**‡ Ideal Semi (3643)**	
	74HCTLS175	**‡ Ideal Semi (3643)**	
	74HCT175	° Philips	
VHC	**TC74VHC175**	**Toshiba (3837)**	
4XXX	GD40175B	GoldStar	5
	CD40175B	† Harris	
	MC14175BC	Motorola	
	CD40175B	National	
	HEF40175B	Philips	
	TC40175B	**Toshiba (3838)**	10
Quad with Enable			
AC	74AC11379	Philips	
	54AC11379	† TI	
	74AC11379	TI	
ACT	54ACT11379	† TI	
	74ACT11379	TI	15
HC	SN54HC379	† TI	
	SN74HC379	TI	
Quad with Reset, Positive-Edge Triggered			
AC	74AC11175	Philips	
Quad Three-State			
AHCT	**54AHCT173**	**‡ Ideal Semi (3644)**	
	74AHCT173	**‡ Ideal Semi (3644)**	20
C	MM54C173	‡ Micrel	
	MM54C173	† National	
	MM74C173	National	
Cell	SN74173-Cell	TI	
HC	GD54HC173	† GoldStar	25
	GD74HC173	GoldStar	
	CD54HC173	† Harris	
	CD74HC173	Harris	
	MC54HC173	† Motorola	
	MC74HC173	Motorola	30
	MM54HC173	† National	
	MM74HC173	National	
	74HC173	Philips	
	54HC173	† Rochester	
	M74HC173	SGS-Thomson	35
	SN54HC173	† TI	
	SN74HC173	TI	
	TC74HC173A	**Toshiba (3836)**	
	US74HC173	Universal	
HCT	GD54HCT173	† GoldStar	40
	GD74HCT173	GoldStar	
	CD54HCT173	† Harris	
	CD74HCT173	Harris	
	74HCT173	Philips	
4XXX	CD4076B	† Harris	45
	CD4076B	‡ Micrel	
	MC14076BC	Motorola	
	CD4076BC	National	
	CD4076BM	† National	
	HEF4076B	Philips	50
	BCL4076B	R&E Intl	
	SCL4076B	R&E Intl	
	HCC4076B	† SGS-Thomson	
	HCF4076B	SGS-Thomson	
	TC4076B	**Toshiba (3838)**	55
Hex			
AC	CD54AC174	°† Harris	
	CD74AC174	° Harris	
	MC74AC174	Motorola	
	54AC174	† National	
	74AC174	† National	60
	74AC11174	Philips	
	54AC11174	TI	

(Continued)

Function	Device	Source	Line
Hex			
AC		(Cont'd)	
	74AC11174	TI	
	TC74AC174	**† Toshiba (3836)**	
ACT	CD54ACT174	°† Harris	65
	CD74ACT174	° Harris	
	MC74ACT174	Motorola	
	54ACT174	† National	
	74ACT174	† National	
	54ACT11174	† TI	70
	74ACT11174	TI	
	TC74ACT174	**Toshiba (3836)**	
AHCT	**54AHCT174**	**‡ Ideal Semi (3644)**	
	74AHCT174	**‡ Ideal Semi (3644)**	
C	MM54C174	‡ Micrel	75
	MM54C174	† National	
	MM74C174	National	
HC	GD54HC174	† GoldStar	
	GD74HC174	GoldStar	
	CD54HC174	°† Harris	80
	CD74HC174	° Harris	
	MC54HC174A	† Motorola	
	MC74HC174A	Motorola	
	MM54HC174	† National	
	MM74HC174	National	85
	74HC174	† Philips	
	M74HC174	† SGS-Thomson	
	SN54HC174	† TI	
	SN74HC174	TI	
	SN74174	TI	90
	TC74HC174A	**Toshiba (3836)**	
	US74HC174	† Universal	
HCMOS	74LV174	ℓ Philips	
HCT	GD54HCT174	† GoldStar	
	GD74HCT174	† GoldStar	95
	CD54HCT174	°† Harris	
	CD74HCT174	° Harris	
	54HCTLS174	**‡ Ideal Semi (3643)**	
	74HCTLS174	**‡ Ideal Semi (3643)**	
	MC54HCT174A	† Motorola	100
	MC74HCT174A	Motorola	
	74HCT174	° Philips	
	TC74HCT174A	Toshiba	
LV	SN74LV174	ℓ TI	
LVQ	**TC74LVQ174**	**ℓ Toshiba (3837)**	105
LVX	**TC74LVX174**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC174**	**Toshiba (3837)**	
4XXX	GD40174B	GoldStar	
	CD40174B	† Harris	
	CD40174B	‡ Micrel	110
	MC14174BC	Motorola	
	CD40174BC	National	
	CD40174BM	† National	
	HEF40174B	Philips	
	BCL4174B	R&E Intl	115
	SCL4174B	R&E Intl	
	HCC40174B	† SGS-Thomson	
	HCF40174B	SGS-Thomson	
	TC40174B	Toshiba	
Hex with Enable			
AC	74AC11378	Philips	120
	54AC11378	† TI	
	74AC11378	TI	
ACT	54ACT11378	† TI	
	74ACT11378	TI	
HC	SN54HC378	°† TI	125
	SN74HC378	° TI	
Octal			
AC	MC74AC273	Motorola	
	MC74AC374	Motorola	
	MC74AC377	Motorola	
	MC74AC534	Motorola	130

(Continued)

Function	Device	Source	Line
Octal			
AC		(Cont'd)	
	MC74AC564	Motorola	
	MC74AC574	Motorola	
	SN54AC11374	°† TI	
	SN54AC11534	°† TI	
	54AC11374	† TI	135
	54AC11534	† TI	
	TC74AC377	**Toshiba (3836)**	
ACT	MC74ACT273	Motorola	
	MC74ACT374	Motorola	
	MC74ACT534	Motorola	140
	MC74ACT564	Motorola	
	MC74ACT574	Motorola	
	MC74ACT825	Motorola	
	SN54ACT11374	°† TI	
	SN54ACT11534	°† TI	145
	54ACT11374	† TI	
	54ACT11534	† TI	
	TC74ACT374	**Toshiba (3836)**	
	TC74ACT377	**Toshiba (3836)**	
	TC74ACT534	**Toshiba (3836)**	150
	TC74ACT564	**Toshiba (3836)**	
	TC74ACT574	**Toshiba (3836)**	
HC	M74HC374-1	Mitsubishi	
	M74HC534-1	Mitsubishi	
	M74HC377	SGS-Thomson	155
HCT	M74HCT374-1	Mitsubishi	
	M74HCT534-1	Mitsubishi	
	M74HCT564	SGS-Thomson	
	M74HCT574	SGS-Thomson	
	TC74HCT534A	**Toshiba (3836)**	160
Octal Bus Transceiver/Register/Three-State			
	CD74FCT646AT	Harris	
Octal D-FF/Pos Edge/Reset/Three-State			
	CD74FCT273AT	Harris	
Octal D-FF/Pos Edge Trigger/Three State			
	CD74FCT374AT	Harris	
Octal D-FF/Pos Edge/Three-State			
	CD74FCT574AT	Harris	
Octal Edge-Triggered with Clear			
AC	CD54AC273	† Harris	165
	CD74AC273	° Harris	
	54AC273	† National	
	74AC273	National	
	54AC11273	† TI	
	74AC11273	TI	170
	TC74AC273	**Toshiba (3836)**	
ACQ	54ACQ273	† National	
	74ACQ273	National	
ACT	CD54ACT273	°† Harris	
	CD74ACT273	° Harris	175
	54ACT273	† National	
	74ACT273	National	
	54ACT11273	† TI	
	74ACT11273	TI	
	TC74ACT273	**Toshiba (3836)**	180
ACTQ	54ACTQ273	† National	
	74ACTQ273	National	
AHCT	**54AHCT273**	**‡ Ideal Semi (3644)**	
	74AHCT273	‡ Ideal Semi	
Cell	SN74273-Cell	TI	185
FCT	CD54FCT273	† Harris	
	CD74FCT273	Harris	
	IDT54FCT273	°† IDT	
	IDT54FCT273A	°† IDT	
	IDT54FCT273AT	°† IDT	190
	IDT54FCT273C	°‡ IDT	
	IDT54FCT273CT	† IDT	
	IDT54FCT273T	°† IDT	
	IDT74FCT273	° IDT	
	IDT74FCT273A	° IDT	195
	IDT74FCT273AT	° IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Flip-Flops, D-Type (Cont'd)

Function	Device	Source	Line
Octal Edge-Triggered with Clear			
FCT (Cont'd)			
	IDT74FCT273C	° IDT	
	IDT74FCT273CT	° IDT	
	IDT74FCT273T	° IDT	
	54FCT273A	National	
	74FCT273A	National	5
	P54FCT273	Performance	
	P54FCT273A	Performance	
	P54FCT273AT	Performance	
	P54FCT273CT	Performance	
	P54FCT273T	Performance	10
	P54PCT273	‡ Performance	
	P54PCT273A	‡ Performance	
	P74FCT273	Performance	
	P74FCT273	Performance	
	P74FCT273A	Performance	15
	P74FCT273AT	Performance	
	P74FCT273CT	Performance	
	P74FCT273T	Performance	
	QS54FCT2273	† Quality Semi	
	QS54FCT2273A	† Quality Semi	20
	QS54FCT2273C	† Quality Semi	
	QS54FCT273	† Quality Semi	
	QS54FCT273A	† Quality Semi	
	QS54FCT273C	† Quality Semi	
	QS74FCT2273	Quality Semi	25
	QS74FCT2273A	Quality Semi	
	QS74FCT2273C	Quality Semi	
	QS74FCT273	Quality Semi	
	QS74FCT273A	Quality Semi	
	QS74FCT273C	Quality Semi	30
HC	GD54HC273	† GoldStar	
	GD74HC273	GoldStar	
	CD54HC273	°† Harris	
	CD74HC273	° Harris	
	HCS273MS	‡ Harris	35
	M74HC273	Mitsubishi	
	M74HC273-1	Mitsubishi	
	MC54HC273A	† Motorola	
	MC74HC273A	Motorola	
	MM54HC273	† National	40
	MM74HC273	National	
	74HC273	° Philips	
	M74HC273	SGS-Thomson	
	SN54HC273	† TI	
	SN74HC273	TI	45
	TC74HC273A	**Toshiba (3836)**	
HCMOS	74LV273	ℓ Philips	
HCT	GD54HCT273	† GoldStar	
	GD74HCT273	GoldStar	
	CD54HCT273	°† Harris	50
	CD74HCT273	° Harris	
	54HCTLS273	**‡ Ideal Semi (3643)**	
	74HCTLS273	**‡ Ideal Semi (3643)**	
	M74HCT273-1	Mitsubishi	
	MC54HCT273A	† Motorola	55
	MC74HCT273A	Motorola	
	MM54HCT273	† National	
	MM74HCT273	National	
	74HCT273	° Philips	
	54HCT273	Rochester	60
	TC74HCT273A	**Toshiba (3836)**	
HCTS	HCTS273MS	‡ Harris	
LV	SN74LV273	ℓ TI	
LVQ	**TC74LVQ273**	**ℓ Toshiba (3837)**	
LVT	SN54LVT273	ℓ† TI	65
	SN74LVT273	ℓ TI	
LVX	**TC74LVX273**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC273**	**Toshiba (3837)**	
Octal Edge-Triggered with Clear (dual)			
AC	DPLAC273X	Dense-Pac	
FCT	DPLFCT273Y	† Dense-Pac	70

(Continued)

Function	Device	Source	Line
Octal Edge-Triggered with Clear (dual) (Cont'd)			
HC	DPLHC273X	Dense-Pac	
	DPLXXX273X	Dense-Pac	
HCT	DPLHCT273X	Dense-Pac	
Octal, Inverting			
HCT	MC54HCT534A	† Motorola	
	MC74HCT534A	Motorola	75
Octal, Positive Edge-Triggered, Three-State			
AC	74AC11374	Philips	
ACT	CD54ACT374	°† Harris	
	CD54ACT574	°† Harris	
	CD74ACT374	° Harris	
Octal, Positive Edge-Triggered, Three-State, Inverting			
AC	74AC11534	Philips	80
Octal, Positive-Edge Triggered, Three-State			
FCT	CD54FCT374	† Harris	
	CD54FCT574	† Harris	
	CD74FCT374	Harris	
	CD74FCT574	Harris	
Octal, Positive-Edge Triggered, Three-State, Inverting			
FCT	CD54FCT534	† Harris	85
	CD54FCT564	† Harris	
	CD74FCT534	Harris	
	CD74FCT564	Harris	
Octal, True			
AC	MC74AC825	Motorola	
HCT	MC54HCT374A	† Motorola	90
	MC54HCT574A	† Motorola	
	MC74HCT374A	Motorola	
	MC74HCT574A	Motorola	
Octal with Enable			
AC	54AC377	† National	
	74AC377	National	95
	74AC11377	Philips	
	54AC11377	† TI	
	74AC11377	TI	
ACQ	54ACQ377	† National	
	74ACQ377	National	100
ACT	MC74ACT377	Motorola	
	54ACT377	† National	
	74ACT377	National	
	54ACT11377	† TI	
	74ACT11377	TI	105
ACTQ	54ACTQ377	† National	
	74ACTQ377	National	
FCT	IDT54FCT377	°† IDT	
	IDT54FCT377A	°† IDT	
	IDT54FCT377AT	°† IDT	110
	IDT54FCT377C	† IDT	
	IDT54FCT377CT	°† IDT	
	IDT54FCT377T	°† IDT	
	IDT54FCT521	°† IDT	
	IDT54FCT521B	°† IDT	115
	IDT54FCT521C	°† IDT	
	IDT74FCT377	° IDT	
	IDT74FCT377A	° IDT	
	IDT74FCT377AT	° IDT	
	IDT74FCT377C	IDT	120
	IDT74FCT377CT	° IDT	
	IDT74FCT377T	° IDT	
	IDT74FCT521	° IDT	
	IDT74FCT521B	IDT	
	IDT74FCT521C	IDT	125
	54FCT377A	† National	
	74FCT377A	National	
	P54FCT377	Performance	
	P54FCT377A	Performance	
	P54FCT377AT	Performance	130
	P54FCT377CT	Performance	
	P54FCT377T	Performance	
	P54FCT521BT	Performance	
	P54PCT377	‡ Performance	

(Continued)

Function	Device	Source	Line
Octal with Enable			
FCT (Cont'd)			
	P54PCT377A	‡ Performance	135
	P74FCT377	Performance	
	P74FCT377A	Performance	
	P74FCT377AT	Performance	
	P74FCT377CT	Performance	
	P74FCT377T	Performance	140
	QS54FCT2377	† Quality Semi	
	QS54FCT2377A	† Quality Semi	
	QS54FCT2377C	† Quality Semi	
	QS54FCT377	† Quality Semi	
	QS54FCT377A	† Quality Semi	145
	QS54FCT377C	† Quality Semi	
	QS74FCT2377	Quality Semi	
	QS74FCT2377A	Quality Semi	
	QS74FCT2377C	Quality Semi	
	QS74FCT377	Quality Semi	150
	QS74FCT377A	Quality Semi	
	QS74FCT377C	Quality Semi	
HC	CD54HC377	°† Harris	
	CD74HC377	° Harris	
	74HC377	° Philips	155
	SN54HC377	† TI	
	SN74HC377	TI	
	TC74HC377A	**Toshiba (3836)**	
HCMOS	74LV377	ℓ Philips	
HCT	CD54HCT377	°† Harris	160
	CD74HCT377	° Harris	
	74HCT377	° Philips	
Octal with Reset			
AC	74AC11273	Philips	
Octal with Reset and Enable, Positive Edge-Triggered, Three-State			
AC	74AC11825	Philips	
	74AC11826	Philips	165
Octal, Three-State			
	54FCT534	† National	
	74FCT534	National	
ACQ	54ACQ374	† National	
	54ACQ534	† National	
	54ACQ564	† National	170
	74ACQ374	National	
	74ACQ534	National	
	74ACQ564	National	
	74ACQ574	National	
ACT	54ACQ574	† National	175
ACTQ	54ACTQ374	† National	
	54ACTQ534	† National	
	54ACTQ564	† National	
	54ACTQ574	† National	
	74ACTQ374	National	180
	74ACTQ534	National	
	74ACTQ564	National	
	74ACTQ574	National	
FCT	54FCT534A	† National	
	74FCT534A	National	185
Octal Three-State, Inverting			
AC	CD54AC534	°† Harris	
	CD54AC564	°† Harris	
	CD74AC534	° Harris	
	CD74AC564	° Harris	
	54AC11826	† TI	190
	74AC11534	° TI	
	74AC11826	TI	
	TC74AC534	**Toshiba (3836)**	
	TC74AC564	**Toshiba (3836)**	
ACT	CD54ACT534	°† Harris	195
	CD54ACT564	°† Harris	
	CD74ACT534	° Harris	
	CD74ACT564	° Harris	
	54ACT534	† National	
	54ACT564	† National	200
	74ACT534	National	
	74ACT564	National	
	54ACT11826	† TI	

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Flip-Flops, D-Type (Cont'd)

Function	Device	Source	Line
Octal Three-State, Inverting			
ACT		(Cont'd)	
	74ACT11534	° TI	
	74ACT11826	TI	
AHCT	**54AHCT534**	**‡ Ideal Semi (3644)**	
	54AHCT564	**‡ Ideal Semi (3644)**	
	74AHCT534	**‡ Ideal Semi (3644)**	5
	74AHCT564	**‡ Ideal Semi (3644)**	
FCT	IDT54FCT534	°† IDT	
	IDT54FCT534A	°† IDT	
	IDT54FCT534AT	°‡ IDT	
	IDT54FCT534C	† IDT	10
	IDT54FCT534CT	°† IDT	
	IDT54FCT534T	°† IDT	
	IDT74FCT534	° IDT	
	IDT74FCT534A	° IDT	
	IDT74FCT534AT	° IDT	15
	IDT74FCT534C	IDT	
	IDT74FCT534CT	° IDT	
	IDT74FCT534T	° IDT	
	P54FCT534AT	Performance	
	P54FCT534CT	Performance	20
	P54FCT534T	Performance	
	QS54FCT2534	† Quality Semi	
	QS54FCT2534A	† Quality Semi	
	QS54FCT2534C	† Quality Semi	
	QS54FCT534	† Quality Semi	25
	QS54FCT534A	† Quality Semi	
	QS54FCT534C	† Quality Semi	
	QS74FCT2534	Quality Semi	
	QS74FCT2534A	Quality Semi	
	QS74FCT2534C	Quality Semi	30
	QS74FCT534	Quality Semi	
	QS74FCT534A	Quality Semi	
	QS74FCT534C	Quality Semi	
HC	GD54HC534	† GoldStar	
	GD74HC534	GoldStar	35
	CD54HC534	°† Harris	
	CD54HC564	°† Harris	
	CD74HC534	° Harris	
	CD74HC564	° Harris	
	MC54HC534A	† Motorola	40
	MC54HC564	† Motorola	
	MC74HC534A	Motorola	
	MC74HC564	Motorola	
	MM54HC534	† National	
	MM54HC564	† National	45
	MM74HC534	National	
	MM74HC564	National	
	74HC534	° Philips	
	74HC564	° Philips	
	M74HC534	SGS-Thomson	50
	M74HC564	SGS-Thomson	
	SN54HC534	† TI	
	SN54HC564	† TI	
	SN74HC534	TI	
	SN74HC564	TI	55
	TC74HC534A	**Toshiba (3836)**	
	TC74HC564A	**Toshiba (3836)**	
HCT	MV74HCT534	GEC Plessey	
	MV74HCT564	GEC Plessey	
	54HCT534SOS	GEC Plessey	60
	54HCT564SOS	GEC Plessey	
	74HCT534	GEC Plessey	
	74HCT564	GEC Plessey	
	GD54HCT534	† GoldStar	
	GD74HCT534	GoldStar	65
	CD54HCT534	°† Harris	
	CD54HCT564	°† Harris	
	CD74HCT534	° Harris	
		(Continued)	

Function	Device	Source	Line
Octal Three-State, Inverting			
HCT		(Cont'd)	
	CD74HCT564	° Harris	
	54HCTLS534	**‡ Ideal Semi (3643)**	70
	54HCTLS564	**‡ Ideal Semi (3643)**	
	74HCTLS534	**‡ Ideal Semi (3643)**	
	74HCTLS564	**‡ Ideal Semi (3643)**	
	MM54HCT534	† National	
	MM74HCT534	National	75
	MM74HCT564	National	
	74HCT534	° Philips	
	74HCT564	° Philips	
	M74HCT534	SGS-Thomson	
	SN74HCT534	TI	80
	SN74HCT564	TI	
	TC74HCT564A	**Toshiba (3836)**	
HLL	74HL33534	ℓ Philips	
Octal Three-State, Non-Inverting			
FCT	54FCT574AT	† National	
	54FCT574T	† National	85
VHC	54VHC574	† National	
Octal, Three-State, True			
ABT	54ABT574C	† National	
	74ABT574C	National	
AC	CD54AC374	°† Harris	
	CD54AC574	°† Harris	90
	CD74AC374	° Harris	
	CD74AC574	° Harris	
	54AC374	°† National	
	54AC574	† National	
	54AC825	† National	95
	74AC374	° National	
	74AC574	National	
	74AC825	National	
	54AC11825	† TI	
	74AC11374	° TI	100
	74AC11825	TI	
	TC74AC374	**Toshiba (3836)**	
	TC74AC574	**Toshiba (3836)**	
ACT	CD74ACT574	° Harris	
	54ACT374	† National	105
	54ACT574	† National	
	54ACT825	† National	
	74ACT374	National	
	74ACT574	National	
	74ACT825	National	110
	54ACT11825	† TI	
	74ACT11374	° TI	
	74ACT11825	TI	
AHCT	**54AHCT374**	**‡ Ideal Semi (3644)**	
	54AHCT574	**‡ Ideal Semi (3644)**	115
	74AHCT374	**‡ Ideal Semi (3644)**	
	74AHCT574	**‡ Ideal Semi (3644)**	
BCT	SN54BCT374	† TI	
C	MM54C374	‡ Micrel	
	MM54C374	† National	120
	MM74C374	National	
FCT	DPLFCT574Y	† Dense-Pac	
	IDT54FCT374	°† IDT	
	IDT54FCT374A	°† IDT	
	IDT54FCT374AT	°† IDT	125
	IDT54FCT374C	°† IDT	
	IDT54FCT374CT	°† IDT	
	IDT54FCT374DT	IDT	
	IDT54FCT374T	°† IDT	
	IDT54FCT574	°† IDT	130
		(Continued)	

Function	Device	Source	Line
Octal Three-State, True			
FCT		(Cont'd)	
	IDT54FCT574A	°† IDT	
	IDT54FCT574AT	°† IDT	
	IDT54FCT574C	°† IDT	
	IDT54FCT574CT	°† IDT	
	IDT54FCT574DT	† IDT	135
	IDT54FCT574T	°† IDT	
	IDT54FCT825A	† IDT	
	IDT54FCT825B	† IDT	
	IDT54FCT825C	† IDT	
	IDT74FCT374	°† IDT	140
	IDT74FCT374A	° IDT	
	IDT74FCT374AT	° IDT	
	IDT74FCT374C	° IDT	
	IDT74FCT374CT	° IDT	
	IDT74FCT374DT	IDT	145
	IDT74FCT374T	° IDT	
	IDT74FCT574	° IDT	
	IDT74FCT574A	° IDT	
	IDT74FCT574AT	° IDT	
	IDT74FCT574C	° IDT	150
	IDT74FCT574CT	° IDT	
	IDT74FCT574DT	IDT	
	IDT74FCT574T	° IDT	
	IDT74FCT825A	IDT	
	IDT74FCT825B	IDT	155
	54FCT825A	† National	
	54FCT825B	† National	
	74FCT825A	National	
	74FCT825B	National	
	P54FCT374	Performance	160
	P54FCT374A	Performance	
	P54FCT374AT	Performance	
	P54FCT374CT	Performance	
	P54FCT374T	Performance	
	P54FCT574	Performance	165
	P54FCT574A	Performance	
	P54FCT574AT	Performance	
	P54FCT574CT	Performance	
	P54FCT574T	Performance	
	P54PCT374	‡ Performance	170
	P54PCT374A	‡ Performance	
	P54PCT574	‡ Performance	
	P54PCT574A	‡ Performance	
	P74FCT374	Performance	
	P74FCT374A	Performance	175
	P74FCT574	Performance	
	P74FCT574A	Performance	
	P74FCT574C	Performance	
	QS54FCT2374	† Quality Semi	
	QS54FCT2374A	† Quality Semi	180
	QS54FCT2374C	† Quality Semi	
	QS54FCT2574	† Quality Semi	
	QS54FCT2574A	† Quality Semi	
	QS54FCT374	† Quality Semi	
	QS54FCT374A	† Quality Semi	185
	QS54FCT374C	† Quality Semi	
	QS54FCT374D	† Quality Semi	
	QS54FCT574	† Quality Semi	
	QS54FCT574A	† Quality Semi	
	QS54FCT574C	† Quality Semi	190
	QS74FCT2374	Quality Semi	
	QS74FCT2374A	Quality Semi	
	QS74FCT2374C	Quality Semi	
	QS74FCT2574	Quality Semi	
	QS74FCT2574A	Quality Semi	195
	QS74FCT2825	Quality Semi	
	QS74FCT374	Quality Semi	
	QS74FCT374A	Quality Semi	
	QS74FCT374C	Quality Semi	
	QS74FCT374D	Quality Semi	200
	QS74FCT574	Quality Semi	
	QS74FCT574A	Quality Semi	
	QS74FCT574C	Quality Semi	
	QS74FCT825	Quality Semi	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Flip-Flops, D-Type (Cont'd)

Function	Device	Source	Line
Octal Three-State, True (Cont'd)			
HC	GD54HC374	† GoldStar	
	GD74HC374	GoldStar	
	CD54HC374	°‡ Harris	
	CD54HC574	°† Harris	
	CD74HC374	° Harris	5
	CD74HC574	° Harris	
	HCS374MS	‡ Harris	
	HCTS374MS	‡ Harris	
	HCTS574MS	‡ Harris	
	MC54HC374A	† Motorola	10
	MC54HC574A	† Motorola	
	MC74HC374A	Motorola	
	MC74HC574A	Motorola	
	MM54HC374	† National	
	MM54HC574	† National	15
	MM74HC374	National	
	MM74HC574	National	
	74HC374	° Philips	
	74HC574	° Philips	
	M74HC374	SGS-Thomson	20
	M74HC574	SGS-Thomson	
	SN54HC374	† TI	
	SN54HC574	† TI	
	SN74HC574	TI	
	TC74HC374A	**Toshiba (3836)**	25
	TC74HC574A	**Toshiba (3836)**	
HCMOS	74LV374	ℓ Philips	
	74LV574	ℓ Philips	
HCT	MV74HCT374	GEC Plessey	
	MV74HCT574	GEC Plessey	30
	54HCT374SOS	GEC Plessey	
	54HCT574SOS	GEC Plessey	
	74HCT374	GEC Plessey	
	74HCT574	GEC Plessey	
	GD54HCT374	† GoldStar	35
	GD74HCT374	GoldStar	
	CD54HCT374	°† Harris	
	CD54HCT574	°† Harris	
	CD74HCT374	° Harris	
	CD74HCT574	° Harris	40
	54HCTLS374	**‡ Ideal Semi (3643)**	
	54HCTLS574	**‡ Ideal Semi (3643)**	
	74HCTLS374	**‡ Ideal Semi (3643)**	
	74HCTLS574	**‡ Ideal Semi (3643)**	
	MM54HCT374	† National	45
	MM74HCT374	National	
	MM74HCT574	National	
	74HCT374	° Philips	
	74HCT574	° Philips	
	M74HCT374	SGS-Thomson	50
Octal Three-State, True			
HCT	SN54HCT374	† TI	
Octal Three-State, True			
HCT	SN74HCT374	TI	
	SN74HCT574	TI	
	SN74HC374	TI	
	TC74HCT374A	**Toshiba (3836)**	55
	TC74HCT574A	**Toshiba (3836)**	
HLL	74HL33374	ℓ Philips	
LV	SN74LV374	ℓ TI	
	SN74LV574	ℓ TI	
LVC	74LVC374	ℓ Philips	60
	74LVC574	ℓ Philips	
	SN74LVC374	ℓ TI	
	SN74LVC574	ℓ TI	
LVQ	**TC74LVQ374**	**ℓ Toshiba (3837)**	
LVT	SN54LVT574	ℓ† TI	65
	SN74LVT574	ℓ TI	

(Continued)

Function	Device	Source	Line
Octal Three-State, True (Cont'd)			
LVX	**TC74LVX374**	**ℓ Toshiba (3837)**	
SC	MV74SC374	GEC Plessey	
	MV74SC574	GEC Plessey	
VHC	74VHC574	National	70
	TC74VHC374	**Toshiba (3837)**	
	TC74VHC574	**Toshiba (3837)**	
VHCT	**TC74VHCT374**	**Toshiba (3837)**	
	TC74VHCT574	**Toshiba (3837)**	
4XXX	HEF40374B	Philips	75
Octal, Three-State, True (dual)			
AC	DPLAC574X	Dense-Pac	
ACT	DPLACT574X	Dense-Pac	
AHCT	DPLAHCT574X	Dense-Pac	
HC	DPLHC574X	Dense-Pac	
	DPLXXX574X	Dense-Pac	80
HCT	DPLHCT574X	Dense-Pac	
9-Bit Three-State, Inverting			
AC	74AC11824	Philips	
	54AC11824	† TI	
	74AC11824	TI	
FCT	CD54FCT824A	† Harris	85
	CD74FCT824A	Harris	
	IDT54FCT824A	† IDT	
	IDT54FCT824B	† IDT	
	IDT54FCT824C	† IDT	
	IDT74FCT824A	IDT	90
	IDT74FCT824B	IDT	
	IDT74FCT824C	IDT	
9-Bit Three-State, Non-Inverting			
FCT	CD54FCT823A	† Harris	
	CD74FCT823A	Harris	
	QS74FCT2823	Quality Semi	95
	QS74FCT823	Quality Semi	
9-Bit Three-State, True			
AC	54AC823	† National	
	74AC823	National	
	74AC11823	Philips	
	54AC11823	† TI	100
	74AC11823	TI	
ACT	54ACT823	† National	
	74ACT823	National	
	54ACT11823	† TI	
	74ACT11823	TI	105
LVC	SN74LVC823	ℓ TI	
9-Bit Three-State,Inverting			
ACT	54ACT11824	† TI	
	74ACT11824	TI	
10-Bit			
FCT	QS74FCT821	Quality Semi	
10-Bit D-Type, Three-State			
AC	54AC821	°† National	110
	74AC821	° National	
10-Bit Parallel, Inverting			
AC	54AC11822	† TI	
	74AC11822	TI	
10-Bit Parallel, True			
AC	54AC11821	† TI	
	74AC11821	TI	115
10-Bit, Positive-Edge Triggered, Three-State			
FCT	CD54FCT821A	† Harris	
	CD74FCT821A	Harris	
10-Bit, Positive-Edge Triggered, Three-State, Inverting			
FCT	CD54FCT822A	† Harris	
	CD74FCT822A	Harris	
10-Bit, Same Side I/O			
FCT	QS74FCT2821	Quality Semi	120
10-Bit, Three-State			
ACQ	54ACQ821	† National	
	74ACQ821	National	
ACTQ	54ACTQ821	† National	
	74ACTQ821	National	

Function	Device	Source	Line
10-Bit Three-State, Inverting			
ACT	54ACT11822	† TI	125
	74ACT11822	TI	
10-Bit Three-State, True			
ACT	54ACT821	°† National	
	74ACT821	° National	
	54ACT11821	† TI	
	74ACT11821	TI	130
LVC	SN74LVC821	ℓ TI	
10-Wide, Positive Edge-Triggered, Three-State			
AC	74AC11821	Philips	
10-Wide, Positive Edge-Triggered, Three-State, Inverting			
AC	74AC11822	Philips	
16 Bit Three-State, Inverting			
AC	54AC16534	† TI	
	74AC16534	TI	135
ACT	54ACT16534	† TI	
	74ACT16534	TI	
16 Bit Three-State, True			
AC	54ACT16374	† TI	
	54AC16374	† TI	
	54AC16825	† TI	140
	74ACT16374	TI	
	74AC16374	TI	
	74AC16825	TI	
ACT	54ACT16825	† TI	
	74ACT16825	TI	145
16-Bit D-Type, Three-State			
AC	54AC16821	† TI	
	74AC16821	TI	
16-Bit Three-State, Inverting			
ACT	54ACT16822	† TI	
	54ACT16826	† TI	
	74ACT16822	† TI	150
	74ACT16826	TI	
16-Bit Three-State, True			
AC	54AC16823	† TI	
	74AC16823	TI	
ACT	54ACT16821	† TI	
	54ACT16823	† TI	155
	74ACT16821	TI	
	74ACT16823	TI	
ACTQ	54ACTQ16374	† National	
	74ACTQ16374	National	
ALVC	SN74ALVC16374	ℓ TI	160
LVT	SN54LVT16374	ℓ† TI	
	SN74LVT16374	ℓ TI	
16-Bit Three-State,Inverting			
ACT	54ACT16824	† TI	
	74ACT16824	TI	
18-Bit Three-State, True			
ALVC	SN74ALVC16823	ℓ TI	165
18-Bit Three-State, True, TAP			
TTL	SCAN18374T	National	
20-Bit Three-State, True			
ALVC	SN74ALVC16721	ℓ TI	
	SN74ALVC16821	ℓ TI	
10-Bit			
AC	**TC74AC821**	**Toshiba (3836)**	
ACT	**TC74ACT821**	**Toshiba (3836)**	170
8-Bit			
AC	**TC74AC825**	**Toshiba (3836)**	
ACT	**TC74ACT825**	**Toshiba (3836)**	
9-Bit			
AC	**TC74AC823**	**Toshiba (3836)**	
ACT	**TC74ACT823**	**Toshiba (3836)**	

Flip-Flops, J-K Type

Function	Device	Source	Line
AND-Gated Master-Slave			
HC	HCF4095B	SGS-Thomson	175
4XXX	CD4095B	Harris	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Flip-Flops, J-K Type (Cont'd)

Function	Device	Source	Line
AND-Gated Master-Slave			
4XXX		(Cont'd)	
	CD4095BE	Harris	
	CD4096B	† Harris	
	HCC4095B	† SGS-Thomson	
	HCC4096B	† SGS-Thomson	
	HCF4096B	SGS-Thomson	5
Dual			
AC	CD54AC109	°† Harris	
	CD74AC109	• Harris	
	54AC109	°† National	
	74AC109	• National	
	74AC11109	• TI	10
ACT	CD54ACT109	°† Harris	
	CD74ACT109	• Harris	
	MC74ACT109	Motorola	
	74ACT109	National	
	74ACT11109	• TI	15
AHCT	**54AHCT109**	**‡ Ideal Semi (3644)**	
C	MM54C76	† National	
	MM74C76	National	
HC	**TC74HC112A**	**Toshiba (3836)**	
VHC	**TC74VHC112**	**Toshiba (3837)**	20
VHCT	**TC74VHCT112**	**Toshiba (3837)**	
4XXX	GD4027B	‡ GoldStar	
	CD4027B	‡ Harris	
	CD4027A	‡ Micrel	
	CD4027B	‡ Micrel	25
	MC14027BC	Motorola	
	CD4027BC	National	
	CD4027BM	† National	
	HEF4027B	Philips	
	BCL4027B	R&E Intl	30
	SCL4027B	R&E Intl	
	HCC4027B	† SGS-Thomson	
	HCF4027B	SGS-Thomson	
	TC4027B	**Toshiba (3838)**	
Dual J-K			
AC	SN54AC11109	°† TI	35
	54AC11109	† TI	
	TC74AC109	**Toshiba (3836)**	
ACT	SN54ACT11109	°† TI	
	54ACT11109	† TI	
Dual J-K F/F w/Preset and Clear			
ACT	**TC74ACT109**	**Toshiba (3836)**	40
	TC74ACT112	**Toshiba (3836)**	
Dual J-K with Preset and Clear			
HCT	MM54HCT76	† National	
Dual J-K with Set/Reset, Negative-Edge Triggered			
AC	74AC11112	Philips	
Dual J-K with Set/Reset, Positive-Edge Triggered			
AC	74AC11109	Philips	
Dual Negative Edge-Triggered			
AC	54AC112	† National	45
	74AC112	National	
ACT	54ACT112	† National	
	74ACT112	National	
LVC	SN74LVC112	ℓ TI	
Dual Negative Edge-Triggered, Separate Preset and Clock	MC74ACT113	Motorola	50
	MC74AC113	Motorola	
HC	M74HC113	Mitsubishi	
	MC54HC113	† Motorola	
	MC74HC113	Motorola	
	MM54HC113	† National	55
	MM74HC113	National	
	54HC113	† Rochester	
	M74HC113	SGS-Thomson	
	SN54HC113	°† TI	
	SN74HC113	• TI	60
	TC74HC113A	**Toshiba (3836)**	
Dual Negative Edge-Triggered with Clear			
AHCT	**54AHCT107**	**‡ Ideal Semi (3644)**	
	54AHCT73	**‡ Ideal Semi (3644)**	
	74AHCT107	**‡ Ideal Semi (3644)**	
	74AHCT73	**‡ Ideal Semi (3644)**	65
C	MM54C107	† National	
	MM54C73	† National	
	MM74C107	National	
	MM74C73	National	
HC	CD54HC107	† Harris	70
	CD54HC73	† Harris	
	CD74HC107	Harris	
	CD74HC73	Harris	
	M74HC73	Mitsubishi	
	MC54HC107	† Motorola	75
	MC54HC73	† Motorola	
	MC74HC107	Motorola	
	MC74HC73	Motorola	
	MM54HC107	† National	
	MM54HC73	† National	80
	MM74HC107	National	
	MM74HC73	National	
	74HC107	Philips	
	74HC73	Philips	
	54HC107	† Rochester	85
	M74HC107	SGS-Thomson	
	M74HC73	SGS-Thomson	
	SN54HC107	† TI	
	SN74HC107	TI	
	SN74HC73	TI	90
	TC74HC107A	**Toshiba (3836)**	
	TC74HC73A	**Toshiba (3836)**	
HCT	CD54HCT107	† Harris	
	CD54HCT73	† Harris	
	CD74HCT107	Harris	95
	CD74HCT73	Harris	
	54HCTLS107A	**‡ Ideal Semi (3643)**	
	54HCTLS73A	**‡ Ideal Semi (3643)**	
	74HCTLS107A	**‡ Ideal Semi (3643)**	
	74HCTLS73A	**‡ Ideal Semi (3643)**	100
	74HCT107	Philips	
	74HCT73	Philips	
Dual Negative Edge-Triggered with Preset and Clear			
AC	CD54AC112	°† Harris	
	CD74AC112	• Harris	
	54AC11112	† TI	105
	74AC11112	TI	
	TC74AC112	**Toshiba (3836)**	
ACT	CD54ACT112	°† Harris	
	CD74ACT112	• Harris	
	54ACT11112	† TI	110
	74ACT11112	• TI	
AHCT	**54AHCT112**	**‡ Ideal Semi (3644)**	
	74AHCT112	**‡ Ideal Semi (3644)**	
H	74H76	Rochester	
HC	CD54HC112	°† Harris	115
	CD74HC112	• Harris	
	HCTS112MS	‡ Harris	
	M74HC76	Mitsubishi	
	MC54HC112	† Motorola	
	MC54HC76	† Motorola	120
	MC74HC112	Motorola	
	MC74HC76	Motorola	
	MM54HC112	† National	
	MM54HC76	† National	
	MM74HC112	National	125
	MM74HC76	National	
		(Continued)	
Dual Negative Edge-Triggered with Preset and Clear			
HC		(Cont'd)	
	74HC112	• Philips	
	M74HC112	SGS-Thomson	
	M74HC76	SGS-Thomson	
	SN54HC112	† TI	130
	SN74HC112	TI	
	SN74HC76	TI	
	TC74HC76A	**Toshiba (3836)**	
HCT	CD54HCT112	°† Harris	
	CD74HCT112	• Harris	135
	54HCTLS112A	**‡ Ideal Semi (3643)**	
	74HCTLS112A	**‡ Ideal Semi (3643)**	
	MM54HCT112	† National	
	MM74HCT112	National	
	MM74HCT76	National	140
	74HCT112	• Philips	
Dual Negative Edge-Triggered with Preset, Common Clock and Common Clear			
HC	M74HC114	Mitsubishi	
	54HC114	† Rochester	
	74HC114	Rochester	
	SN54HC114	°† TI	145
	SN74HC114	• TI	
Dual, Negative-Edge Triggered with Preset and Clear			
HCTLS	**54HCTLS76A**	**‡ Ideal Semi (3643)**	
	54HCTLS78A	**‡ Ideal Semi (3643)**	
	74HCTLS76A	**‡ Ideal Semi (3643)**	
	74HCTLS78A	**‡ Ideal Semi (3643)**	150
Dual Positive Edge-Triggered with Preset and Clear			
AHCT	**74AHCT109**	**‡ Ideal Semi (3644)**	
HC	CD54HC109	°† Harris	
	CD74HC109	• Harris	
	HCS109MS	‡ Harris	
	HCTS109MS	‡ Harris	155
	MC54HC109	† Motorola	
	MC74HC109	Motorola	
	MM54HC109	† National	
	MM74HC109	National	
	74HC109	• Philips	160
	M74HC109	SGS-Thomson	
	SN54HC109	† TI	
	SN74HC109	TI	
	TC74HC109A	**Toshiba (3836)**	
HCT	CD54HCT109	°† Harris	165
	CD74HCT109	• Harris	
	54HCTLS109	**‡ Ideal Semi (3643)**	
	74HCTLS109	**‡ Ideal Semi (3643)**	
	MM54HCT109	† National	
	MM74HCT109	National	170
	74HCT109	• Philips	
Dual, Positive-Edge Triggered			
AC	MC74AC109	Motorola	

Gates, AND

Function	Device	Source	Line
Single 2-Input	BU4S81	ROHM	
	TC7SL08F	ℓ Toshiba	
	TC7S08F	Toshiba	175
Dual 2-Input	TC7W00F	Toshiba	
	TC7W08F	Toshiba	
Dual 4-Input			
AC	74AC11021	Philips	
	SN54AC11021	°† TI	
	54AC11021	† TI	180
	74AC11021	• TI	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Gates, AND (Cont'd)

Function	Device	Source	Line
Dual 4-Input (Cont'd)			
ACT	SN54ACT11021	°† TI	
	54ACT11021	°† TI	
	74ACT11021	° TI	
HC	GD54HC21	† GoldStar	
	GD74HC21	GoldStar	5
	CD54HC21	°† Harris	
	CD74HC21	° Harris	
	HCS21MS	‡ Harris	
	HCTS21MS	‡ Harris	
	74HC21	Philips	10
	M74HC21	SGS-Thomson	
	SN54HC21	† TI	
	SN74HC21	TI	
	TC74HC21A	**Toshiba (3836)**	
	US74HC21	Universal	15
HCT	GD54HCT21	† GoldStar	
	GD74HCT21	GoldStar	
	CD54HCT21	°† Harris	
	CD74HCT21	° Harris	
	74HCT21	Philips	20
VHC	**TC74VHC21**	**Toshiba (3837)**	
4XXX	CD4082B	‡ Harris	
	CD4082B	‡ Micrel	
	MC14082BC	Motorola	
	CD4082BC	National	25
	CD4082BM	† National	
	HEF4082B	Philips	
	BCL4082B	R&E Intl	
	SCL4082B	R&E Intl	
	HCC4082B	† SGS-Thomson	30
	HCF4082B	SGS-Thomson	
	TC4082B	**Toshiba (3838)**	
Triple 3-Input			
AC	MC74AC11	Motorola	
	54AC11	† National	
	74AC11	National	35
	74AC11011	Philips	
	74AC11011	° TI	
	TC74AC11	**Toshiba (3836)**	
ACT	MC74ACT11	Motorola	
	74ACT11011	° TI	40
AHCT	**54AHCT11**	‡ **Ideal Semi (3644)**	
	74AHCT11	‡ **Ideal Semi (3644)**	
HC	GD54HC11	† GoldStar	
	GD74HC11	GoldStar	
	CD54HC11	°† Harris	45
	CD74HC11	° Harris	
	HCS11MS	‡ Harris	
	HCTS11MS	‡ Harris	
	MC54HC11	† Motorola	
	MC74HC11	Motorola	50
	MM54HC11	† National	
	MM74HC11	National	
	74HC11	° Philips	
	54HC11	† Rochester	
	M74HC11	SGS-Thomson	55
	SN54HC11	† TI	
	SN74HC11	TI	
	TC74HC11A	**Toshiba (3836)**	
HCT	GD54HCT11	† GoldStar	
	GD74HCT11	GoldStar	60
	CD54HCT11	°† Harris	
	CD74HCT11	° Harris	
	54HCTLS11	‡ **Ideal Semi (3643)**	
	74HCTLS11	‡ **Ideal Semi (3643)**	
	74HCT11	° Philips	65
VHC	**TC74VHC11**	**Toshiba (3837)**	
4XXX	GD4073B	GoldStar	
	CD4073B	‡ Harris	

(Continued)

Function	Device	Source	Line
Triple 3-Input			
4XXX (Cont'd)			
	CD4073B	‡ Micrel	
	MC14073BC	Motorola	70
	CD4073BC	National	
	CD4073BM	† National	
	HEF4073B	Philips	
	BCL4073B	R&E Intl	
	SCL4073B	R&E Intl	75
	HCC4073B	† SGS-Thomson	
	HCF4073B	SGS-Thomson	
	TC4073B	**Toshiba (3838)**	
Triple 3-Input Positive			
AC	SN54AC11011	°† TI	
	54AC11011	† TI	80
ACT	SN54ACT11011	°† TI	
	54ACT11011	† TI	
Triple 4-Input AND/NAND			
AC	74AC11800	Philips	
Quad 2-Input			
AC	CD54AC08	°† Harris	
	CD74AC08	° Harris	85
	MC74AC08	Motorola	
	54AC08	† National	
	74AC08	National	
	74AC11008	Philips	
	SN54AC11008	°† TI	90
	54AC11008	† TI	
	74AC11008	° TI	
	TC74AC08	**Toshiba (3836)**	
ACT	CD54ACT08	°† Harris	
	CD74ACT08	° Harris	95
	MC74ACT08	Motorola	
	54ACT08	† National	
	SN54ACT11008	°† TI	
	54ACT11008	† TI	
	74ACT11008	° TI	100
ACTQ	54ACTQ08	† National	
	74ACTQ08	National	
AHCT	**54AHCT08**	‡ **Ideal Semi (3644)**	
	74AHCT08	‡ **Ideal Semi (3644)**	
C	MM54C08	† National	105
	MM74C08	National	
HC	GD54HC08	† GoldStar	
	GD74HC08	GoldStar	
	CD54HC08	°† Harris	
	CD74HC08	Harris	110
	HCS08MS	‡ Harris	
	HCTS08MS	‡ Harris	
	M74HC09	Mitsubishi	
	MC54HC08A	† Motorola	
	MC74HC08A	Motorola	115
	MM54HC08	† National	
	MM74HC08	National	
	74HC08	° Philips	
	M74HC08	SGS-Thomson	
	SN54HC08	† TI	120
	SN74HC08	TI	
	SN74HC7001	TI	
	SN74LV08	ℓ TI	
	TC74HC08A	**Toshiba (3836)**	
HCMOS	74LV08	ℓ Philips	125
HCT	GD74HCT08	GoldStar	
	CD54HCT08	°† Harris	
	CD74HCT08	° Harris	
	54HCTLS08	‡ **Ideal Semi (3643)**	
	74HCTLS08	‡ **Ideal Semi (3643)**	130
	MM54HCT08	† National	
	MM74HCT08	National	
	74HCT08	° Philips	
	SN74HCT08	TI	
	TC74HCT08A	**Toshiba (3836)**	135

(Continued)

Function	Device	Source	Line
Quad 2-Input (Cont'd)			
LVC	74LVC08	ℓ Philips	
	SN74LVC08	ℓ TI	
VHC	**TC74VHC08**	**Toshiba (3837)**	
VHCT	**TC74VHCT08**	**Toshiba (3837)**	
4XXX	GD4081B	GoldStar	140
	CD4081B	‡ Harris	
	CD4081B	‡ Micrel	
	MC14081BC	Motorola	
	CD4081BC	National	
	CD4081BM	† National	145
	HEF4081B	Philips	
	BCL4081B	R&E Intl	
	SCL4081B	R&E Intl	
	BU4081B	ROHM	
	HCC4081B	† SGS-Thomson	150
	HCF4081B	SGS-Thomson	
	TC4081B	**Toshiba (3838)**	
Quad 2-Input (LSTTL compatible inputs)			
HC	GD54HC32	† GoldStar	
	GD74HC04	GoldStar	
HCT	GD54HCT08	† GoldStar	155
	MC54HCT08A	† Motorola	
	MC74HCT08A	Motorola	
Quad 2-Input, Open Collector			
AHCT	**54AHCT09**	‡ **Ideal Semi (3644)**	
	74AHCT09	‡ **Ideal Semi (3644)**	
HC	GD54HC09	† GoldStar	160
	GD74HC09	GoldStar	
	SN54HC09	°† TI	
	SN74HC09	° TI	
	TC74HC09A	**Toshiba (3836)**	
HCT	GD54HCT09	† GoldStar	165
	GD74HCT09	GoldStar	
	54HCTLS09	‡ **Ideal Semi (3643)**	
	74HCTLS09	‡ **Ideal Semi (3643)**	
Quad 2-Input			
ACT	**TC74ACT08**	**Toshiba (3836)**	
2-Input	TC4S81F	Toshiba	170

Gates, NAND

Function	Device	Source	Line
Single 2-Input	BU4S11	ROHM	
Dual 2-Input (Driver)			
4XXX	CD40107B	† Harris	
	HCC40107B	† SGS-Thomson	
	HCF40107B	SGS-Thomson	
	TC40107B	**Toshiba (3838)**	175
Dual 4-Input	MC74AC20	Motorola	
AC	CD54AC20	°† Harris	
	CD74AC20	° Harris	
	54AC20	† National	
	74AC20	National	180
	74AC11013	Philips	
	74AC11020	Philips	
	74AC11020	° TI	
	TC74AC20	Toshiba	
ACT	CD54ACT20	°† Harris	185
	CD74ACT20	° Harris	
	74ACT11020	° TI	
	TC74ACT20	**Toshiba (3836)**	
C	MM54C20	† National	
	MM74C20	National	190
HC	GD54HC01	† GoldStar	
	GD54HC20	† GoldStar	
	GD74HC01	GoldStar	
	GD74HC20	GoldStar	
	CD54HC20	°† Harris	195
	CD74HC20	° Harris	
	HCS20MS	‡ Harris	
	HCTS20MS	‡ Harris	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Gates, NAND (Cont'd)

Function	Device	Source	Line
Dual 4-Input			
HC (Cont'd)	M74HC20	Mitsubishi	
	MC54HC20	† Motorola	
	MC74HC20	Motorola	
	74HC20	° Philips	
	M74HC20	SGS-Thomson	5
	SN54HC20	† TI	
	SN74HC20	TI	
	TC74HC20A	**Toshiba (3836)**	
	US74HC20	Universal	
HCT	GD54HCT01	† GoldStar	10
	GD54HCT20	† GoldStar	
	GD74HCT01	GoldStar	
	GD74HCT20	GoldStar	
	CD54HCT20	°† Harris	
	CD74HCT20	° Harris	15
	74HCT20	° Philips	
VHC	**TC74VHC20**	**Toshiba (3837)**	
4XXX	CD4012B	‡ Harris	
	CD4012UB	† Harris	
	CD4012A	‡ Micrel	20
	CD4012B	‡ Micrel	
	MC14012BC	Motorola	
	MC14012UBC	Motorola	
	CD4012A	National	
	CD4012BC	National	25
	CD4012BM	† National	
	HEF4012B	Philips	
	BCL4012B	R&E Intl	
	SCL4012B	R&E Intl	
	HCC4012B	† SGS-Thomson	30
	HCF4012B	SGS-Thomson	
	TC4012B	**Toshiba (3838)**	
Dual 4-Input, Expandable			
4XXX	BCL4412B	R&E Intl	
	SCL4412B	R&E Intl	
Dual 4-Input Positive			
AC	SN54AC11020	°† TI	35
	54AC11020	† TI	
ACT	SN54ACT11020	°† TI	
	54ACT11020	† TI	
Triple 3-Input			
AC	CD54AC10	°† Harris	
	CD74AC10	° Harris	40
	MC74AC10	Motorola	
	54AC10	† National	
	74AC10	National	
	74AC11010	Philips	
	74AC11010	° TI	45
	TC74AC10	**Toshiba (3836)**	
ACT	CD54ACT10	°† Harris	
	CD74ACT10	° Harris	
	MC74ACT10	Motorola	
	54ACT10	† National	50
	74ACT10	National	
	74ACT11010	° TI	
ACTQ	54ACTQ10	† National	
	74ACTQ10	National	
AHCT	**54AHCT10**	**‡ Ideal Semi (3644)**	55
	54AHCT12	**‡ Ideal Semi (3644)**	
	74AHCT10	**‡ Ideal Semi (3644)**	
	74AHCT12	**‡ Ideal Semi (3644)**	
C	MM54C10	† National	
	MM74C10	National	60
HC	GD54HC10	† GoldStar	
	CD54HC10	°† Harris	
	CD74HC10	° Harris	
	HCS10MS	‡ Harris	
Triple 3-Input			
HC (Cont'd)	HCTS10MS	‡ Harris	65
	MC54HC10	† Motorola	
	MC74HC10	Motorola	
	MM54HC10	† National	
	MM54HC20	† National	
	MM74HC10	National	70
	MM74HC20	National	
	74HC10	° Philips	
	M74HC10	SGS-Thomson	
	SN54HC10	† TI	
	SN74HC10	TI	75
	TC74HC10A	**Toshiba (3836)**	
HCT	GD54HCT10	† GoldStar	
	GD74HCT10	GoldStar	
	CD54HCT10	°† Harris	
	CD74HCT10	° Harris	80
	54HCTLS10	**‡ Ideal Semi (3643)**	
	54HCTLS12	**‡ Ideal Semi (3643)**	
	74HCTLS10	**‡ Ideal Semi (3643)**	
	74HCTLS12	**‡ Ideal Semi (3643)**	
	74HCT10	° Philips	85
LVC	SN74LVC10	ℓ TI	
VHC	**TC74VHC10**	**Toshiba (3837)**	
4XXX	CD4023A	Harris	
	CD4023B	‡ Harris	
	CD4023UB	Harris	90
	CD4023A	‡ Micrel	
	CD4023B	‡ Micrel	
	MC14023BC	Motorola	
	MC14023UBC	Motorola	
	CD4023BC	National	95
	CD4023BM	† National	
	HEF4023B	Philips	
	BCL4023B	R&E Intl	
	SCL4023B	R&E Intl	
	HCC4023B	† SGS-Thomson	100
	HCF4023B	SGS-Thomson	
	TC4023B	**Toshiba (3838)**	
Triple 3-Input Positive			
AC	SN54AC11010	°† TI	
	54AC11010	† TI	
ACT	SN54ACT11010	°† TI	105
	54ACT11010	TI	
Triple 3-Input			
ACT	**TC74ACT10**	**Toshiba (3836)**	
Quad 2-Input	NJU4011B	NJR	
AC	CD54AC00	°† Harris	
	CD74AC00	° Harris	110
	MC74AC00	Motorola	
	MC74AC132	Motorola	
	54AC00	°† National	
	74AC00	° National	
	74AC11000	Philips	115
	74AC11000	° TI	
	TC74AC00	**Toshiba (3836)**	
ACT	CD54ACT00	°† Harris	
	CD74ACT00	° Harris	
	MC74ACT00	Motorola	120
	MC74ACT132	Motorola	
	54ACT00	† National	
	74ACT00	National	
	74ACT11000	° TI	
	TC74ACT00	**Toshiba (3836)**	125
ACTQ	54ACTQ00	† National	
	74ACTQ00	National	
AHCT	**54AHCT00**	**‡ Ideal Semi (3644)**	
	54AHCT01	**‡ Ideal Semi (3644)**	
Quad 2-Input			
AHCT (Cont'd)	**74AHCT00**	**‡ Ideal Semi (3644)**	130
	74AHCT01	**‡ Ideal Semi (3644)**	
C	MM54C00	† National	
	MM74C00	National	
H	**ML54H00**	**Lansdale (3669)**	
	54H00	Rochester	135
HC	GD54HC00	† GoldStar	
	GD74HC00	GoldStar	
	CD54HC00	°† Harris	
	CD74HC00	° Harris	
	HCS00MS	‡ Harris	140
	HCTS00MS	‡ Harris	
	MC54HC00A	† Motorola	
	MC74HC00A	Motorola	
	MM54HC00	† National	
	MM74HC00	National	145
	74HC00	° Philips	
	M74HC00	SGS-Thomson	
	SN54HC00	† TI	
	SN74HC00	TI	
	TC74HC00A	**Toshiba (3836)**	150
HCMOS	74LV00	ℓ Philips	
HCT	GD54HCT00	† GoldStar	
	GD74HCT00	GoldStar	
	CD54HCT00	°† Harris	
	CD74HCT00	° Harris	155
	54HCTLS00	**‡ Ideal Semi (3643)**	
	74HCTLS00	**‡ Ideal Semi (3643)**	
	M74HCT00	Mitsubishi	
	MM54HCT00	† National	
	MM54HCT03	† National	160
	MM74HCT00	National	
	MM74HCT03	National	
	74HCT00	° Philips	
	54HCT00	Rochester	
	SN74HCT00	TI	165
	TC74HCT00A	**Toshiba (3836)**	
LV	SN74LV00	ℓ TI	
LVC	74LVC00	ℓ Philips	
	SN74LVC00	ℓ TI	
LVQ	**TC74LVQ00**	**ℓ Toshiba (3837)**	170
LVX	**TC74LVX00**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC00**	**Toshiba (3837)**	
	74VHC00	Toshiba	
VHCT	**TC74VHCT00**	**Toshiba (3837)**	
4XXX	GD4011B	‡ GoldStar	175
	CD4011A	**† Harris (3638)**	
	CD4011B	‡ Harris	
	CD4011UB	† Harris	
	CD4011A	‡ Micrel	
	CD4011B	‡ Micrel	180
	MC14011BC	Motorola	
	MC14011UBC	Motorola	
	CD4011AC	National	
	CD4011AM	† National	
	CD4011BC	National	185
	CD4011BM	† National	
	HEF4011B	Philips	
	HEF4011UB	Philips	
	BCL4011B	R&E Intl	
	BCL4011UB	R&E Intl	190
	SCL4011B	R&E Intl	
	SCL4011UB	R&E Intl	
	BU4011B	ROHM	
	HCC4011B	† SGS-Thomson	
	HCF4011B	SGS-Thomson	195
	TC4011B	**Toshiba (3838)**	
	TC4011UB	**Toshiba (3838)**	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Gates, NAND (Cont'd)

Function	Device	Source	Line
Quad 2-Input (LSTTL Compatible)			
HCT	MC54HCT00A	† Motorola	
	MC74HCT00A	Motorola	
Quad 2-Input NAND Schmitt Trigger			
AC	54AC11132	† TI	
	74AC11132	TI	
4XXX	BU4093B	ROHM	5
Quad 2-Input, Open Collector			
AC	ACS03MS	‡ Harris	
HC	GD54HC03	† GoldStar	
	GD74HC03	GoldStar	
	CD54HC03	°† Harris	
	CD74HC03	° Harris	10
	74HC03	° Philips	
HCT	GD54HCT03	† GoldStar	
	GD74HCT03	GoldStar	
	CD54HCT03	°† Harris	
	CD74HCT03	° Harris	15
	74HCT03	° Philips	
Quad 2-Input (open drain)			
AHCT	**54AHCT03**	**‡ Ideal Semi (3644)**	
	74AHCT03	**‡ Ideal Semi (3644)**	
HC	MM54HC03	† National	
	MM74HC03	National	20
	M74HC03	SGS-Thomson	
	SN54HC03	† TI	
	SN74HC01	TI	
	SN74HC03	TI	
	TC74HC03A	**Toshiba (3836)**	25
HCT	**54HCTLS01**	**‡ Ideal Semi (3643)**	
	54HCTLS03	**‡ Ideal Semi (3643)**	
	74HCTLS01	**‡ Ideal Semi (3643)**	
	74HCTLS03	**‡ Ideal Semi (3643)**	
	KS74HCTLS01	Samsung	30
5XXX	**TC5029B**	**Toshiba (3838)**	
Quad 2-Input Positive			
AC	SN54AC11000	°† TI	
	54AC11000	† TI	
ACT	SN54ACT11000	°† TI	
	54ACT11000	† TI	35
Quad 2-Input Schmitt Trigger			
	NJU4093B	NJR	
AC	74AC11132	Philips	
HC	M74HC132	Mitsubishi	
Quad 2-Input (with open-drain outputs)			
HC	MC54HC03A	† Motorola	
	MC74HC03A	Motorola	40
2-Input	TC4SU11F	Toshiba	
	TC4S11F	Toshiba	
	TC7SL00F	ℓ Toshiba	
	TC7S00F	Toshiba	
8-Input			
AC	74AC11030	Philips	45
	74AC11030	° TI	
ACT	74ACT11030	° TI	
C	MM54C30	† National	
	MM74C30	National	
HC	GD54HC30	† GoldStar	50
	GD74HC30	GoldStar	
	CD54HC30	°† Harris	
	CD74HC30	° Harris	
	HCTS30MS	‡ Harris	
	M74HC30	Mitsubishi	55
	MC54HC30	† Motorola	
	MC74HC30	Motorola	
	MM54HC30	† National	
		(Continued)	

Function	Device	Source	Line
8-Input			
HC		(Cont'd)	
	MM74HC30	National	
	74HC30	° Philips	60
	M74HC30	SGS-Thomson	
	SN54HC30	† TI	
	SN74HC30	TI	
	TC74HC30A	**Toshiba (3836)**	
HCT	GD54HCT30	† GoldStar	65
	GD74HCT30	GoldStar	
	CD54HCT30	°† Harris	
	CD74HCT30	° Harris	
	74HCT30	° Philips	
4XXX	CD4068B	† Harris	70
	CD4068BE	Harris	
	MC14068BC	Motorola	
	HEF4068B	Philips	
	BCL4068B	R&E Intl	
	SCL4068B	R&E Intl	75
	HCC4068B	† SGS-Thomson	
	HCF4068B	SGS-Thomson	
	TC4068B	**Toshiba (3838)**	
8-Input Positive			
AC	SN54AC11030	°† TI	
	54AC11030	† TI	80
ACT	SN54ACT11030	°† TI	
	54ACT11030	† TI	
13-Input			
HC	MC54HC133	† Motorola	
	MC74HC133	Motorola	
	MM54HC133	† National	85
	MM74HC133	National	
	54HC133	† Rochester	
	M74HC133	SGS-Thomson	
	SN54HC133	† TI	
	SN74HC133	TI	90
	TC74HC133A	**Toshiba (3836)**	

Gates, AND-OR

Function	Device	Source	Line
Dual			
HCTLS	**54HCTLS58**	**‡ Ideal Semi (3643)**	
	74HCTLS58	**‡ Ideal Semi (3643)**	
Dual AND-OR			
AHCT	**54AHCT58**	**‡ Ideal Semi (3644)**	
	74AHCT58	**‡ Ideal Semi (3644)**	95
Quad Select			
4XXX	**TC4019B**	**Toshiba (3838)**	
4XXX	GD4019B	GoldStar	
	CD4019B	‡ Harris	
	CD4019A	‡ Micrel	
	CD4019B	‡ Micrel	100
	CD4019BC	National	
	CD4019BM	† National	
	HEF4019B	Philips	
	BCL4019B	R&E Intl	
	SCL4019B	R&E Intl	105
	HCC4019B	† SGS-Thomson	
	HCF4019B	SGS-Thomson	
Quad 2-Input	NJU4019B	NJR	
2-Wide, 2-Input/2-Wide, 3-Input			
HC	GD54HC58	† GoldStar	
	GD74HC58	GoldStar	110
	MC54HC58	† Motorola	
	MC74HC58	Motorola	
	MM54HC58	† National	
	MM74HC58	National	
HCT	GD54HCT58	† GoldStar	115
	GD74HCT58	GoldStar	

Gates, AND-OR-Invert

Function	Device	Source	Line
Dual			
HCTLS	**54HCTLS51**	**‡ Ideal Semi (3643)**	
	74HCTLS51	**‡ Ideal Semi (3643)**	
Dual 2-Wide 2-Input			
4XXX	CD4085B	‡ Harris	
	HEF4085B	Philips	120
	BCL4085B	R&E Intl	
	SCL4085B	R&E Intl	
	HCC4085B	† SGS-Thomson	
	HCF4085B	SGS-Thomson	
	TC4085B	**Toshiba (3838)**	125
Dual 2-Wide 2-Input, 2-Wide 3-Input			
AC	74AC11051	Philips	
2-Wide, 2-Input/2-Wide, 3-Input			
AC	74AC11051	TI	
ACT	74ACT11051	TI	
AHCT	**54AHCT51**	**‡ Ideal Semi (3644)**	
	74AHCT51	**‡ Ideal Semi (3644)**	130
HC	GD54HC51	† GoldStar	
	GD74HC51	GoldStar	
	M74HC51	Mitsubishi	
	MC54HC51	† Motorola	
	MC74HC51	Motorola	135
	MM54HC51	† National	
	MM74HC51	National	
	M74HC51	SGS-Thomson	
	SN54HC51	† TI	
	SN74HC51	TI	140
	TC74HC51A	**Toshiba (3836)**	
HCT	GD54HCT51	† GoldStar	
	GD74HCT51	GoldStar	
2–2–3–4 Input			
AC	74AC11064	Philips	
4-Wide 2-Input Expandable			
4XXX	GD4086B	GoldStar	145
	CD4086B	‡ Harris	
	HEF4086B	Philips	
	BCL4086B	R&E Intl	
	SCL4086B	R&E Intl	
	HCC4086B	† SGS-Thomson	150
	HCF4086B	SGS-Thomson	
	TC4086B	**Toshiba (3838)**	

Gates, OR

Function	Device	Source	Line
Single 2-Input	BU4S71	ROHM	
	TC7SL32F	ℓ Toshiba	
	TC7S32F	Toshiba	155
Dual 2-Input	TC7W32F	Toshiba	
Dual 4-Input			
HC	M74HC4072	SGS-Thomson	
	TC74HC4027A	Toshiba	
	TC74HC4072A	**Toshiba (3836)**	
4XXX	CD4072B	‡ Harris	160
	CD4072B	‡ Micrel	
	MC14072BC	Motorola	
	CD4072BC	National	
	CD4072BM	† National	
	HEF4072B	Philips	165
	BCL4072B	R&E Intl	
	SCL4072B	R&E Intl	
	HCC4072B	† SGS-Thomson	
	HCF4072B	SGS-Thomson	
	TC4072B	**Toshiba (3838)**	170
Triple 3-Input			
HC	CD54HC4075	† Harris	
	CD74HC4075	Harris	
	M74HC4075	Mitsubishi	
	MC54HC4075	† Motorola	
	MC74HC4075	Motorola	175
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Gates, OR (Cont'd)

Function	Device	Source	Line
Triple 3-Input			
HC		(Cont'd)	
	MM54HC266	† National	
	MM54HC4075	† National	
	MM74HC266	National	
	MM74HC4075	National	
	74HC4075	Philips	5
	54HC4075	† Rochester	
	M74HC4075	SGS-Thomson	
	SN54HC4075	† TI	
	SN74HC4075	TI	
	TC74HC4075A	**Toshiba (3836)**	10
HCT	CD54HCT4075	† Harris	
	CD74HCT4075	Harris	
	74HCT4075	Philips	
4XXX	CD4075B	‡ Harris	
	CD4075B	‡ Micrel	15
	MC14075BC	Motorola	
	CD4075BC	National	
	CD4075BM	† National	
	HEF4075B	Philips	
	BCL4075B	R&E Intl	20
	SCL4075B	R&E Intl	
	HCC4075B	† SGS-Thomson	
	HCF4075B	SGS-Thomson	
	TC4075B	**Toshiba (3838)**	
Triple 4-Input OR/NOR			
AC	74AC11802	Philips	25
Quad 2-Input			
AC	CD54AC32	•† Harris	
	CD74AC32	• Harris	
	MC74AC32	Motorola	
	54AC32	† National	
	74AC32	National	30
	74AC11032	Philips	
	SN54AC11032	•† TI	
	54AC11032	† TI	
	74AC11032	• TI	
	TC74AC32	**Toshiba (3836)**	35
ACT	CD54ACT32	•† Harris	
	CD74ACT32	• Harris	
	MC74ACT32	Motorola	
	54ACT32	† National	
	74ACT32	National	40
	SN54ACT11032	•† TI	
	54ACT11032	† TI	
	74ACT11032	• TI	
ACTQ	54ACTQ32	† National	
	74ACTQ32	National	45
AHCT	**54AHCT32**	**‡ Ideal Semi (3644)**	
	74AHCT32	**‡ Ideal Semi (3644)**	
C	MM54C32	† National	
	MM74C32	National	
HC	GD74HC32	GoldStar	50
	CD54HC32	•† Harris	
	CD74HC32	• Harris	
	HCS32MS	‡ Harris	
	M74HC32	Mitsubishi	
	MC54HC32A	† Motorola	55
	MC74HC32A	Motorola	
	MM54HC32	† National	
	MM74HC32	National	
	74HC32	• Philips	
	M74HC32	SGS-Thomson	60
	SN54HC32	† TI	
	SN74HC32	TI	
	SN74HC7032	TI	
	TC74HC32A	**Toshiba (3836)**	
HCMOS	74LV32	ℓ Philips	65
HCT	GD54HCT32	† GoldStar	
	GD74HCT32	GoldStar	
		(Continued)	
Quad 2-Input			
HCT		(Cont'd)	
	CD54HCT32	•† Harris	
	CD74HCT32	• Harris	
	MM54HCT32	† National	70
	MM74HCT32	National	
	74HCT32	• Philips	
	SN74HCT32	TI	
	TC74HCT32A	**Toshiba (3836)**	
HCTLS	**54HCTLS32**	**‡ Ideal Semi (3643)**	75
	74HCTLS32	**‡ Ideal Semi (3643)**	
HCTS	HCTS32MS	‡ Harris	
LV	SN74LV32	ℓ TI	
LVC	74LVC32	ℓ Philips	
	SN74LVC32	ℓ TI	80
LVQ	**TC74LVQ32**	**ℓ Toshiba (3837)**	
LVX	**TC74LVX32**	**ℓ Toshiba (3837)**	
VHC	**TC74VHC32**	**Toshiba (3837)**	
4XXX	GD4071B	‡ GoldStar	
	CD4071B	‡ Harris	85
	CD4071B	‡ Micrel	
	MC14071BC	Motorola	
	CD4071BC	National	
	CD4071BM	† National	
	HEF4071B	Philips	90
	BCL4071B	R&E Intl	
	SCL4071B	R&E Intl	
	HCC4071B	† SGS-Thomson	
	HCF4071B	SGS-Thomson	
	TC4071B	**Toshiba (3838)**	95
Quad 2-Input (LSTTL Compatible)			
HCT	MC54HCT32A	† Motorola	
	MC74HCT32A	Motorola	
Quad 2-Input			
ACT	**TC74ACT32**	**Toshiba (3836)**	
2-Input	TC4S71F	Toshiba	

Gates, NOR

Function	Device	Source	Line
Single 2-Input	BU4S01	ROHM	100
	TC7SL02F	ℓ Toshiba	
	TC7S02F	Toshiba	
Dual 2-Input	TC7W02F	Toshiba	
Dual 3-Input plus Inverter			
4XXX	CD4000BMS	Harris	
	CD4000A	‡ Micrel	105
	MC14000UBC	Motorola	
	CD4000C	National	
	CD4000M	† National	
	HEF4000B	Philips	
	BCL4000B	R&E Intl	110
	SCL4000B	R&E Intl	
	HCC4000B	† SGS-Thomson	
	HCF4000B	SGS-Thomson	
	TC4000B	**Toshiba (3838)**	
Dual 4 Input, Expandable			
4XXX	BCL4402B	R&E Intl	115
	SCL4402B	R&E Intl	
Dual 4-Input			
HC	CD54HC4002	† Harris	
	CD74HC4002	Harris	
	M74HC4002	Mitsubishi	
	MC54HC4002	† Motorola	120
	MC74HC4002	Motorola	
	MM54HC4002	† National	
	MM74HC4002	National	
	74HC4002	Philips	
	54HC4002	† Rochester	125
	M74HC4002	SGS-Thomson	
	SN54HC4002	† TI	
	SN74HC4002	TI	
	TC74HC4002A	**Toshiba (3836)**	
		(Continued)	
Dual 4-Input		(Cont'd)	
HCT	CD54HCT4002	† Harris	130
	CD74HCT4002	Harris	
	74HCT4002	Philips	
4XXX	GD4002B	GoldStar	
	CD4002B	‡ Harris	
	HCTS4002MS	‡ Harris	135
	CD4002A	‡ Micrel	
	CD4002B	‡ Micrel	
	MC14002BC	Motorola	
	MC14002UBC	Motorola	
	CD4002A	National	140
	CD4002BC	National	
	CD4002BM	† National	
	HEF4002B	Philips	
	BCL4002B	R&E Intl	
	SCL4002B	R&E Intl	145
	HCC4002B	† SGS-Thomson	
	HCF4002B	SGS-Thomson	
	TC4002B	**Toshiba (3838)**	
Triple 3-Input			
AC	74AC11027	Philips	
	SN54AC11027	•† TI	150
	54AC11027	† TI	
	74AC11027	• TI	
ACT	SN54ACT11027	•† TI	
	54ACT11027	TI	
	74ACT11027	• TI	155
HC	GD54HC27	† GoldStar	
	GD74HC27	GoldStar	
	CD54HC27	•† Harris	
	CD74HC27	• Harris	
	HCS27MS	‡ Harris	160
	HCTS27MS	‡ Harris	
	M74HC27	Mitsubishi	
	MC54HC27	† Motorola	
	MC74HC27	Motorola	
	MM54HC27	† National	165
	MM74HC27	National	
	74HC27	• Philips	
	M74HC27	SGS-Thomson	
	SN54HC27	† TI	
	SN74HC27	TI	170
	TC74HC27A	**Toshiba (3836)**	
HCT	GD54HCT27	† GoldStar	
	GD74HCT27	GoldStar	
	CD54HCT27	•† Harris	
	CD74HCT27	• Harris	175
	74HCT27	• Philips	
VHC	**TC74VHC27**	**Toshiba (3837)**	
4XXX	GD4005B	GoldStar	
	CD4025B	‡ Harris	
	CD4025UB	Harris	180
	CD4025A	‡ Micrel	
	CD4025B	‡ Micrel	
	MC14025BC	Motorola	
	MC14025UBC	Motorola	
	CD4025A	National	185
	CD4025BC	National	
	CD4025BM	† National	
	HEF4025B	Philips	
	BCL4025B	R&E Intl	
	SCL4025B	R&E Intl	190
	HCC4025B	† SGS-Thomson	
	HCF4025B	SGS-Thomson	
	TC4025B	**Toshiba (3838)**	
Quad 2-Input	NJU4001B	NJR	
AC	CD54AC02	•† Harris	195
	CD74AC02	•† Harris	
	MC74AC02	Motorola	
	54AC02	† National	
	74AC02	National	
	74AC11002	Philips	200
	SN54AC11002	•† TI	
	54AC11002	† TI	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Gates, NOR (Cont'd)

Function	Device	Source	Line
Quad 2-Input			
AC		(Cont'd)	
	74AC11002	° TI	
	TC74AC02	**Toshiba (3836)**	
ACT	CD54ACT02	°† Harris	
	CD74ACT02	° Harris	
	MC74ACT02	Motorola	5
	54ACT02	† National	
	74ACT02	National	
	SN54ACT11002	°† TI	
	54ACT11002	† TI	
	74ACT11002	° TI	10
	TC74ACT02	**Toshiba (3836)**	
ACTQ	54ACTQ02	† National	
	74ACTQ02	National	
AHCT	**54AHCT02**	‡ **Ideal Semi (3644)**	
	74AHCT02	‡ **Ideal Semi (3644)**	15
C	MM54C02	† National	
	MM74C02	National	
HC	GD54HC02	† GoldStar	
	GD74HC02	GoldStar	
	CD54HC02	°† Harris	20
	CD74HC02	° Harris	
	HCS02MS	‡ Harris	
	HCTS02MS	‡ Harris	
	MC54HC02A	† Motorola	
	MC74HC02A	Motorola	25
	MM54HC02	† National	
	MM74HC02	National	
	74HC02	° Philips	
	M74HC02	SGS-Thomson	
	SN54HC02	°† TI	30
	SN74HC02	° TI	
	SN74HC7002	TI	
	TC74HC02A	**Toshiba (3836)**	
HCMOS	74LV02	ℓ Philips	
HCT	GD54HCT02	† GoldStar	35
	GD74HCT02	GoldStar	
	CD54HCT02	°† Harris	
	CD74HCT02	° Harris	
	54HCTLS02	‡ **Ideal Semi (3643)**	
	74HCTLS02	‡ **Ideal Semi (3643)**	40
	74HCT02	° Philips	
	SN74HCT02	TI	
	TC74HCT02A	**Toshiba (3836)**	
LV	SN74LV02	ℓ TI	
LVC	74LVC02	ℓ Philips	45
	SN74LVC02	ℓ† TI	
LVQ	**TC74LVQ02**	ℓ **Toshiba (3837)**	
LVX	**TC74LVX02**	ℓ **Toshiba (3837)**	
VHC	**TC74VHC02**	**Toshiba (3837)**	
4XXX	GD4001B	‡ GoldStar	50
	CD4001A	† Harris	
	CD4001B	‡ Harris	
	CD4001UB	† Harris	
	CD4001A	‡ Micrel	
	CD4001B	‡ Micrel	55
	MC14001BC	Motorola	
	MC14001UBC	Motorola	
	CD4001A	National	
	CD4001BC	National	
	CD4001BM	† National	60
	HEF4001B	Philips	
	HEF4001UB	Philips	
	BCL4001B	R&E Intl	
	BCL4001UB	R&E Intl	
	SCL4001B	R&E Intl	65
	SCL4001UB	R&E Intl	
	BU4001B	ROHM	
	HCC4001B	† SGS-Thomson	

(Continued)

Function	Device	Source	Line
Quad 2-Input			
4XXX		(Cont'd)	
	HCF4001B	SGS-Thomson	
	TC4001B	**Toshiba (3838)**	70
	TC4001UB	**Toshiba (3838)**	
Quad 2-Input Exclusive NOR			
AC	74AC11810	TI	
ACT	54ACT11810	† TI	
	74ACT11810	TI	
2-Input	TC4S01F	Toshiba	75
8-Input			
HC	M74HC4078	Mitsubishi	
	MC54HC4078	† Motorola	
	MC74HC4078	Motorola	
	MM54HC4078	† National	
	MM74HC4078	National	80
	M74HC4078	SGS-Thomson	
	SN54HC4078A	† TI	
	SN74HC4078A	TI	
	TC74HC4078A	**Toshiba (3836)**	
4XXX	GD4078B	GoldStar	85
	CD4078B	† Harris	
	MC14078BC	Motorola	
	HEF4078B	Philips	
	BCL4078B	R&E Intl	
	SCL4078B	R&E Intl	90
	HCC4078B	† SGS-Thomson	
	HCF4078B	SGS-Thomson	
	TC4078B	**Toshiba (3838)**	

Gates, Exclusive OR

Function	Device	Source	Line
Single			
HC	TC7S86F	Toshiba	
Single 2-Input	TC4S30F	Toshiba	95
Quad			
AC	CD54AC86	°† Harris	
	CD74AC86	° Harris	
	74AC86	National	
	TC74AC86	**Toshiba (3836)**	
ACT	CD54ACT86	°† Harris	100
	CD74ACT86	° Harris	
	TC74ACT86	**Toshiba (3836)**	
AHCT	**54AHCT86**	‡ **Ideal Semi (3644)**	
	74AHCT86	‡ **Ideal Semi (3644)**	
C	MM54C86	‡ Micrel	105
	MM54C86	† National	
	MM74C86	National	
HC	GD54HC86	† GoldStar	
	GD74HC86	GoldStar	
	CD54HC86	°† Harris	110
	CD74HC86	° Harris	
	HCS86MS	‡ Harris	
	HCTS7266MS	‡ Harris	
	HCTS86MS	‡ Harris	
	M74HC86	Mitsubishi	115
	MC54HC86	† Motorola	
	MC74HC86	Motorola	
	MM54HC86	† National	
	MM74HC86	National	
	74HC86	° Philips	120
	M74HC386	SGS-Thomson	
	M74HC86	SGS-Thomson	
	SN54HC386	† TI	
	SN54HC86	† TI	
	SN74HC386	TI	125
	SN74HC86	TI	
	TC74HC386A	**Toshiba (3836)**	
	TC74HC86A	**Toshiba (3836)**	
HCMOS	74LV86	ℓ Philips	
HCT	GD54HCT86	† GoldStar	130
	GD74HCT86	GoldStar	
	CD54HCT86	°† Harris	

(Continued)

Function	Device	Source	Line
Quad			
HCT		(Cont'd)	
	CD74HCT86	° Harris	
	54HCTLS86	‡ **Ideal Semi (3643)**	
	74HCTLS86	‡ **Ideal Semi (3643)**	135
	74HCT86	° Philips	
	M74HCT86	SGS-Thomson	
	TC74HCT86A	**Toshiba (3836)**	
LVC	74LVC86	ℓ Philips	
	SN74LVC86	ℓ TI	140
LVQ	**TC74LVQ86**	ℓ **Toshiba (3837)**	
LVX	**TC74LVX86**	ℓ **Toshiba (3837)**	
VHC	**TC74VHC86**	**Toshiba (3837)**	
4XXX	GD4070B	‡ GoldStar	
	CD4030B	‡ Harris	145
	CD4070B	‡ Harris	
	CD4030A	‡ Micrel	
	CD4070B	‡ Micrel	
	MC14070BC	Motorola	
	CD4030A	National	150
	CD4070BC	National	
	CD4070BM	† National	
	HEF4030B	Philips	
	HEF4070B	Philips	
	BCL4030B	R&E Intl	155
	BCL4070B	R&E Intl	
	SCL4030B	R&E Intl	
	SCL4070B	R&E Intl	
	HCC4030B	† SGS-Thomson	
	HCC4070B	† SGS-Thomson	160
	HCF4030B	SGS-Thomson	
	HCF4070B	SGS-Thomson	
	TC4030B	**Toshiba (3838)**	
Quad 2-Input			
AC	MC74AC86	Motorola	
	74AC11086	Philips	165
	54AC11086	TI	
	74AC11086	TI	
ACT	MC74ACT86	Motorola	
	54ACT11086	† TI	
	74ACT11086	TI	170
4XXX	GD4030B	GoldStar	
	BU4030B	ROHM	
	BU4070B	ROHM	

Gates, Exclusive NOR

Function	Device	Source	Line
Quad			
AHCT	**54AHCT266**	‡ **Ideal Semi (3644)**	
	74AHCT266	**Ideal Semi (3644)**	175
4XXX	GD4077B	GoldStar	
	CD4077B	‡ Harris	
	MC14077BC	Motorola	
	HEF4077B	Philips	
	BCL4077B	R&E Intl	180
	SCL4077B	R&E Intl	
	HCC4077B	† SGS-Thomson	
	HCF4077B	SGS-Thomson	
	TC4077B	**Toshiba (3838)**	
Quad 2-Input	NJU4030B	NJR	185
AC	MC74AC810	Motorola	
	74AC11810	Philips	
ACT	MC74ACT810	Motorola	
HC	CD54HC7266	† Harris	
	CD74HC7266	Harris	190
	M74HC266	Mitsubishi	
	M74HC266A	Mitsubishi	
	MC54HC266	† Motorola	
	MC54HC7266	† Motorola	
	MC74HC7266	Motorola	195
	MM54HC7266	† National	
	MM74HC7266	National	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Gates, Exclusive NOR (Cont'd)

Function	Device	Source	Line
Quad 2-Input			
HC		(Cont'd)	
	74HC7266	Philips	
	54HC266	† Rochester	
	M74HC266	SGS-Thomson	
	M74HC7266	SGS-Thomson	
	SN54HC266	† TI	5
	SN74HC266	TI	
	SN74HC7266	TI	
	TC74HC266A	**Toshiba (3836)**	
	TC74HC7266A	**Toshiba (3836)**	
HCT	**54HCTLS266**	**‡ Ideal Semi (3643)**	10
	74HCTLS266	**‡ Ideal Semi (3643)**	

Gates, Miscellaneous

Function	Device	Source	Line
Dual 5-Input Majority Logic			
4XXX	MC14530BC	Motorola	
	TC4530B	**Toshiba (3838)**	
Triple (dual 4-input NAND and 2-input OR/NOR)			
4XXX	MC14501UBC	Motorola	
	TC4501B	**Toshiba (3838)**	15
Hex Function (quad inverter plus 2-input NOR gate plus 2-input NAND gate)			
4XXX	MC14572Cu	Motorola	
	TC4572B	**Toshiba (3838)**	
8-Input Expandable Multifunction			
4XXX	CD4048A	‡ Micrel	
	CD4048B	‡ Micrel	
	CD4048BC	National	20
	CD4048BM	† National	
	HCC4048B	† SGS-Thomson	
	HCF4048B	SGS-Thomson	

Latches

Function	Device	Source	Line
Serial Register (1Mx1), Continuous Read/Write			
	MSM514201	OKI	
	MSM514202	OKI	25
Dual Octal Transparent, D-Type, Three State			
HLL	74ALVC16373	ℓ Philips	
Dual 4-Bit			
HC	HCF4508B	SGS-Thomson	
4XXX	CD4508B	† Harris	
	CD4508BE	Harris	
	MC14508BC	Motorola	30
	HEF4508B	Philips	
	BCL4508B	R&E Intl	
	SCL4508B	R&E Intl	
	HCC4508B	† SGS-Thomson	
	TC4508B	**Toshiba (3838)**	35
Dual 4-Bit Addressable			
AC	MC74AC256	Motorola	
ACT	MC74ACT256	Motorola	
4XXX	CD4723BC	National	
	CD4723BM	National	
	F4723BC	National	40
Dual 4-Bit D-Type, Three-State			
AC	54AC11873	† TI	
	74AC11873	TI	
ACT	54ACT11873	† TI	
	74ACT11873	TI	
Quad, Bistable			
HC	M74HC77	SGS-Thomson	45
	SN74HC375	TI	
	TC74HC375A	**Toshiba (3836)**	
Quad Clocked D			
4XXX	CD4042A	Harris	
4XXX	GD4042B	† GoldStar	
	CD4042B	† Harris	50
	CD4042A	‡ Micrel	
	CD4042B	‡ Micrel	
		(Continued)	

Function	Device	Source	Line
Quad Clocked D			
4XXX		(Cont'd)	
	MC14042BC	Motorola	
	CD4042BC	National	
	CD4042BM	† National	55
	HEF4042B	Philips	
	HCC4042B	† SGS-Thomson	
	HCF4042B	SGS-Thomson	
	TC4042B	**Toshiba (3838)**	
Quad D-Type			
HC	M74HC375	SGS-Thomson	60
Quad NAND R/S			
4XXX	GD4044B	GoldStar	
	CD4044B	Harris	
	CD4044A	‡ Micrel	
	CD4044B	‡ Micrel	
	MC14044BC	Motorola	65
	CD4044A	National	
	CD4044BC	National	
	CD4044BM	† National	
	HEF4044B	Philips	
	HCC4044B	† SGS-Thomson	70
	HCF4044B	SGS-Thomson	
	TC4044B	**Toshiba (3838)**	
Quad NOR R/S			
4XXX	GD4043B	GoldStar	
	CD4043B	† Harris	
	CD4043A	‡ Micrel	75
	CD4043B	‡ Micrel	
	MC14043BC	Motorola	
	CD4043A	National	
	CD4043BC	National	
	CD4043BM	† National	80
	HEF4043B	Philips	
	BCL4043B	R&E Intl	
	HCC4043B	† SGS-Thomson	
	HCF4043B	SGS-Thomson	
	TC4043B	**Toshiba (3838)**	85
Quad NOR R/S, Three-State			
4XXX	SCL4043B	R&E Intl	
	SCL4044B	R&E Intl	
Quad R-S			
HC	M74HC279	SGS-Thomson	
Quad Set-Reset			
HC	**TC74HC279A**	**Toshiba (3836)**	
Octal D-Type			
AC	MC74AC373	Motorola	90
	MC74AC563	Motorola	
	MC74AC573	Motorola	
ACT	MC74ACT373	Motorola	
	MC74ACT563	Motorola	
	MC74ACT573	Motorola	95
HC	M74HC563	SGS-Thomson	
HCT	M74HCT573	SGS-Thomson	
Octal D-Type, Inverting			
HC	M74HC533	Mitsubishi	
	M74HC534	Mitsubishi	
Octal D-Type, Inverting, Three-State			
HC	**TC74HC533A**	**Toshiba (3836)**	100
Octal D-Type Latch			
AC	SN54AC11373	°† TI	
	54AC11373	† TI	
ACT	**TC74ACT563**	**Toshiba (3836)**	
	TC74ACT573	**Toshiba (3836)**	
Octal D-Type, Three-State			
	MM54C373	† National	105
	MM74C373	National	
ACT	**TC74ACT373**	**Toshiba (3836)**	
HC	**TC74HC373A**	**Toshiba (3836)**	
LVQ	**TC74LVQ373**	**ℓ Toshiba (3837)**	
LVX	**TC74LVX373**	**ℓ Toshiba (3837)**	110
VHC	74VHCT373	National	
	74VHC373	National	
	TC74VHC373	**Toshiba (3837)**	
		(Continued)	

Function	Device	Source	Line
Octal D-Type, Three-State		(Cont'd)	
VHCT	**TC74VHCT373**	**Toshiba (3837)**	
Octal D-Type, Three-State, Inverting			
ACT	**TC74ACT533**	**Toshiba (3836)**	115
HCT	**TC74HCT533A**	**Toshiba (3836)**	
Octal D-Type, Three-State, True			
ABT	54ABT573C	† National	
	74ABT573C	National	
Octal Inverting Transparent Latch, Three-State			
AC	CD54AC563	°† Harris	
	CD74AC563	° Harris	120
ACT	CD54ACT563	°† Harris	
	CD74ACT563	° Harris	
Octal Transparent			
AC	MC74AC533	Motorola	
ACT	MC74ACT533	Motorola	
HCT	MC54HCT373A	† Motorola	125
	MC74HCT373A	Motorola	
	MC74HCT533A	Motorola	
	MC74HCT573A	Motorola	
Octal Transparent, D-Type			
AC	SN54AC11533	°† TI	
	54AC11533	† TI	130
ACT	SN54ACT11533	°† TI	
	54ACT11533	† TI	
Octal Transparent, D-Type, Three State			
AC	CD54AC373	°† Harris	
	CD54AC573	°† Harris	
	CD74AC373	° Harris	135
	CD74AC573	° Harris	
	54AC373	°† National	
	74AC373	° National	
	74AC11373	° TI	
	TC74AC373	**Toshiba (3836)**	140
	TC74AC573	**Toshiba (3836)**	
ACQ	54ACQ573	† National	
	74ACQ573	National	
ACT	CD54ACT373	°† Harris	
	CD54ACT573	°† Harris	145
	CD74ACT373	° Harris	
	CD74ACT573	° Harris	
	54ACT373	† National	
	54ACT573	† National	
	74ACT373	National	150
	74ACT573	National	
	74ACT11373	° TI	
ACTQ	54ACTQ573	† National	
	74ACTQ573	National	
AHCT	**54AHCT573**	**‡ Ideal Semi (3644)**	155
	74AHCT373	**‡ Ideal Semi (3644)**	
	74AHCT573	**‡ Ideal Semi (3644)**	
FCT	IDT54FCT373	°† IDT	
	IDT54FCT373A	°† IDT	
	IDT54FCT373AT	°† IDT	160
	IDT54FCT373C	°† IDT	
	IDT54FCT373CT	°† IDT	
	IDT54FCT373DT	IDT	
	IDT54FCT373T	°† IDT	
	IDT54FCT573	°† IDT	165
	IDT54FCT573A	°† IDT	
	IDT54FCT573AT	°† IDT	
	IDT54FCT573C	°† IDT	
	IDT54FCT573CT	°† IDT	
	IDT54FCT573DT	IDT	170
	IDT54FCT573T	°† IDT	
	IDT74FCT373	° IDT	
	IDT74FCT373A	° IDT	
	IDT74FCT373AT	° IDT	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Latches		**(Cont'd)**	
Octal Transparent, D-Type, Three State			
FCT		(Cont'd)	
	IDT74FCT373C	° IDT	
	IDT74FCT373CT	° IDT	
	IDT74FCT373DT	IDT	
	IDT74FCT373T	° IDT	
	IDT74FCT573	° IDT	5
	IDT74FCT573A	° IDT	
	IDT74FCT573AT	° IDT	
	IDT74FCT573C	° IDT	
	IDT74FCT573CT	° IDT	
	IDT74FCT573DT	IDT	10
	IDT74FCT573T	° IDT	
	P54FCT373	Performance	
	P54FCT373A	Performance	
	P54FCT373AT	Performance	
	P54FCT373T	Performance	15
	P54FCT573	Performance	
	P54FCT573A	Performance	
	P54FCT573AT	Performance	
	P54FCT573CT	Performance	
	P54FCT573T	Performance	20
	P54PCT373	‡ Performance	
	P54PCT573	‡ Performance	
	P54PCT573A	‡ Performance	
	P74FCT373	Performance	
	P74FCT373CT	Performance	25
	P74FCT373T	Performance	
	P74FCT573	Performance	
	P74FCT573A	Performance	
	P74FCT573AT	Performance	
	P74FCT573C	Performance	30
	P74FCT573CT	Performance	
	P74FCT573T	Performance	
	54FCT373CT	Performance	
HC	GD54HC373	† GoldStar	
	GD74HC373	GoldStar	35
	CD54HC373	°† Harris	
	CD54HC573	°† Harris	
	CD74HC373	° Harris	
	CD74HC573	° Harris	
	HCS373MS	‡ Harris	40
	HCS573MS	‡ Harris	
	HCTS373MS	‡ Harris	
	MM54HC373	† National	
	MM54HC573	† National	
	MM74HC373	National	45
	MM74HC573	National	
	74HC373	° Philips	
	74HC573	° Philips	
	M74HC373	SGS-Thomson	
	M74HC573	SGS-Thomson	50
	SN54HC373	† TI	
	SN54HC573	† TI	
	SN74HC373	TI	
	SN74HC573	TI	
	TC74HC573A	**Toshiba (3836)**	55
HCMOS	74LV373	ℓ Philips	
	74LV573	ℓ Philips	
HCT	MV74HCT373	GEC Plessey	
	MV74HCT573	GEC Plessey	
	54HCT373SOS	GEC Plessey	60
	54HCT573SOS	GEC Plessey	
	74HCT373	GEC Plessey	
	74HCT573	GEC Plessey	
	GD54HCT373	† GoldStar	
	GD74HCT373	GoldStar	65
	CD54HCT373	† Harris	
	CD54HCT573	°† Harris	
	CD74HCT373	° Harris	
	CD74HCT573	° Harris	
	54HCTLS373	† **Ideal Semi (3643)**	70
	54HCTLS573	‡ **Ideal Semi (3643)**	
		(Continued)	

Function	Device	Source	Line
Octal Transparent, D-Type, Three State			
HCT		(Cont'd)	
	74HCTLS373	‡ **Ideal Semi (3643)**	
	74HCTLS573	‡ **Ideal Semi (3643)**	
	MM54HCT373	† National	
	MM74HCT373	National	75
	MM74HCT573	National	
	74HCT373	° Philips	
	74HCT573	° Philips	
	M74HCT373	SGS-Thomson	
	SN54HCT373	† TI	80
	SN74HCT373	TI	
	SN74HCT573	TI	
	TC74HCT373A	**Toshiba (3836)**	
	TC74HCT573A	Toshiba	
HLL	74HL33373	ℓ Philips	85
LV	SN74LV373	ℓ TI	
	SN74LV573	ℓ TI	
LVC	74LVC373	ℓ Philips	
	74LVC573	ℓ Philips	
	SN74LVC373	ℓ TI	90
	SN74LVC573	ℓ TI	
LVQ	TC74LVQ573	ℓ Toshiba	
LVT	SN54LVT373	ℓ† TI	
	SN74LVT573	ℓ TI	
LVX	**TC74LVX573**	ℓ **Toshiba (3837)**	95
SC	MV74SC573	GEC Plessey	
VHC	74VHC573	National	
	TC74VHC573	**Toshiba (3837)**	
VHCT	**TC74VHCT573**	**Toshiba (3837)**	
4XXX	HEF40373B	Philips	100
Octal Transparent, D-Type, Three State, True			
FCT	QS54FCT2373	† Quality Semi	
	QS54FCT2373A	† Quality Semi	
	QS54FCT2373C	† Quality Semi	
	QS54FCT2373D	† Quality Semi	
	QS54FCT373	† Quality Semi	105
	QS54FCT373A	† Quality Semi	
	QS54FCT373C	† Quality Semi	
	QS54FCT373D	† Quality Semi	
	QS74FCT373	Quality Semi	
	QS74FCT373A	Quality Semi	110
	QS74FCT373C	Quality Semi	
	QS74FCT373D	Quality Semi	
Octal Transparent, D-Type, Three-State			
AC	74AC11373	Philips	
AHCT	**54AHCT373**	‡ **Ideal Semi (3644)**	
BCT	SN54BCT373	† TI	115
FCT	DPLFCT573Y	† Dense-Pac	
	QS54FCT2573	† Quality Semi	
	QS54FCT2573A	† Quality Semi	
	QS54FCT573	† Quality Semi	
	QS54FCT573A	† Quality Semi	120
	QS54FCT573C	† Quality Semi	
	QS74FCT2573	Quality Semi	
	QS74FCT2573A	Quality Semi	
	QS74FCT573	Quality Semi	
	QS74FCT573A	Quality Semi	125
	QS74FCT573C	Quality Semi	
Octal Transparent D-Type, Three-State (dual)			
AC	DPLAC373Y	Dense-Pac	
ACT	DPLACT373Y	Dense-Pac	
	DPLACT573Y	Dense-Pac	
FCT	DPLFCT373Y	† Dense-Pac	130
HC	DPLHC373Y	Dense-Pac	
	DPLHC573Y	Dense-Pac	
	DPLXXX373X	Dense-Pac	
	DPLXXX573X	Dense-Pac	
HCT	DPLHCT373Y	Dense-Pac	135
	DPLHCT573Y	Dense-Pac	

Function	Device	Source	Line
Octal Transparent, D-Type, Three-State, Inverting			
AC	74AC11533	Philips	
HC	M74HC533-1	Mitsubishi	
Octal Transparent, D-Type, Three-State, Inverting (LSTTL compatible inputs)			
HCT	M74HCT533-1	Mitsubishi	
Octal Transparent, D-Type, Three-State, Non-Inverting			
HC	M74HC373-1	Mitsubishi	140
HCT	M74HCT373-1	Mitsubishi	
Octal Transparent, D-Type, Three-State, True			
ABT	54ABT373C	† National	
	74ABT373C	National	
FCT	QS74FCT2373	Quality Semi	
	QS74FCT2373A	Quality Semi	145
	QS74FCT2373C	Quality Semi	
	QS74FCT2373D	Quality Semi	
Octal, Transparent, Inverting			
HCT	MC54HCT533A	† Motorola	
Octal Transparent Latch/Three-State			
	CD54FCT373TF3A	Harris	
	CD74FCT373AT	Harris	150
	CD74FCT573AT	Harris	
	P74FCT373AT	Performance	
Octal, Transparent, True			
HCT	MC54HCT573A	† Motorola	
Octal Transparent, Three-State			
	74ACQ533	National	
ACQ	54ACQ373	† National	155
	54ACQ533	† National	
	74ACQ373	National	
ACTQ	54ACTQ373	† National	
	54ACTQ533	† National	
	74ACTQ373	National	160
	74ACTQ533	National	
FCT	P54PCT373A	‡ Performance	
	P74FCT373A	Performance	
Octal Transparent, Three-State, Inverted Output			
AC	CD54AC533	°† Harris	
	CD74AC533	° Harris	165
	TC74AC533	Toshiba	
	TC74AC563	**Toshiba (3836)**	
ACT	CD54ACT533	°† Harris	
	CD74ACT533	° Harris	
	54ACT563	† National	170
	74ACT563	National	
	74ACT11533	° TI	
AHCT	**54AHCT533**	**Ideal Semi (3644)**	
	54AHCT563	‡ **Ideal Semi (3644)**	
	74AHCT533	‡ **Ideal Semi (3644)**	175
	74AHCT563	‡ **Ideal Semi (3644)**	
BCT	SN54BCT533	† TI	
FCT	IDT54FCT533	°† IDT	
	IDT54FCT533A	°† IDT	
	IDT54FCT533AT	°† IDT	180
	IDT54FCT533C	† IDT	
	IDT54FCT533CT	°† IDT	
	IDT54FCT533T	°‡ IDT	
	IDT74FCT533	° IDT	
	IDT74FCT533A	° IDT	185
	IDT74FCT533AT	° IDT	
	IDT74FCT533C	IDT	
	IDT74FCT533CT	° IDT	
	IDT74FCT533T	° IDT	
	P74FCT533AT	Performance	190
	P74FCT533CT	Performance	
	P74FCT533T	Performance	
	54FCT533AT	Performance	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Latches (Cont'd)

Function	Device	Source	Line
Octal Transparent, Three-State, Inverted Output			
FCT (Cont'd)			
	54FCT533CT	Performance	
	54FCT533T	Performance	
HC	GD54HC533	† GoldStar	
	GD74HC533	GoldStar	
	CD54HC533	°† Harris	5
	CD54HC563	°† Harris	
	CD74HC533	° Harris	
	CD74HC563	° Harris	
	MC54HC563	† Motorola	
	MC74HC563	Motorola	10
	MM54HC533	† National	
	MM54HC563	† National	
	MM74HC533	National	
	MM74HC563	National	
	74HC533	° Philips	15
	74HC563	° Philips	
	M74HC533	SGS-Thomson	
	SN54HC533	† TI	
	SN54HC563	† TI	
	SN74HC533	TI	20
	SN74HC563	TI	
	TC74HC563A	**Toshiba (3836)**	
HCT	MV74HCT533	GEC Plessey	
	MV74HCT563	GEC Plessey	
	54HCT533SOS	GEC Plessey	25
	54HCT563SOS	GEC Plessey	
	74HCT533	GEC Plessey	
	74HCT563	GEC Plessey	
	GD54HCT533	† GoldStar	
	GD74HCT533	GoldStar	30
	CD54HCT533	°† Harris	
	CD54HCT563	°† Harris	
	CD74HCT533	° Harris	
	CD74HCT563	° Harris	
	54HCTLS533	**‡ Ideal Semi (3643)**	35
	54HCTLS563	**‡ Ideal Semi (3643)**	
	74HCTLS533	**‡ Ideal Semi (3643)**	
	74HCTLS563	**‡ Ideal Semi (3643)**	
	MM54HCT533	† National	
	MM74HCT533	National	40
	74HCT533	° Philips	
	74HCT563	° Philips	
	54HCT533	Rochester	
	KS74HCTLS533	Samsung	
	KS74HCTLS563	Samsung	45
	M74HCT533	SGS-Thomson	
	M74HCT563	SGS-Thomson	
	SN74HCT533	TI	
	SN74HCT563	TI	
	TC74HCT563A	**Toshiba (3836)**	50
HLL	74HL33533	ℓ Philips	
SC	MV74SC533	GEC Plessey	
	MV74SC563	GEC Plessey	
Octal Transparent, Three-State, Inverting			
FCT	QS54FCT2533	† Quality Semi	
	QS54FCT2533A	† Quality Semi	55
	QS54FCT2533C	† Quality Semi	
	QS54FCT533	† Quality Semi	
	QS54FCT533A	† Quality Semi	
	QS54FCT533C	† Quality Semi	
	QS74FCT2533	Quality Semi	60
	QS74FCT2533A	Quality Semi	
	QS74FCT2533C	Quality Semi	
	QS74FCT533	Quality Semi	
	QS74FCT533A	Quality Semi	
	QS74FCT533C	Quality Semi	65
Octal Transparent, Three-State, True			
HC	MC54HC573A	† Motorola	
	MC74HC573A	Motorola	
Octal, Three-State			
ACQ	54ACQ563	† National	
	74ACQ563	National	
ACTQ	54ACTQ563	† National	70
	74ACTQ563	National	
Octal, Three-State, Inverting, Transparent			
HC	MC54HC533A	† Motorola	
	MC74HC533A	Motorola	
Octal, Three-State, Non-Inverting			
HC	MC54HC373A	† Motorola	
	MC74HC373A	Motorola	75
4-Bit Bistable			
HC	CD54HC75	† Harris	
	CD74HC75	Harris	
	HCTS75MS	‡ Harris	
	M74HC75	Mitsubishi	
	MC54HC75	† Motorola	80
	MC74HC75	Motorola	
	MM54HC75	† National	
	MM74HC75	National	
	74HC75	Philips	
	M74HC75	SGS-Thomson	85
	SN54HC75	† TI	
	SN74HC75	TI	
	TC74HC75A	**Toshiba (3836)**	
HCT	CD54HCT75	† Harris	
	CD74HCT75	Harris	90
	74HCT75	Philips	
4-Bit D-Type			
HC	SN74HC77	TI	
	TC74HC77A	**Toshiba (3836)**	
8-Bit Addressable			
AC	MC74AC259	Motorola	
ACT	MC74ACT259	Motorola	95
8-Bit Addressable Input, Parallel Output, Three-State			
4XXX	MC14598BC	Motorola	
8-Bit Addressable (serial in, parallel out)			
AHCT	**54AHCT259**	**‡ Ideal Semi (3644)**	
	74AHCT259	**‡ Ideal Semi (3644)**	
Cell	SN74259	TI	
HC	CD54HC259	† Harris	100
	CD74HC259	Harris	
	M74HC259	Mitsubishi	
	MC54HC259	† Motorola	
	MC74HC259	Motorola	
	MM54HC259	† National	105
	MM74HC259	National	
	74HC259	Philips	
	M74HC259	SGS-Thomson	
	SN54HC259	† TI	
	SN74HC259	TI	110
	SN74HC4724	TI	
	TC74HC259A	**Toshiba (3836)**	
HCMOS	74LV259	ℓ Philips	
HCT	CD54HCT259	† Harris	
	CD74HCT259	Harris	115
	54HCTLS259	**‡ Ideal Semi (3643)**	
	74HCTLS259	**‡ Ideal Semi (3643)**	
	74HCT259	Philips	
4XXX	GD4724B	GoldStar	
	CD4099B	‡ Harris	120
	CD4724B	† Harris	
	CD4099B	‡ Micrel	
	CD4724B	‡ Micrel	
	MC14099BC	Motorola	
	CD4099BC	National	125
	CD4099BM	† National	
	CD4724BC	National	
	CD4724BM	† National	
	HEF4724B	Philips	
	BCL4099B	R&E Intl	130
		(Continued)	
8-Bit Addressable (serial in, parallel out)			
4XXX (Cont'd)			
	SCL4099B	R&E Intl	
	HCC4099B	† SGS-Thomson	
	HCF4099B	SGS-Thomson	
	TC4099B	**Toshiba (3838)**	
8-Bit, Bus Compatible, Three-State, Internal Counter			
4XXX	MC14597BC	Motorola	135
8-Bit Bus Compatible, Three-State, Binary Address			
4XXX	MC14599BC	Motorola	
8-Bit, Transparent			
AC	MC74AC845	Motorola	
	54AC843	† National	
	74AC843	National	
ACT	MC74ACT845	Motorola	140
ACTQ	54ACTQ843	† National	
	74ACTQ843	National	
FCT	QS74FCT845	Quality Semi	
8-Bit Transparent, D-Type, Three-State			
ACT	SN54ACT11373	°† TI	
	54ACT11373	TI	145
8-Bit Transparent, D-Type, Three-State, Inverting			
AC	54AC11846	† TI	
	74AC11533	° TI	
	74AC11846	TI	
BCT	SN54BCT29846	† TI	
FCT	IDT54FCT845B	† IDT	150
	IDT54FCT845C	† IDT	
	IDT74FCT846A	IDT	
	IDT74FCT846B	IDT	
8-Bit Transparent, D-Type, Three-State, True			
AC	54AC11845	† TI	
	74AC11845	TI	155
FCT	IDT54FCT845A	† IDT	
	IDT54FCT845AT	† IDT	
	IDT54FCT845BT	† IDT	
	IDT54FCT845CT	IDT	
	IDT74FCT845A	IDT	160
	IDT74FCT845B	IDT	
	IDT74FCT845C	IDT	
	54FCT845A	† National	
	54FCT845B	† National	
	74FCT845A	National	165
	74FCT845B	National	
	P54FCT845AT	Performance	
	P54FCT845BT	Performance	
	P54FCT845CT	Performance	
	P74FCT845AT	Performance	170
	P74FCT845BT	Performance	
	P74FCT845CT	Performance	
	QS54FCT845A	† Quality Semi	
	QS54FCT845B	† Quality Semi	
	QS54FCT845C	† Quality Semi	175
	QS74FCT845A	Quality Semi	
	QS74FCT845B	Quality Semi	
	QS74FCT845C	Quality Semi	
PCT	P74PCT845B	Performance	
8-Bit Transparent, True, Three-State			
FCT	QS74FCT2845	Quality Semi	180
8-Bit Transparent, Three-State			
AC	54AC845	† National	
	74AC845	National	
ACT	54ACT845	† National	
	74ACT845	National	
8-Bit, Three-State, True			
ACT	54ACT11845	† TI	185
	74ACT11845	TI	
9-Bit Interface, D-Type, Three-State			
	AM29C843AC	AMD	
9-Bit, Transparent			
AC	MC74AC843	Motorola	
ACT	MC74ACT843	Motorola	
FCT	QS74FCT843	Quality Semi	190

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Latches (Cont'd)

Function	Device	Source	Line
9-Bit Transparent, D-Type, Three-State, Inverting			
AC	54AC11844	† TI	
	74AC11844	TI	
BCT	SN54BCT29844	† TI	
FCT	IDT54FCT844B	† IDT	
	IDT54FCT844C	† IDT	5
	IDT74FCT844B	IDT	
	IDT74FCT844C	IDT	
9-Bit Transparent, D-Type, Three-State, True			
	P54FCT843BT	Performance	
	P74FCT843AT	Performance	
	P74FCT843BT	Performance	10
	P74FCT843CT	Performance	
	QS54FCT843A	† Quality Semi	
	QS54FCT843B	† Quality Semi	
	QS54FCT843C	† Quality Semi	
	QS74FCT843A	Quality Semi	15
	QS74FCT843B	Quality Semi	
	QS74FCT843C	Quality Semi	
AC	54AC11843	† TI	
	74AC11843	TI	
BCT	SN54BCT29843	† TI	20
FCT	IDT54FCT843AT	† IDT	
	IDT54FCT843B	† IDT	
	IDT54FCT843BT	† IDT	
	IDT54FCT843C	† IDT	
	IDT54FCT843CT	† IDT	25
	IDT74FCT843AT	IDT	
	IDT74FCT843B	IDT	
	IDT74FCT843BT	IDT	
	IDT74FCT843C	IDT	
	IDT74FCT843CT	IDT	30
	P54FCT843AT	Performance	
	P54FCT843CT	Performance	
	P74FCT843A	Performance	
	P74FCT843B	Performance	
	QS54FCT2843A	† Quality Semi	35
	QS54FCT2843B	† Quality Semi	
	QS54FCT2843C	† Quality Semi	
	QS74FCT2843A	Quality Semi	
	QS74FCT2843B	Quality Semi	
	QS74FCT2843C	Quality Semi	40
PCT	P54PCT843A	‡ Performance	
	P54PCT843B	‡ Performance	
9-Bit Transparent, True, Three-State			
FCT	QS74FCT2843	Quality Semi	
10-Bit Transparent			
FCT	QS74FCT841	Quality Semi	
10-Bit Transparent, D-Type, Inverting			
HC	M74HC842-1	Mitsubishi	45
HCT	M74HCT842-1	Mitsubishi	
10-Bit Transparent, D-Type, True			
HC	M74HC841-1	Mitsubishi	
HCT	M74HCT841-1	Mitsubishi	
10-Bit Transparent, D-Type, Three-State, Inverting			
AC	54AC11842	† TI	
	74AC11842	TI	50
BCT	SN54BCT29842	† TI	
FCT	IDT54FCT844A	† IDT	
	IDT74FCT844A	IDT	
10-Bit Transparent, D-Type, Three-State, True			
	AM29C841AC	AMD	
AC	54AC11841	† TI	55
	74AC11841	TI	
BCT	SN54BCT29841	† TI	
FCT	IDT54FCT841A	°† IDT	
	IDT54FCT841AT	°† IDT	
	IDT54FCT841B	°† IDT	60
	IDT54FCT841BT	°† IDT	
	IDT54FCT841C	°† IDT	
(Continued)			
10-Bit Transparent, D-Type, Three-State, True			
FCT (Cont'd)			
	IDT54FCT841CT	°† IDT	
	IDT54FCT841DT	† IDT	
	IDT74FCT841A	° IDT	65
	IDT74FCT841AT	°† IDT	
	IDT74FCT841B	° IDT	
	IDT74FCT841BT	° IDT	
	IDT74FCT841C	° IDT	
	IDT74FCT841CT	° IDT	70
	IDT74FCT841DT	IDT	
	P54FCT841A	Performance	
	P54FCT841AT	Performance	
	P54FCT841B	Performance	
	P54FCT841BT	Performance	75
	P54FCT841CT	Performance	
	P54FCT843A	Performance	
	P54FCT843B	Performance	
	P74FCT841A	Performance	
	P74FCT841AT	Performance	80
	P74FCT841B	Performance	
	P74FCT841BT	Performance	
	P74FCT841CT	Performance	
	QS54FCT2841A	† Quality Semi	
	QS54FCT2841B	† Quality Semi	85
	QS54FCT2841C	† Quality Semi	
	QS54FCT2845A	† Quality Semi	
	QS54FCT2845B	† Quality Semi	
	QS54FCT2845C	† Quality Semi	
	QS54FCT841A	† Quality Semi	90
	QS54FCT841B	† Quality Semi	
	QS54FCT841C	† Quality Semi	
	QS74FCT2841A	Quality Semi	
	QS74FCT2841B	Quality Semi	
	QS74FCT2841C	Quality Semi	95
	QS74FCT2845A	Quality Semi	
	QS74FCT2845B	Quality Semi	
	QS74FCT2845C	Quality Semi	
	QS74FCT841A	Quality Semi	
	QS74FCT841B	Quality Semi	100
	QS74FCT841C	Quality Semi	
PCT	P54PCT841A	‡ Performance	
	P54PCT841B	‡ Performance	
10-Bit Transparent, True, Three-State			
FCT	QS74FCT2841	Quality Semi	
10-Bit Transparent, Three State, True			
FBT	IDT54FBT2841A	† IDT	105
	IDT54FBT2841B	† IDT	
	IDT54FBT2841C	† IDT	
	IDT74FBT2841A	IDT	
	IDT74FBT2841B	IDT	
	IDT74FBT2841C	IDT	110
10-Bit Transparent, Three-State			
ACTQ	54ACTQ841	† National	
	74ACTQ841	National	
16 Bit Transparent, D-Type, Three State			
AC	54ACT16373	† TI	
	54AC16373	† TI	
	74ACT16373	TI	115
	74AC16373	TI	
16 Bit Transparent, Three-State, Inverted Output			
AC	54AC16533	† TI	
	74AC16533	TI	
ACT	54ACT16533	† TI	
	74ACT16533	TI	120
16 Bit Transparent, Three-State, True			
FCT	IDT54FCT162373AT	IDT	
	IDT54FCT162373CT	IDT	
	IDT54FCT162373T	IDT	
	IDT54FCT16373AT	IDT	
	IDT54FCT16373CT	IDT	125
	IDT54FCT16373T	IDT	
(Continued)			
16 Bit Transparent, Three-State, True			
FCT (Cont'd)			
	IDT74FCT162373AT	IDT	
	IDT74FCT162373CT	IDT	
	IDT74FCT162373T	IDT	
	IDT74FCT16373AT	IDT	130
	IDT74FCT16373CT	IDT	
	IDT74FCT16373T	IDT	
16-Bit Addressable			
	LT74TC16	LSTI	
16-Bit Bidirectional Latch with Byte Swap			
FCT	IDT49FCT601	IDT	
16-Bit, Transparent			
AC	54AC16843	† TI	135
	74AC16843	TI	
16-Bit Transparent, D-Type, Three State			
ACTQ	54ACTQ16373	† National	
	74ACTQ16373	National	
16-Bit Transparent, D-Type, Three-State			
ALVC	SN74ALVC16373	ℓ TI	
16-Bit Transparent, D-Type, Three-State, Inverting			
ACT	54ACT16844	† TI	140
	74ACT16844	TI	
16-Bit Transparent, D-Type, Three-State, True			
ACT	54ACT16843	† TI	
	74ACT16843	TI	
LVT	SN54LVT16373	ℓ† TI	
	SN74LVT16373	ℓ† TI	145
16-Bit Transparent Latch, 3.3V			
	IDT54FCT163373	ℓ IDT	
	IDT54FCT163373A	ℓ IDT	
	IDT74FCT163373	ℓ IDT	
	IDT74FCT163373A	ℓ IDT	
18-Bit Transparent, D-Type, Three-State, True			
ALVC	SN74ALVC16843	ℓ TI	150
20-Bit Transparent, D-Type, Three-State, True			
ALVC	SN74ALVC16841	ℓ TI	
20-Bit, True			
FCT	IDT54FCT162841AT	IDT	
	IDT54FCT162841BT	IDT	
	IDT54FCT162841CT	IDT	
	IDT54FCT16841AT	IDT	155
	IDT54FCT16841BT	IDT	
	IDT54FCT16841CT	IDT	
	IDT74FCT162841AT	IDT	
	IDT74FCT162841BT	IDT	
	IDT74FCT162841CT	IDT	160
	IDT74FCT16841AT	IDT	
	IDT74FCT16841BT	IDT	
	IDT74FCT16841CT	IDT	
32-Bit Addressable			
	LT54TC32	† LSTI	
	LT74TC32	LSTI	165
10-Bit Transparent			
AC	**TC74AC841**	**Toshiba (3836)**	
ACT	**TC74ACT841**	**Toshiba (3836)**	
10-Bit Transparent, D-Type, Three-State, Inverting			
ACT	54ACT11842	† TI	
	74ACT11842	TI	
10-Bit Transparent, D-Type, Three-State, True			
ACT	54ACT841	† National	170
	74ACT841	National	
(Continued)			

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Latches (Cont'd)

Function	Device	Source
10-Bit Transparent, D-Type, Three-State, True		
ACT		(Cont'd)
	54ACT11841	† TI
	74ACT11841	TI
LVC	SN74LVC841	ℓ TI
16-Bit Transparent		
AC	54AC16841	† TI
	74AC16841	TI
16-Bit Transparent, D-Type, Three-State, Inverting		
ACT	54ACT16842	† TI
16-Bit Transparent, D-Type, Three-State, True		
ACT	54ACT16841	† TI
	74ACT16841	TI
8-Bit Transparent, D-Type, Three-State, Inverting		
ACT	54ACT11846	† TI
	74ACT11846	TI
8-Bit Transparent, D-Type, Three-State, True		
ACT	54ACT843	† National
	74ACT843	National
LVC	SN74LVC843	ℓ TI
9-Bit Transparent		
AC	**TC74AC843**	**Toshiba (3836)**
ACT	**TC74ACT843**	**Toshiba (3836)**
9-Bit Transparent, D-Type, Three-State, Inverting		
ACT	54ACT11844	† TI
	74ACT11844	TI
9-Bit Transparent, D-Type, Three-State, True		
ACT	54ACT11843	† TI
	74ACT11843	TI

Memories

Function	Device	Source
Cache Data RAM (2Kx16x2 static RAM)		
	MS82C308-35	Mosel-Vitelic
	MS82C308-45	Mosel-Vitelic
C	MS82C308-55	Mosel-Vitelic
Cache Tag RAM, Open Drain (2048x8)		
ACT	SN74ACT2154A-20	• TI
	SN74ACT2154A-25	• TI
Cache Tag RAM, 512x8		
	TMS2150	TI
Cache Tag Ram (2Kx20)		
	MS8202-20	Mosel-Vitelic
	MS8202-22	Mosel-Vitelic
	MS8202-25	Mosel-Vitelic
Cache Tag RAM (16392x5)		
ACT	SN74ACT2163-20	• TI
Cache Tag RAM (2048x8)		
ACT	SN74ACT2152A-20	• TI
	SN74ACT2152A-25	• TI
EEPROM, 128x8 (with I^{2}C bus interface)		
	PCF8581	Philips
	PCF8581C	Philips
FIFO Register (4-Bit by 16-word)		
HC	**TC74HC40105A**	**Toshiba (3836)**
FIFO, 4x16 Expandable		
HCT	74HCT7030	Philips
FIFO (64x9)		
AC	54AC2708	† National
	74AC2708	National
ACT	54ACT2708	† National
	74ACT2708	National
First-In, First-Out (FIFO) Memory, 512x9		
ACT	54ACT725	† National
	74ACT725	National
RAM, 16x4, Three-State		
	MM54C989	† National
	MM74C989	National
Register File, Dual-Access (4-port)		
	AM29C334	• AMD
Register File, 3 Port (8x8)		
	LRF07	† LogicDev
Dual-Port RAM, 256 Bytes		
HC	MCM68HC34	Motorola
Octal Memory Driver (BiCMOS)		
BCT	SN74BCT2244	• TI
4-Bit x 16 FIFO Register		
HC	CD54HC40105	† Harris
	CD74HC40105	Harris
	74HC40105	Philips
HCT	CD54HCT40105	† Harris
	CD74HCT40105	Harris
	74HCT40105	Philips
8-Bit PIPO Register		
HC	MM74HC323	National
	M74HC323	SGS-Thomson
8-Bit SIPO Shift Register		
HC	M74HC4094	SGS-Thomson
10-Bit Memory Driver (BiCMOS)		
BCT	74BCT2827C	National
	74BCT2828A	National
	SN74BCT2827A	• TI
	SN74BCT2828A	• TI
16-Bit FIFO (4x4)		
4XXX	CD40105B	† Harris
	HCC40105B	† SGS-Thomson
	HCF40105B	SGS-Thomson
16-Bit Multiport Register File (4x4 read while write RAM)		
4XXX	MC14580BC	ℓ Motorola
	HCC40208B	† SGS-Thomson
	HCF40208B	SGS-Thomson
16-Bit (4x4) Register File		
HC	CD54HC670	† Harris
	CD74HC670	Harris
	MC74HC670	Motorola
	74HC670	• Philips
	M74HC670	SGS-Thomson
	TC74HC670A	**Toshiba (3836)**
HCT	CD54HCT670	† Harris
	CD74HCT670	Harris
	74HCT670	• Philips
32-Bit RAM (4x8)		
4XXX	**TC4036B**	**Toshiba (3838)**
	TC4039B	**Toshiba (3838)**
64-Bit RAM (16x4)		
C	MM54C89	‡ Micrel
	MM54C89	† National
	MM74C89	National
4XXX	CD40114B	† Harris
64-Bit RAM (64x1)		
4XXX	HEF4505B	Philips
64x4-Bit FIFO, Three-State		
HC	CD74HC7030	Harris
HCT	CD74HCT7030	Harris
256-Bit RAM (256x1)		
	MM54C200	ℓ‡ Micrel
	MM54C200	ℓ† National
	MM74C200	ℓ National
4XXX	GD4720B	GoldStar
	HEF4720B	Philips
256-Bit RAM (32x8)		
	CDP1824	† Harris
	CDP1824C	† Harris
	HB1824	† Hughes
	HB1824C	† Hughes
		(Continued)
256-Bit RAM (32x8)		(Cont'd)
HC	HC1824	Hughes
	HC1824C	Hughes
256-Bit RAM (64x4)		
C	MM54C910	† National
	MM74C910	National

Multiplexers (Digital)

Function	Device	Source
Presettable Fully Synchronous, Synchronous Clear		
HC	M74HC162	Mitsubishi
Dual 2-to-4 Line Decoder/Demultiplexer		
AC	74AC11139	Philips
	74AC11239	Philips
Dual 4:1 Multiplexer		
HCT	**TC74HCT352A**	**Toshiba (3836)**
Dual 4:1 Multiplexer, Three-State		
HC	**TC74HC353A**	**Toshiba (3836)**
Dual 4-Bit		
ACT	MC74ACT253	Motorola
Dual 4-Channel		
AC	CD54AC153	•† Harris
	CD74AC153	• Harris
	54AC153	† National
	74AC153	National
	54AC11153	† TI
	74AC11153	TI
ACT	CD54ACT153	•† Harris
	CD74ACT153	• Harris
	54ACT153	† National
	74ACT153	National
	54ACT11153	† TI
	74ACT11153	TI
ACTQ	54ACTQ153	† National
	74ACTQ153	National
Cell	74153	Rochester
	SN74153	TI
HC	CD54HC153	•† Harris
	CD74HC153	• Harris
	HCTS153MS	‡ Harris
	M74HC253	Mitsubishi
	MC54HC153	† Motorola
	MC74HC153	Motorola
	MM54HC153	† National
	MM74HC153	National
	M74HC153	SGS-Thomson
	SN54HC153	† TI
	SN74HC153	TI
	US74HC153	Universal
HCT	CD54HCT153	† Harris
	CD74HCT153	• Harris
	MM54HCT153	† National
	MM74HCT153	National
4XXX	GD4539B	GoldStar
	MC14539BC	Motorola
	HEF4539B	Philips
	TC4539B	**Toshiba (3838)**
Dual 4-Channel, Inverting		
AC	54AC11352	† TI
	74AC11352	TI
ACT	54ACT11352	† TI
	74ACT11352	TI
	74ACT11353	• TI
HC	M74HC352	SGS-Thomson
	SN74HC352	TI
Dual 4-Channel, Inverting, Three-State		
AC	54AC11353	† TI
	74AC11353	• TI
Dual 4-Channel Multiplexer/Demultiplexer		
HC	M74HC4052	Mitsubishi
Dual 4-Channel, Three-State		
AC	CD54AC253	• Harris
	CD74AC253	• Harris
		(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Multiplexers (Digital) (Cont'd)

Function	Device	Source	Line
Dual 4-Channel, Three-State			
AC		(Cont'd)	
	54AC253	† National	
	74AC253	National	
	54AC11253	† TI	
	74AC11253	° TI	
	TC74AC253	**Toshiba (3836)**	5
ACT	CD54ACT253	° Harris	
	CD74ACT253	° Harris	
	54ACT253	† National	
	74ACT253	National	
	74ACT11253	° TI	10
	TC74ACT253	Toshiba	
HC	CD54HC253	° Harris	
	CD74HC253	° Harris	
	HCS253MS	‡ Harris	
	MC54HC253	† Motorola	15
	MC74HC253	Motorola	
	MM54HC253	† National	
	MM74HC253	National	
	54HC253	† Rochester	
	M74HC253	SGS-Thomson	20
	SN54HC253	† TI	
	SN74HC253	TI	
	TC74HC253A	**Toshiba (3836)**	
HCT	CD54HCT253	°† Harris	
	CD74HCT253	° Harris	25
	MM54HCT253	† National	
	MM74HCT253	National	
Dual 4-Channel, Three-State, Inverting			
HC	M74HC353	SGS-Thomson	
	SN74HC353	° TI	
Dual 4-Input			
AC	MC74AC153	Motorola	30
	MC74AC253	Motorola	
	MC74AC352	Motorola	
	MC74AC353	Motorola	
ACT	MC74ACT153	Motorola	
	MC74ACT352	Motorola	35
	MC74ACT353	Motorola	
Dual 4-Input Multiplexer			
AC	74AC11153	Philips	
Dual 4-Input Multiplexer, Inverting			
AC	74AC11352	Philips	
Dual 4-Input Multiplexer, Three-State			
AC	74AC11253	Philips	
Dual 4-Input Multiplexer, Three-State, Inverting			
AC	74AC11353	Philips	40
Dual 4-to-1 Data Selector/Multiplexer			
ACT	SN54ACT11253	°† TI	
	SN54ACT11257	°† TI	
	SN54ACT11353	°† TI	
	54ACT11253	°† TI	
	54ACT11257	† TI	45
	54ACT11353	† TI	
Dual 4-Channel			
AC	**TC74AC153**	**Toshiba (3836)**	
HC	**TC74HC352A**	**Toshiba (3836)**	
4XXX	CD54HC4352	† Harris	
Dual 4-Channel Multiplexer			
ACT	TC74ACT153	Toshiba	50
Triple 2-Channel Multiplexer/Demultiplexer			
HC	M74HC4053	Mitsubishi	
Triple 2-Channel			
4XXX	CD54HC4353	† Harris	
Quad Bilateral Switch			
4XXX	CD54HC4016	† Harris	
Quad 1-of-2 Data Selector/Multiplexer			
ACT	54ACT11158	† TI	
	74ACT11158	TI	55
Quad 2:1 Multiplexer			
AC	**TC74AC157**	**Toshiba (3836)**	
Quad 2:1 Multiplexer, Three-State			
HCT	**TC74HCT257A**	**Toshiba (3836)**	
	TC74HCT258A	**Toshiba (3836)**	
Quad 2-Channel			
HC	M74HC258	SGS-Thomson	
Quad 2-Channel, Inverting			
HC	MM54HC258	† National	60
	MM74HC258	National	
Quad 2-Input			
AC	MC74AC157	Motorola	
	MC74AC158	Motorola	
	MC74AC257	Motorola	
	MC74AC258	Motorola	65
ACT	MC74ACT157	Motorola	
	MC74ACT158	Motorola	
	MC74ACT257	Motorola	
	MC74ACT258	Motorola	
FCT	QS54FCT157	† Quality Semi	70
	QS54FCT157A	† Quality Semi	
	QS54FCT157C	† Quality Semi	
	QS54FCT2157	† Quality Semi	
	QS54FCT2157A	† Quality Semi	
	QS74FCT157	Quality Semi	75
	QS74FCT157A	Quality Semi	
	QS74FCT157C	Quality Semi	
	QS74FCT2157	Quality Semi	
	QS74FCT2157A	Quality Semi	
HC	M74HC257	Mitsubishi	80
HCT	MM54HCT157	† National	
	MM74HCT157	National	
Quad 2-Input Data Selector			
AC	CD54AC157	°† Harris	
	CD74AC157	° Harris	
	54AC157	† National	85
	74AC157	National	
	54AC11157	TI	
	74AC11157	TI	
ACT	CD54ACT157	°† Harris	
	CD74ACT157	° Harris	90
	54ACT157	† National	
	74ACT157	National	
	54ACT11157	† TI	
	74ACT11157	TI	
AHCT	**54AHCT157**	**‡ Ideal Semi (3644)**	95
	74AHCT157	**‡ Ideal Semi (3644)**	
C	MM54C157	† National	
	MM74C157	National	
FCT	P54FCT157AT	Performance	
	P54FCT157CT	Performance	100
	P54FCT157T	Performance	
	P74FCT157AT	Performance	
	P74FCT157CT	Performance	
	P74FCT157T	Performance	
HC	GD54HC151	† GoldStar	105
	GD54HC157	† GoldStar	
	GD74HC151	GoldStar	
	GD74HC157	GoldStar	
	GD74HT191	GoldStar	
	CD54HC157	°† Harris	110
	CD74HC157	° Harris	
	HCTS157MS	‡ Harris	
	MC54HC157A	† Motorola	
	MC74HC157A	Motorola	
	MM54HC157	† National	115
	MM54HC158	† National	
	MM74HC157	National	
	MM74HC158	National	
	74HC157	° Philips	
	M74HC157	SGS-Thomson	120
	SN54HC157	°† TI	
	SN74HC157	° TI	
		(Continued)	
Quad 2-Input Data Selector			
HC		(Cont'd)	
	TC74HC157A	**Toshiba (3836)**	
	US74HC157	Universal	
HCMOS	74LV157	ℓ Philips	125
HCT	GD54HCT151	† GoldStar	
	GD54HCT157	† GoldStar	
	GD74HCT151	GoldStar	
	GD74HCT157	GoldStar	
	CD54HCT157	°† Harris	130
	CD74HCT157	° Harris	
	54HCTLS157	**‡ Ideal Semi (3643)**	
	74HCTLS157	**‡ Ideal Semi (3643)**	
	74HCT157	° Philips	
	M74HCT157	SGS-Thomson	135
	TC74HCT157A	**Toshiba (3836)**	
LVC	74LVC157	ℓ Philips	
	SN74LVC157	ℓ TI	
LVQ	**TC74LVQ157**	**ℓ Toshiba (3837)**	
LVX	**TC74LVX157**	**ℓ Toshiba (3837)**	140
VHC	**TC74VHC157**	**Toshiba (3837)**	
Quad 2-Input Data Selector, Inverting			
	MC54HCT158A	Motorola	
	MC74HCT158A	Motorola	
AC	CD54AC158	°† Harris	
	CD74AC158	° Harris	145
	54AC158	† National	
	74AC158	National	
	54AC11158	† TI	
	74AC11158	TI	
	TC74AC158	**Toshiba (3836)**	150
ACT	CD54ACT158	°† Harris	
	CD74ACT158	° Harris	
	54ACT158	† National	
	74ACT158	National	
AHCT	**54AHCT158**	**‡ Ideal Semi (3644)**	155
	74AHCT158	**‡ Ideal Semi (3644)**	
FCT	P74FCT158AT	Performance	
	P74FCT158CT	Performance	
	P74FCT158T	Performance	
HC	GD54HC158	† GoldStar	160
	GD74HC158	GoldStar	
	CD54HC158	°† Harris	
	CD74HC158	° Harris	
	74HC158	° Philips	
	74HC160	° Philips	165
	54HC158	† Rochester	
	M74HC158	SGS-Thomson	
	SN54HC158	† TI	
	SN74HC158	TI	
	TC74HC158A	**Toshiba (3836)**	170
	US74HC158	Universal	
HCT	GD54HCT158	† GoldStar	
	GD74HCT158	GoldStar	
	CD54HCT158	°† Harris	
	CD74HCT158	° Harris	175
	54HCTLS158	**‡ Ideal Semi (3643)**	
	74HCTLS158	**‡ Ideal Semi (3643)**	
	74HCT158	° Philips	
	74HCT160	° Philips	
	M74HCT158	SGS-Thomson	180
	TC74HCT158A	**Toshiba (3836)**	
Quad 2-Input Data Selector, Three-State			
AC	CD54AC257	°† Harris	
	CD74AC257	° Harris	
	54AC257	† National	
	74AC257	National	185
	54AC11257	† TI	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Multiplexers (Digital) (Cont'd)

Function	Device	Source	Line
Quad 2-Input Data Selector, Three-State			
AC (Cont'd)			
	74AC11257	TI	
	TC74AC257	**Toshiba (3836)**	
ACT	CD54ACT257	°† Harris	
	CD74ACT257	° Harris	
	54ACT257	† National	5
	74ACT257	National	
	74ACT11257	° TI	
AHCT	**54AHCT257**	‡ **Ideal Semi (3644)**	
	74AHCT257	‡ **Ideal Semi (3644)**	
FCT	IDT74FCT257A	IDT	10
	P54FCT257AT	Performance	
	P54FCT257CT	Performance	
	P54FCT257T	Performance	
	P74FCT257AT	Performance	
	P74FCT257CT	Performance	15
	P74FCT257T	Performance	
HC	GD54HC257	† GoldStar	
	GD74HC257	GoldStar	
	CD54HC257	°† Harris	
	CD74HC257	° Harris	20
	MC54HC257	† Motorola	
	MC74HC257	Motorola	
	MM54HC257	† National	
	MM74HC257	National	
	74HC257	° Philips	25
	M74HC257	SGS-Thomson	
	SN54HC257	† TI	
	SN74HC257	TI	
	TC74HC257A	**Toshiba (3836)**	
HCT	GD54HCT257	† GoldStar	30
	GD74HCT257	GoldStar	
	CD54HCT257	°† Harris	
	CD74HCT257	° Harris	
	54HCTLS257	‡ **Ideal Semi (3643)**	
	74HCTLS257	‡ **Ideal Semi (3643)**	35
	74HCT257	° Philips	
	M74HCT257	SGS-Thomson	
LVC	SN74LVC257	ℓ TI	
VHC	**TC74VHC257**	**Toshiba (3837)**	
4XXX	CD40257B	† Harris	40
	HCC40257B	† SGS-Thomson	
	HCF40257B	SGS-Thomson	
Quad 2-Input, Inverting			
FCT	P54FCT158AT	Performance	
	P54FCT158CT	Performance	
	P54FCT158T	Performance	45
	QS54FCT158	† Quality Semi	
	QS54FCT158A	† Quality Semi	
	QS54FCT158C	† Quality Semi	
	QS54FCT2158	† Quality Semi	
	QS54FCT2158A	† Quality Semi	50
	QS74FCT158	Quality Semi	
	QS74FCT158A	Quality Semi	
	QS74FCT158C	Quality Semi	
	QS74FCT2158	Quality Semi	
	QS74FCT2158A	Quality Semi	55
HCT	MM54HCT158	† National	
	MM74HCT158	National	
Quad 2-Input, Inverting, Three-State			
AC	CD54AC258	† Harris	
	CD74AC258	° Harris	
	54AC258	† National	60
	74AC258	National	
	54AC11258	† TI	
	74AC11258	TI	
	TC74AC258	**Toshiba (3836)**	
(Continued)			
Quad 2-Input, Inverting, Three-State (Cont'd)			
ACT	CD54ACT258	°† Harris	65
	CD74ACT258	° Harris	
	54ACT258	† National	
	74ACT258	National	
	54ACT11258	† TI	
	74ACT11258	° TI	70
AHCT	**54AHCT258**	‡ **Ideal Semi (3644)**	
	74AHCT258	‡ **Ideal Semi (3644)**	
HC	CD54HC258	°† Harris	
	CD74HC258	° Harris	
	74HC258	Philips	75
	SN54HC258	† TI	
	SN74HC258	TI	
	TC74HC258A	**Toshiba (3836)**	
HCT	CD54HCT258	°† Harris	
	CD74HCT258	° Harris	80
	54HCTLS258	‡ **Ideal Semi (3643)**	
	74HCTLS258	‡ **Ideal Semi (3643)**	
	74HCT258	Philips	
	M74HCT258	SGS-Thomson	
Quad 2-Input Multiplexer			
AC	74AC11157	Philips	85
FCT	IDT54FCT157AT	† IDT	
	IDT54FCT157CT	† IDT	
	IDT54FCT157T	† IDT	
	IDT74FCT157AT	IDT	
	IDT74FCT157CT	IDT	90
	IDT74FCT157T	IDT	
Quad 2-Input Multiplexer, Inverting			
AC	74AC11158	Philips	
Quad 2-Input Multiplexer, Three-State			
AC	74AC11257	Philips	
FCT	IDT54FCT257AT	† IDT	
	IDT54FCT257CT	† IDT	95
	IDT54FCT257T	† IDT	
	IDT74FCT257AT	IDT	
	IDT74FCT257CT	IDT	
	IDT74FCT257T	IDT	
Quad 2-Input Multiplexer, Three-State, Inverting			
AC	74AC11258	Philips	100
Quad 2-Input, with Storage			
AHCT	**54AHCT399**	‡ **Ideal Semi (3644)**	
	74AHCT399	‡ **Ideal Semi (3644)**	
Cell	SN74298	TI	
HC	MC74HC298	Motorola	
	MM54HC298	† National	105
	MM74HC298	National	
	M74HC298	SGS-Thomson	
	SN74HC298	TI	
	TC74HC298A	**Toshiba (3836)**	
Quad 2-Input, Three-State			
FCT	QS54FCT2257	† Quality Semi	110
	QS54FCT2257A	† Quality Semi	
	QS54FCT257	† Quality Semi	
	QS54FCT257A	† Quality Semi	
	QS54FCT257C	† Quality Semi	
	QS74FCT2257A	Quality Semi	115
	QS74FCT257	Quality Semi	
	QS74FCT257A	Quality Semi	
	QS74FCT257C	Quality Semi	
Quad 2-Input, Three-State, Inverting			
FCT	P54FCT258AT	Performance	
	P54FCT258T	Performance	120
	P74FCT258AT	Performance	
	P74FCT258CT	Performance	
	P74FCT258T	Performance	
	QS54FCT2258	† Quality Semi	
	QS54FCT2258A	† Quality Semi	125
	QS54FCT258	† Quality Semi	
(Continued)			
Quad 2-Input, Three-State, Inverting			
FCT (Cont'd)			
	QS54FCT258A	† Quality Semi	
	QS54FCT258C	† Quality Semi	
	QS74FCT2258	Quality Semi	
	QS74FCT2258A	Quality Semi	130
	QS74FCT258	Quality Semi	
	QS74FCT258A	Quality Semi	
	QS74FCT258C	Quality Semi	
Quad 2-Input, Three-State, True			
FCT	QS74FCT2257	Quality Semi	
Quad 2-Port Register			
AC	74AC399	National	135
ACT	54ACT399	† National	
	74ACT399	National	
Quad 2-Channel			
ACT	**TC74ACT257**	**Toshiba (3836)**	
	TC74ACT258	**Toshiba (3836)**	
Quad 2-Channel Multiplexer			
ACT	**TC74ACT157**	**Toshiba (3836)**	140
Quad 2-Channel Multiplexer (10 V)			
ACT	**TC74ACT158**	**Toshiba (3836)**	
Quad 2-Channel, Three-State, Inverting			
HCT	MM54HCT258	† National	
	MM74HCT258	National	
Quad 2-Channel, Three-State, True			
HCT	MM54HCT257	† National	
	MM74HCT257	National	145
Quad 2-Input Data Selector, Inverting			
HC	M74HC160	Mitsubishi	
Octal 2-Channel, Three-State, Non-Inverting			
HC	54HC604	† Rochester	
Octal 2-Channel, Three-State, True			
HC	SN74HC604	TI	
Octal 2-Channel, Three-State, True			
HC	M74HC604	Mitsubishi	
	74HC604	Rochester	150
1-Of–16 Data Generator/Multiplexer W/ 3-State Outputs			
AC	74AC11150	TI	
ACT	74ACT11150	TI	
1-Of–16 Data Generators/Multiplexers W/ 3-State Outputs			
AC	74AC11250	TI	
ACT	74ACT11250	TI	
2-Channel	TC4W53F	Toshiba	155
3-to–8 Line Decoder/Demultiplexer			
AC	74AC11138	Philips	
	74AC11238	Philips	
	SN54AC11138	°† TI	
	54AC11138	† TI	
ACT	SN54ACT11138	† TI	160
	54ACT11138	† TI	
4-Bit AND/OR Selector			
4XXX	CD4519B	Harris	
	MC14519BC	Motorola	
	CD4519BC	National	
	CD4519BM	† National	165
	HEF4519B	Philips	
	TC4519B	**Toshiba (3838)**	
4-Input, Dual			
FCT	QS54FCT153	† Quality Semi	
	QS54FCT153A	† Quality Semi	
	QS54FCT2153	† Quality Semi	170
	QS54FCT2153A	† Quality Semi	
	QS74FCT153	Quality Semi	
	QS74FCT153A	Quality Semi	
	QS74FCT2153	Quality Semi	
	QS74FCT2153A	Quality Semi	175
4-Input, Three-State, Dual			
FCT	QS54FCT2253	† Quality Semi	
	QS54FCT2253A	Quality Semi	
	QS54FCT253	† Quality Semi	
(Continued)			

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Multiplexers (Digital) (Cont'd)			
4-Input, Three-State, Dual			
FCT		(Cont'd)	
	QS54FCT253A	† Quality Semi	
	QS74FCT2253	Quality Semi	
	QS74FCT2253A	Quality Semi	
	QS74FCT253	Quality Semi	
	QS74FCT253A	Quality Semi	5
4-to-16 Line Decoder/Demultiplexer			
AC	74AC11154	Philips	
	74AC11154	TI	
ACT	74ACT11154	TI	
8-Channel	KS74AHCT151	Samsung	
AC	CD54AC151	°† Harris	10
	CD74AC151	° Harris	
	54AC151	† National	
	74AC151	National	
	54AC11151	† TI	
	74AC11151	° TI	15
	TC74AC151	**Toshiba (3836)**	
ACT	CD54ACT151	°† Harris	
	CD74ACT151	° Harris	
	54ACT151	† National	
	74ACT151	National	20
	54ACT11151	† TI	
	74ACT11151	° TI	
C	MM54C151	† National	
	MM74C151	National	
Cell	SN74151-Cell	TI	25
FCT	IDT74FCT151AT	IDT	
	IDT74FCT151CT	IDT	
	IDT74FCT151T	IDT	
	QS54FCT151	† Quality Semi	
	QS54FCT151A	† Quality Semi	30
	QS54FCT2151	† Quality Semi	
	QS54FCT2151A	† Quality Semi	
	QS74FCT151	Quality Semi	
	QS74FCT151A	Quality Semi	
	QS74FCT2151	Quality Semi	35
	QS74FCT2151A	Quality Semi	
HC	CD54HC151	† Harris	
	CD74HC151	° Harris	
	HCS151MS	‡ Harris	
	M74HC251	Mitsubishi	40
	MC54HC151	† Motorola	
	MC74HC151	Motorola	
	MM54HC151	† National	
	MM74HC151	National	
	74HC151	° Philips	45
	M74HC151	SGS-Thomson	
	SN54HC151	† TI	
	SN74HC151	TI	
	TC74HC151A	**Toshiba (3836)**	
	TC74HC153A	**Toshiba (3836)**	50
HCT	CD54HCT151	°† Harris	
	CD74HCT151	° Harris	
	MM54HCT151	† National	
	MM74HCT151	National	
	74HCT151	° Philips	55
LVQ	**TC74LVQ151**	ℓ **Toshiba (3837)**	
8-Channel Data Selector			
HC	54HC152	† Rochester	
	74HC152	Rochester	
	SN54HC152	† TI	
	SN74HC152	TI	60
4XXX	GD4512B	GoldStar	
	CD4512B	† Harris	
	CD4512B	‡ Micrel	
	MC14512A	† Motorola	
	MC14512C	Motorola	65
	CD4512BC	National	
	CD4512BM	† National	
	HEF4512B	Philips	
	BCL4512B	R&E Intl	
		(Continued)	
8-Channel Data Selector			
4XXX		(Cont'd)	
	SCL4512B	R&E Intl	70
	HCC4512B	† SGS-Thomson	
	HCF4512B	SGS-Thomson	
	TC4512B	**Toshiba (3838)**	
8-Channel Differential Multiplexer/Demultiplexer			
4XXX	MC14067BC	Motorola	
8-Channel Multiplexer/Demultiplexer			
HC	M74HC4051	Mitsubishi	75
8-Channel with Latch, Three-State			
HC	MM54HC354	† National	
	MM54HC356	† National	
	MM74HC354	National	
	MM74HC356	National	
8-Channel, Three State			
HC	MM54HC251	† National	80
	MM74HC251	National	
8-Channel, Three-State			
AC	CD54AC251	°† Harris	
	CD74AC251	° Harris	
	54AC251	† National	
	74AC251	National	85
	54AC11251	† TI	
	74AC11251	TI	
	TC74AC251	**Toshiba (3836)**	
ACT	CD54ACT251	°† Harris	
	54ACT251	† National	90
	74ACT251	National	
	54ACT11251	† TI	
	74ACT11251	TI	
Cell	SN74251	TI	
FCT	IDT54FCT251AT	† IDT	95
	IDT54FCT251CT	† IDT	
	IDT54FCT251T	† IDT	
	QS54FCT2251	† Quality Semi	
	QS54FCT2251A	† Quality Semi	
	QS54FCT251	† Quality Semi	100
	QS54FCT251A	† Quality Semi	
	QS74FCT2251	Quality Semi	
	QS74FCT2251A	Quality Semi	
	QS74FCT251	Quality Semi	
	QS74FCT251A	Quality Semi	105
HC	GD54HC153	† GoldStar	
	GD74HC153	GoldStar	
	CD54HC251	°† Harris	
	CD54HC354	† Harris	
	CD54HC356	°† Harris	110
	CD74HC251	° Harris	
	CD74HC354	Harris	
	CD74HC356	° Harris	
	MC54HC251	† Motorola	
	MC54HC354	† Motorola	115
	MC74HC251	Motorola	
	MC74HC354	Motorola	
	74HC153	° Philips	
	74HC251	° Philips	
	74HC354	Philips	120
	74HC356	Philips	
	54HC153	† Rochester	
	54HC251	† Rochester	
	54HC354	† Rochester	
	M74HC251	SGS-Thomson	125
	M74HC354	SGS-Thomson	
	M74HC356	SGS-Thomson	
	SN54HC251	† TI	
	SN74HC251	TI	
	SN74HC354	TI	130
	SN74HC356	TI	
	TC74HC251A	**Toshiba (3836)**	
	TC74HC354A	**Toshiba (3836)**	
	TC74HC356A	**Toshiba (3836)**	
HCT	GD54HCT153	† GoldStar	135
	GD74HCT153	GoldStar	
	CD54HCT251	°† Harris	
	CD54HCT354	† Harris	
		(Continued)	
8-Channel, Three-State			
HCT		(Cont'd)	
	CD54HCT356	°† Harris	
	CD74HCT251	° Harris	140
	CD74HCT354	Harris	
	CD74HCT356	° Harris	
	MM54HCT251	† National	
	MM74HCT251	National	
	74HCT153	° Philips	145
	74HCT251	° Philips	
	74HCT354	Philips	
	74HCT356	Philips	
VHC	**TC74VHC153**	**Toshiba (3837)**	
8-Input			
AC	MC74AC151	Motorola	150
	MC74AC251	Motorola	
ACT	MC74ACT151	Motorola	
	MC74ACT251	Motorola	
8-Input Multiplexer			
AC	74AC11151	Philips	
ACT	74ACT11151	Philips	155
FCT	IDT54FCT151AT	† IDT	
	IDT54FCT151CT	† IDT	
	IDT54FCT151T	† IDT	
8-Input Multiplexer, Three-State			
AC	74AC11251	Philips	
8-Input, Three-State			
ACT	CD74ACT251	° Harris	160
FCT	IDT74FCT251AT	IDT	
	IDT74FCT251CT	IDT	
	IDT74FCT251T	IDT	
10-Line to 4-Line Priority Encoder			
HC	MM54HC147	National	
	MM74HC147	National	165
10-Line to 4-Line BCD Priority Encoder			
HC	MM54HC147	† National	
	MM74HC147	National	
16-Bit	LT74TV16	LSTI	
16-Channel Multiplexer/Demultiplexer			
4XXX	MC14097BC	Motorola	
16-Input Demultiplexer			
	LT74TC16	LSTI	170
16-Input Multiplexer, Three-State			
AC	74AC11150	Philips	
16-Input Multiplexer, Three-State, Inverting			
AC	74AC11250	Philips	
16-Line to 1-Line Multiplexer			
	MM54C150	† National	
32-Bit	LT74TV32	LSTI	
32-Bit Demultiplexer			
	LT54TC32	† LSTI	175
8-Channel			
4XXX	CD54HC4351	† Harris	
8-Channel Multiplexer			
ACT	**TC74ACT151**	**Toshiba (3836)**	
8-Channel Multiplexer, Three-State			
ACT	**TC74ACT251**	**Toshiba (3836)**	
Multivibrators			
Monostable/Astable, Retriggerable			
HC	54HC4046	† Rochester	
4XXX	GD4047B	GoldStar	180
	CD4047B	† Harris	
	CD4047B	‡ Micrel	
	CD4047BC	National	
	CD4047BM	† National	
	HEF4047B	Philips	185
	BCL4047B	R&E Intl	
	SCL4047B	R&E Intl	
	HCC4047B	† SGS-Thomson	
	HCF4047B	SGS-Thomson	
	TC4047B	**Toshiba (3838)**	190

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–CMOS (Cont'd)

Multivibrators (Cont'd)

Function	Device	Source	Line
Monostable, Dual Precision			
	CD14538B	Harris	
Dual Monostable			
AHCT	**54AHCT123**	**‡ Ideal Semi (3644)**	
	54AHCT423	**‡ Ideal Semi (3644)**	
	74AHCT123	**‡ Ideal Semi (3644)**	
	74AHCT423	**‡ Ideal Semi (3644)**	5
C	MM54C221	† National	
	MM74C221	National	
HC	GD54HC221	† GoldStar	
	GD74HC221	GoldStar	
	CD54HC221	† Harris	10
	CD54HC423	† Harris	
	CD54HC4538	† Harris	
	CD74HC221	Harris	
	CD74HC423	Harris	
	CD74HC4538	Harris	15
	MM54HC221A	† National	
	MM54HC423A	† National	
	MM54HC4538	† National	
	MM74HC221A	National	
	MM74HC423A	National	20
	MM74HC4538	National	
	74HC221	Philips	
	74HC423	Philips	
	74HC4538	Philips	
	M74HC123	SGS-Thomson	25
	M74HC221	SGS-Thomson	
	M74HC221A	SGS-Thomson	
	M74HC423	SGS-Thomson	
	M74HC423A	SGS-Thomson	
	M74HC4538	SGS-Thomson	30
	TC74HC123	Toshiba	
	TC74HC123A	Toshiba	
	TC74HC221A	**Toshiba (3836)**	
	TC74HC423	Toshiba	
	TC74HC423A	**Toshiba (3836)**	35
	TC74HC4538A	**Toshiba (3836)**	
	US74HC221	Universal	
HCT	GD54HCT221	† GoldStar	
	GD74HCT221	GoldStar	
	CD54HCT221	† Harris	40
	CD54HCT423	† Harris	
	CD54HCT4538	† Harris	
	CD74HCT221	Harris	
	CD74HCT423	Harris	
	CD74HCT4538	Harris	45
	74HCT221	Philips	
	74HCT423	Philips	
	74HCT4538	Philips	
VHC	**TC74VHC123A**	**Toshiba (3837)**	
	TC74VHC221A	**Toshiba (3837)**	50
4XXX	MC14538BC	Motorola	
	CD4538BC	National	
	CD4538BM	† National	
	HEF4538B	Philips	
Dual Monostable, Retriggerable			
HC	CD54HC123	°† Harris	55
	CD74HC123	° Harris	
	M74HC123A	Mitsubishi	
	MM54HC123	† National	
	MM54HC123A	† National	
	MM74HC123	National	60
	MM74HC123A	National	
	74HC123	° Philips	
	M74HC123A	SGS-Thomson	
HCT	CD54HCT123	°† Harris	
	CD74HCT123	° Harris	65
	74HCT123	° Philips	

(Continued)

Function	Device	Source	Line
Dual Monostable, Retriggerable (Cont'd)			
4XXX	GD4528B	GoldStar	
	CD4098B	‡ Harris	
	CD4528B	‡ Micrel	
	MC14528BC	Motorola	70
	CD4528BC	National	
	CD4528BM	† National	
	HEF4528B	Philips	
	BCL4528B	R&E Intl	
	SCL4528B	R&E Intl	75
	HCC4098B	† SGS-Thomson	
	HCF4098B	SGS-Thomson	
	TC4528B	**Toshiba (3838)**	
Dual Precision Monostable			
	NJU4538B	NJR	
4XXX	BU4538B	ROHM	80
Dual Precision Monostable, Retriggerable, Resettable			
HC	MC54HC4538A	† Motorola	
	MC74HC4538A	Motorola	
Dual Retriggerable/Resettable Monostable			
4XXX	**TC4538B**	**Toshiba (3838)**	

Oscillators/Dividers

Function	Device	Source	Line
Divider, Divide by 5/6			
	RED5/6	**LSI Comp (3681)**	
Divider, Divide by 6			
	D6	LSI Comp	85
Divider, Divide by 50/60			
	RED50/60	**LSI Comp (3681)**	
Divider, Divide by 60			
	D60	LSI Comp	
Divider, Divide by 100/120			
	RED100/120	**LSI Comp (3681)**	
Divider, Divide by 300/360			
	RED300/360	**LSI Comp (3681)**	
Divider, Divide by 3000/3600			
	RED3000/3600	**LSI Comp (3681)**	90
Divider, Divide by 3600			
	D3600	LSI Comp	
Divider, Divide by 500/600			
	RED500/600	**LSI Comp (3681)**	
Oscillator/Divider (programmable timer)			
4XXX	CD4541B	† Harris	
	MC14541BC	Motorola	
	HEF4541B	Philips	95
Oscillator, 22–50 MHz			
CMOS	**SM5613**	**Seponix (3703)**	
Oscillator, 22–70 MHz			
CMOS	**SM5617**	**Seponix (3703)**	
Oscillator, 30 MHz, Divide by 1–16			
CMOS	**SM5605**	**Seponix (3703)**	
Oscillator, 30 MHz, Divide by 1–256			
CMOS	**SM5606**	**Seponix (3703)**	
Oscillator, 30 MHz, Divide by 1–8			
CMOS	**SM5610**	**Seponix (3703)**	100
	SM5619	**Seponix (3703)**	
	SM5624	**Seponix (3703)**	
Oscillator, 33–70 MHz			
CMOS	**SM5623**	ℓ **Seponix (3703)**	
Oscillator, 45–100 MHz			
CMOS	**SM5623**	**Seponix (3703)**	
Oscillator, 50 MHz, Divide by 1–2			
CMOS	**SM5603**	**Seponix (3703)**	105
Oscillator/2^0 to 2^{24} Divider (programmable timer)			
4XXX	CD4536B	† Harris	
	MC14536BC	Motorola	
Oscillator/2^8 Divider (2–5 V supplies)			
	ICM7209	Harris	
	ICM7209I	Harris	
Oscillator/2^{12} and 2^{17} Divider, also 2^{17}x10 (0.01 and 0.1 output, 6.4 MHz crystal, 3–5 V supply)			
	ICM7207	Harris	110
Oscillator/2^{12} and 2^{20} Divider, also 2^{20}x10 (0.1 and 1 second output with 5.2 MHz crystal, 5 V supply)			
	ICM7207A	Harris	
	ICM7207AI	Harris	
	ICM7207I	Harris	
Oscillator/2^{12}, 2^{18}, 2^{21}, and 2^{17} Divider (also 2^{21}x60, 2–5 V supplies)	ICM7213	Harris	
	ICM7213I	Harris	115
Oscillator/2^{21} Divider/Buffer			
4XXX	CD4045B	† Harris	
	HCC4045B	† SGS-Thomson	
	HCF4045B	SGS-Thomson	
Oscillator/2^{24} Divider			
4XXX	CD4521B	Harris	
	MC14521BC	Motorola	120
	HEF4521B	Philips	
	TC4521B	**Toshiba (3838)**	
Oscillator/32768 Hz Divider			
	MM5368	National	
	MM5369	National	

Shift Registers

Function	Device	Source	Line
Parallel D Register with Enable			
AC	MC74AC378	Motorola	125
ACT	MC74ACT378	Motorola	
Parallel D-Type Register, 6-Bit with Enable			
AC	54AC378	† National	
	74AC378	National	
Pipeline Register with SSR Diagnostics, 8-Bit Parallel			
	AM29C818AC	AMD	
Register File, 4x4, Three-State			
AC	**TC74AC670**	**Toshiba (3836)**	130
Static Shift Register			
HC	HCC4517B	SGS-Thomson	
Dual 4-Bit			
4XXX	BU4015B	ROHM	
Dual 4-Bit Serial In/Parallel Out			
HC	CD54HC4015	† Harris	
	CD74HC4015	Harris	
	74HC4015	Philips	135
HCT	CD54HCT4015	† Harris	
	CD74HCT4015	Harris	
	74HCT4015	Philips	
4XXX	GD4015B	‡ GoldStar	
	CD4015B	Harris	140
	CD4015BE	Harris	
	CD4015A	‡ Micrel	
	CD4015B	‡ Micrel	
	MC14015BC	Motorola	
	CD4015AC	National	145
	CD4015BC	National	
	CD4015BM	National	
	HEF4015B	Philips	
	BCL4015B	R&E Intl	
	SCL4015B	R&E Intl	150
	HCC4015B	SGS-Thomson	
	HCF4015B	SGS-Thomson	
	TC4015B	**Toshiba (3838)**	
Dual 64-Bit Static			
4XXX	CD4517B	† Harris	
	MC14517BC	Motorola	155
	HEF4517B	Philips	
	BCL4517B	R&E Intl	
	SCL4517B	R&E Intl	
	HCF4517B	† SGS-Thomson	
5XXX	**TC5050**	**Toshiba (3838)**	160
Quad Dual-Port Register			
FCT	IDT54FCT399	† IDT	
	IDT54FCT399A	† IDT	
	IDT54FCT399C	† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Shift Registers (Cont'd)			
Quad Dual-Port Register			
FCT (Cont'd)			
	IDT74FCT399	IDT	
	IDT74FCT399A	IDT	
	IDT74FCT399C	IDT	
	P54FCT399	Performance	
	P54FCT399A	Performance	5
	P54FCT399AT	Performance	
	P54FCT399CT	Performance	
	P54FCT399T	Performance	
	P54PCT399	‡ Performance	
	P54PCT399A	‡ Performance	10
	P74FCT399	Performance	
	P74FCT399A	Performance	
	P74FCT399AT	Performance	
	P74FCT399CT	Performance	
	P74FCT399T	Performance	15
	P74PCT399	Performance	
	P74PCT399A	Performance	
Quad 64-Bit Static, Separate Clock			
4XXX	GD4731B	GoldStar	
	HEF4731B	Philips	
	HEF4731V	† Philips	20
Octal Shift/Storage			
AC	MC74AC299	Motorola	
ACT	MC74ACT299	Motorola	
	MC74ACT323	Motorola	
4-Bit			
AC	MC74AC350	Motorola	
ACT	MC74ACT350	Motorola	25
4-Bit Bidirectional			
AC	54AC11194	† TI	
	74AC11194	TI	
ACT	54ACT11194	† TI	
	74ACT11194	TI	
C	MM54C95	† National	30
	MM74C95	National	
Cell	SN74194A	TI	
HC	CD54HC194	°† Harris	
	CD74HC194	° Harris	
	M74HC194	Mitsubishi	35
	MC54HC194	† Motorola	
	MC74HC194	Motorola	
	MM54HC194	† National	
	MM74HC194	National	
	74HC194	° Philips	40
	54HC194	† Rochester	
	M74HC194	SGS-Thomson	
	SN54HC194	† TI	
	SN74HC194	TI	
	TC74HC194A	**Toshiba (3836)**	45
	US74HC194	Universal	
HCT	CD54HCT194	°† Harris	
	CD74HCT194	° Harris	
	54HCTLS193	**‡ Ideal Semi (3643)**	
	74HCTLS193	**‡ Ideal Semi (3643)**	50
	74HCT194	° Philips	
4XXX	MC14194BC	Motorola	
	HCC40194B	† SGS-Thomson	
	HCF40194B	SGS-Thomson	
	TC40194B	**Toshiba (3838)**	55
4-Bit Bidirectional Universal			
AC	MC74AC194	Motorola	
	74AC11194	Philips	
ACT	MC74ACT194	Motorola	
4XXX	CD40104B	† Harris	
4-Bit Bidirectional Universal, Three State			
HC	CD74HC40104	Harris	60
	74HC40104	Philips	
(Continued)			

Function	Device	Source	Line
4-Bit Bidirectional Universal, Three State (Cont'd)			
HCT	CD74HCT40104	Harris	
	74HCT40104	Philips	
4-Bit Bidirectional Universal, Three-State			
HC	CD54HC40104	† Harris	
HCT	CD54HCT40104	† Harris	65
4-Bit D-Type, Three-State			
HCTLS	**54HCTLS173**	**‡ Ideal Semi (3643)**	
	74HCTLS173	**‡ Ideal Semi (3643)**	
4-Bit Parallel In/Parallel Out			
4XXX	GD4035B	GoldStar	
	CD40194B	Harris	
	CD4035B	† Harris	70
	CD4035A	‡ Micrel	
	CD4035B	‡ Micrel	
	MC14035BC	Motorola	
	CD4035BC	National	
	CD4035BM	† National	75
	HEF40194B	Philips	
	HEF4035B	Philips	
	BCL4035B	R&E Intl	
	SCL4035B	R&E Intl	
	HCC40104B	† SGS-Thomson	80
	HCC4035B	† SGS-Thomson	
	HCF40104B	SGS-Thomson	
	HCF4035B	SGS-Thomson	
	TC40104B	**Toshiba (3838)**	
	TC4035B	**Toshiba (3838)**	85
4-Bit Parallel with Clear			
C	MM54C195	† National	
	MM74C195	National	
Cell	SN74195A-Cell	TI	
HC	CD54HC195	† Harris	
	CD74HC195	Harris	90
	HCS195MS	‡ Harris	
	M74HC195	Mitsubishi	
	MC54HC195	† Motorola	
	MC74HC195	Motorola	
	MM54HC195	† National	95
	MM74HC195	National	
	74HC195	Philips	
	M74HC195	SGS-Thomson	
	SN54HC195	† TI	
	SN74HC195	TI	100
	TC74HC195A	**Toshiba (3836)**	
	US74HC195	Universal	
HCT	CD54HCT195	† Harris	
	CD74HCT195	Harris	
	74HCT195	Philips	105
4XXX	CD40195BC	National	
	CD40195BM	† National	
	HEF40195B	Philips	
4-Bit, Three-State			
AC	54AC350	† National	
	74AC350	National	110
ACT	54ACT350	† National	
	74ACT350	National	
4x4 Multiport			
4XXX	CD40108B	† Harris	
	CD40208B	Harris	
4x4 Multiport Register			
HC	HCC40108B	SGS-Thomson	115
	HCF40108B	SGS-Thomson	
8 Input Universal Shift Register			
FCT	IDT54FCT299AT	IDT	
	IDT54FCT299CT	IDT	
	IDT54FCT299T	IDT	
	IDT74FCT299AT	IDT	120
	IDT74FCT299CT	IDT	
	IDT74FCT299T	IDT	

Function	Device	Source	Line
8-Bit (asynchronous parallel or synchronous serial operation) Parallel In/Serial Out			
4XXX	GD4021B	‡ GoldStar	
	CD4021B	Harris	
	MC14021BC	Motorola	125
	CD4021A	National	
	CD4021BC	National	
	CD4021BM	† National	
	HEF4021B	Philips	
	HCC4021B	† SGS-Thomson	130
	HCF4021B	SGS-Thomson	
	TC4021B	**Toshiba (3838)**	
8-Bit Bidirectional Parallel/Serial Input/Output Bus Register			
4XXX	CD4034B	† Harris	
	CD4034B	‡ Micrel	
	MC14034BC	Motorola	135
	CD4034BC	National	
	CD4034BM	† National	
	BCL4034B	R&E Intl	
	SCL4034B	R&E Intl	
	HCC4034B	† SGS-Thomson	140
	HCF4034B	SGS-Thomson	
	TC4034B	**Toshiba (3838)**	
8-Bit Bus Interface Register, Three State			
FCT	P54PCT825A	‡ Performance	
	P54PCT825B	‡ Performance	
	P74FCT825A	Performance	145
	P74FCT825B	Performance	
8-Bit Bus Register, Shift and Store			
HC	CD54HC4094	Harris	
	CD74HC4094	Harris	
	74HC4094	Philips	
	TC74HC4094A	**Toshiba (3836)**	150
HCMOS	74LV4094	ℓ Philips	
HCT	CD54HCT4094	† Harris	
	CD74HCT4094	Harris	
	74HCT4094	Philips	
4XXX	CD4094B	† Harris	155
	CD4094B	‡ Micrel	
	MC14094BC	Motorola	
	HEF4094B	Philips	
	BCL4094B	R&E Intl	
	SCL4094B	R&E Intl	160
	HCC4094B	† SGS-Thomson	
	HCF4094B	SGS-Thomson	
	TC4094B	**Toshiba (3838)**	
8-Bit Parallel I/O, 2 to 129 Stages			
CMOS	**SM5829P**	**Seponix (3703)**	
8-Bit Parallel In/Serial Out			
AC	**TC74AC166**	**Toshiba (3836)**	165
AHCT	**54AHCT165**	**‡ Ideal Semi (3644)**	
	74AHCT165	**‡ Ideal Semi (3644)**	
C	MM54C165	† National	
	MM74C165	National	
Cell	SN74165	TI	170
HC	GD54HC165	† GoldStar	
	GD74HC165	GoldStar	
	CD54HC165	°† Harris	
	CD74HC165	° Harris	
	HCS165MS	‡ Harris	175
	MC54HC165	† Motorola	
	MC74HC165	Motorola	
	MM54HC165	† National	
	MM74HC165	National	
	74HC165	° Philips	180
	74HC166	Philips	
	M74HC165	SGS-Thomson	
	SN54HC165	† TI	
	SN74HC165	TI	
	TC74HC165A	**Toshiba (3836)**	185
	US74HC165	Universal	
HCT	GD54HCT165	† GoldStar	
	GD74HCT165	† GoldStar	
(Continued)			

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   •Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Shift Registers (Cont'd)			
8-Bit Parallel In/Serial Out			
HCT (Cont'd)			
	CD54HCT165	°† Harris	
	CD74HCT165	° Harris	
	54HCTLS165	‡ **Ideal Semi (3643)**	
	74HCTLS165	‡ **Ideal Semi (3643)**	
	74HCT165	° Philips	5
	74HCT166	Philips	
VHC	**TC74VHC165**	**Toshiba (3837)**	
8-Bit Parallel with serial protocol channel			
	IDT49FCT818	IDT	
8-Bit Serial In/Parallel Out			
AC	CD54AC164	°† Harris	
	CD74AC164	° Harris	10
	TC74AC164	**Toshiba (3836)**	
ACT	CD54ACT164	°† Harris	
	CD74ACT164	° Harris	
AHCT	**54AHCT164**	‡ **Ideal Semi (3644)**	
	74AHCT164	‡ **Ideal Semi (3644)**	15
C	MM54C164	† National	
	MM74C164	National	
Cell	SN74164-Cell	TI	
HC	GD54HC164	† GoldStar	
	GD74HC164	GoldStar	20
	CD54HC164	°† Harris	
	CD74HC164	° Harris	
	HCS164MS	‡ Harris	
	HCTS164MS	‡ Harris	
	MC54HC164	† Motorola	25
	MC74HC164	Motorola	
	MM54HC164	† National	
	MM74HC164	National	
	74HC164	° Philips	
	M74HC164	SGS-Thomson	30
	SN54HC164	† TI	
	SN74HC164	TI	
	TC74HC164A	**Toshiba (3836)**	
	US74HC164	Universal	
HCMOS	74LV164	ℓ Philips	35
HCT	GD54HCT164	† GoldStar	
	CD54HCT164	°† Harris	
	CD74HCT164	° Harris	
	54HCTLS164	‡ **Ideal Semi (3643)**	
	74HCTLS164	‡ **Ideal Semi (3643)**	40
	MM54HCT164	† National	
	MM74HCT164	National	
	74HCT164	° Philips	
	M74HCT164	SGS-Thomson	
	TC74HCT164A	**Toshiba (3836)**	45
LV	SN74LV164	ℓ TI	
VHC	**TC74VHC164**	**Toshiba (3837)**	
8-Bit Serial In/Parallel Out Register with Output Latches			
HC	MM54HC595	† National	
	MM74HC594	National	
	MM74HC595	National	50
	M74HC595	SGS-Thomson	
	SN54HC595	† TI	
	SN74HC594	TI	
	SN74HC595	TI	
	TC74HC323A	**Toshiba (3836)**	55
	TC74HC595A	**Toshiba (3836)**	
VHC	**TC74VHC595**	**Toshiba (3837)**	
8-Bit Serial In/Parallel Out with Output Latches			
ACT	54ACT11323	† TI	
	74ACT11323	TI	
8-Bit Serial In/Serial or Parallel Out with Output Latches			
	MC54HC595A	† Motorola	60
	MC74HC595A	Motorola	
8-Bit Serial/Parallel-In, Serial Out			
AHCT	**54AHCT166**	‡ **Ideal Semi (3644)**	
	74AHCT166	**Ideal Semi (3644)**	
Cell	SN74166	TI	
HC	CD54HC166	† Harris	65
	CD74HC166	Harris	
	HCS166MS	‡ Harris	
	MM54HC166	† National	
	MM74HC166	National	
	M74HC166	SGS-Thomson	70
	SN54HC166	† TI	
	SN74HC166	TI	
	TC74HC166A	**Toshiba (3836)**	
HCT	CD54HCT166	† Harris	
	CD74HCT166	Harris	75
	54HCTLS166	‡ **Ideal Semi (3643)**	
	74HCTLS166	‡ **Ideal Semi (3643)**	
	MM54HCT166	† National	
	MM74HCT166	National	
8-Bit Serial/Parallel-In, Serial-Out Register with Input Latches			
HC	CD54HC597	† Harris	80
	CD74HC597	Harris	
	MC54HC597	† Motorola	
	MC74HC597	Motorola	
	MM54HC597	† National	
	MM74HC597	National	85
	74HC597	Philips	
	M74HC597	SGS-Thomson	
	TC74HC597A	Toshiba	
HCT	CD54HCT597	† Harris	
	CD74HCT597	Harris	90
	74HCT597	Philips	
8-Bit, Serial-In, Parallel-Out			
AC	54AC164	† National	
	74AC164	National	
ACT	54ACT164	† National	
	74ACT164	National	95
8-Bit Synchronous Parallel In/Serial Out			
HC	MC54HC589	† Motorola	
	MC74HC589	Motorola	
	MM54HC589	† National	
	MM74HC589	National	
4XXX	GD4014B	GoldStar	100
	CD4014B	‡ Harris	
	CD4014A	‡ Micrel	
	CD4014B	‡ Micrel	
	MC14014BC	Motorola	
	CD4014A	National	105
	CD4014BC	National	
	CD4014BM	† National	
	HEF4014B	Philips	
	BCL4014B	R&E Intl	
	SCL4014B	R&E Intl	110
	HCC4014B	† SGS-Thomson	
	HCF4014B	SGS-Thomson	
	TC4014B	**Toshiba (3838)**	
8-Bit Universal Shift/Storage Register with Asynchronous Reset			
AC	74AC11299	Philips	
	74AC11323	Philips	115
8-Bit Universal, Three-State			
FCT	QS54FCT2299	† Quality Semi	
	QS54FCT2299A	† Quality Semi	
	QS54FCT299	† Quality Semi	
	QS54FCT299A	† Quality Semi	
	QS74FCT2299	Quality Semi	120
	QS74FCT2299A	Quality Semi	
		(Continued)	
8-Bit Universal, Three-State			
FCT (Cont'd)			
	QS74FCT299	Quality Semi	
	QS74FCT299A	Quality Semi	
8-Bit Universal, Three-State with Synchronous Reset			
AC	CD54AC323	°† Harris	
	CD74AC323	° Harris	125
ACT	CD54ACT323	°† Harris	
	CD74ACT323	° Harris	
8-Bit with Input Latches			
HC	74HC7597	Philips	
HCT	74HCT7597	Philips	
8-Bit with Output Latch			
HC	M74HC595	Mitsubishi	130
8-Bit, Three-State			
AC	CD54AC299	°† Harris	
	CD74AC299	° Harris	
	54AC299	† National	
	74AC299	National	
	54AC11299	† TI	135
	54AC11323	† TI	
	74AC11299	TI	
	74AC11323	TI	
	TC74AC299	**Toshiba (3836)**	
ACT	CD54ACT299	°† Harris	140
	CD74ACT299	° Harris	
	54ACT299	† National	
	74ACT299	National	
	54ACT11299	† TI	
	74ACT11299	TI	145
	TC74ACT299	**Toshiba (3836)**	
AHCT	**54AHCT299**	‡ **Ideal Semi (3644)**	
	74AHCT299	‡ **Ideal Semi (3644)**	
FCT	IDT54FCT299	°† IDT	
	IDT54FCT299A	°† IDT	150
	IDT54FCT299C	† IDT	
	IDT74FCT299	° IDT	
	IDT74FCT299A	° IDT	
	IDT74FCT299C	IDT	
HC	GD54HC299	† GoldStar	155
	GD74HC299	GoldStar	
	CD54HC299	°† Harris	
	CD74HC299	° Harris	
	HCTS299MS	‡ Harris	
	MC54HC299	† Motorola	160
	MC74HC299	Motorola	
	MM54HC299	† National	
	MM74HC299	National	
	74HC299	° Philips	
	M74HC299	SGS-Thomson	165
	SN74HC299	TI	
	TC74HC299A	**Toshiba (3836)**	
HCT	GD54HCT299	† GoldStar	
	GD74HCT299	GoldStar	
	CD54HCT299	°† Harris	170
	CD74HCT299	° Harris	
	54HCTLS299	‡ **Ideal Semi (3643)**	
	74HCTLS299	‡ **Ideal Semi (3643)**	
	74HCT299	° Philips	
VHC	**TC74VHC299**	**Toshiba (3837)**	175
VHCT	**TC74VHCT299**	**Toshiba (3837)**	
8-Bit, Three-State, Synchronous Clear			
AC	**TC74AC323**	**Toshiba (3836)**	
ACT	54ACT323	† National	
	74ACT323	National	
HC	MM54HC245	† National	180
	MM74HC245	National	
9-Bit Bus Interface Register,			
BCT	SN54BCT29824	† TI	
	SN74BCT29824	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Shift Registers (Cont'd)

Function	Device	Source
9-Bit Bus Interface Register, Three State		
AHCT	KS74AHCT824	Samsung
FCT	P54PCT823A	‡ Performance
	P54PCT823B	‡ Performance
	P74FCT823A	Performance
	P74FCT823B	Performance
9-Bit Bus Interface Register, Three-State		
AC	SN54BCT29823	† TI
9-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)	AM29C823AC	AMD
10-Bit Bus Interface Register, Three State		
BCT	SN54BCT29821	† TI
FCT	P54PCT821A	‡ Performance
	P54PCT821B	‡ Performance
	P74FCT821A	Performance
	P74FCT821B	Performance
10-Bit Parallel I/O, 2 to 65 Stages		
CMOS	**SM5824P**	**Seponix (3703)**
10-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)	AM29C821AC	AMD
10-Bit Serial-In/Parallel-Out		
ACT	74ACT11898	TI
16-Bit	LT74TC16	† LSTI
	LT74TV16	† LSTI
16-Bit with Serial Protocol Channel (SPC)		
FCT	IDT49FCT618	IDT
18-Bit Static (4, 5, 8, 9, 10, 12, 13, 14, 16, 17, 18-bits)		
4XXX	GD4006B	GoldStar
	CD4006B	† Harris
	CD4006A	‡ Micrel
	MC14006BC	Motorola
	CD4006A	National
	CD4006BC	National
	CD4006BM	† National
	HEF4006B	Philips
	BCL4006B	R&E Intl
	SCL4006B	R&E Intl
	HCC4006B	† SGS-Thomson
	HCF4006B	SGS-Thomson
	TC4006B	**Toshiba (3838)**
24-Bit Serial/Parallel, Parallel/Serial		
CMOS	**SM5823A**	**Seponix (3703)**
30-Bit Static		
4XXX	MV4330	GEC Plessey
32-Bit	LT54TC32	† LSTI
	LT54TV32	† LSTI
32-Bit Bidirectional Serial In/Serial Out		
4XXX	CD40100B	† Harris
	HCC40100B	† SGS-Thomson
	HCF40100B	SGS-Thomson
32-Bit Parallel-In/16-bit Parallel-Out, Barrel Shifter with Registers		
CMOS	LSH33	LogicDev
32-Bit Serial In/Parallel Out		
4XXX	MV4332	GEC Plessey
64-Bit Static		
4XXX	CD4031B	† Harris
	CD4031A	‡ Micrel
	CD4031B	‡ Micrel
	CD4031BC	National
	CD4031BM	† National
	HEF4031B	Philips
	HCC4031B	† SGS-Thomson
	HCF4031B	SGS-Thomson
64-Bit Variable Length		
4XXX	MC14557BC	Motorola
	HEF4557B	Philips
64x2-Bit	TDC1005	TRWLSI
80-Bit Quad Register		
	AM2847	**MSI/Scorpion (3598)**
	AM3347	**MSI/Scorpion (3598)**
100-Bit Register, Dual		
	AM1406	MSI/Scorpion
	AM1407	MSI/Scorpion
	AM1506	MSI/Scorpion
	AM1507	MSI/Scorpion
128-Bit Static Register		
	AM2814	MSI/Scorpion
128-Bit Static (16-bit increments)		
4XXX	ML14562B	Lansdale
	MC14562BC	Motorola
128-Bit Dual Static Register		
	AM2809	MSI/Scorpion
128-Bit Quad Shift Register		
	AM2855	**MSI/Scorpion (3598)**
256-Bit Dual Shift Register		
	AM2856	**MSI/Scorpion (3598)**
256x1-Bit	TDC1006	TRWLSI
512-Bit Dynamic Register		
	AM2805	MSI/Scorpion
	AM2807	MSI/Scorpion
512-Bit Static Register		
	AM2857	**MSI/Scorpion (3598)**
1024-Bit Dynamic Register		
	AM1402	**MSI/Scorpion (3598)**
	AM1403	**MSI/Scorpion (3598)**
	AM1404	**MSI/Scorpion (3598)**
	AM2802	**MSI/Scorpion (3598)**
	AM2803	**MSI/Scorpion (3598)**
	AM2804	**MSI/Scorpion (3598)**
	AM2806	MSI/Scorpion
	AM2808	MSI/Scorpion
	AM2810	MSI/Scorpion
1024-Bit Static Register		
	AM2833	**MSI/Scorpion (3598)**
8-Bit SIPO Shift Register		
ACT	**TC74ACT164**	**Toshiba (3836)**

Translators

Function	Device	Source
Quad Level Shifter (low to high voltage)		
4XXX	CD40109B	† Harris
	HCC40109B	† SGS-Thomson
	HCF40109B	SGS-Thomson
Quad Voltage Up Level Translator		
4XXX	GD4104B	GoldStar
	HEF4104B	Philips
Hex Level Shifter (CMOS or TTL to CMOS)		
4XXX	MC14504BC	Motorola
Hex Level Shifter (low-to-high voltage)		
5XXX	**TC5020B**	**Toshiba (3838)**
Octal Bidirectional Level Shifter (CMOS/TTL)		
	HS3374RH	‡ Harris
4XXX	CD40116	Harris
16-Bit BiDirectional Translator, 3.3V		
	IDT54FCT164245T	ℓ IDT
	IDT74FCT164245T	ℓ IDT

Miscellaneous

Function	Device	Source
Microprocessor, 1-Bit, Industrial Control Unit		
4XXX	MC14500B	Motorola
Addressable Asynchronous Receiver/Transmitter		
4XXX	MC14469	Motorola
Analog Multiplexer/Demultiplexer (dual 4-channel)		
HC	**TC74HC4052A**	**Toshiba (3836)**
Analog Multiplexer/Demultiplexer (triple 2-channel)		
HC	**TC74HC4053A**	**Toshiba (3836)**
Analog Multiplexer/Demultiplexer (8-channel)		
HC	**TC74HC4051A**	**Toshiba (3836)**
Analog Switch, 1xSPST		
	BU4S66	ROHM
ARINC 629 Terminal Device (30 MHz)		
	L63500A0GC-30	LSI Logic
	L63500A0GM-30	† LSI Logic
Battery Charger Timer (for nickel cadium batteries)		
	74LV4799	ℓ Philips
Bilateral Switch	TC4S66F	Toshiba
	TC4W66F	Toshiba
Bit Rate Generator		
	HD4702	Harris
4XXX	GD4702B	GoldStar
	MC14411	Motorola
	F4702BC	National
	F4702BM	† National
Bus Exchange Switches, High Speed		
QST	QS32383	Quality Semi
	QS3383	Quality Semi
	74QST3383	Quality Semi
Bus Interface Latch		
FCT	IDT54FCT843A	† IDT
	IDT74FCT843A	IDT
Bus Multiplexer, Tri-Port (10-bit x 3-port)		
FCT	IDT49FCT804	IDT
	IDT49FCT804A	IDT
Chirp Generating Numerically Controlled Oscillator (CNCO), 60 MHz, 32-Bit		
	STEL1180	**STEL (3796)**
Clock Driver, 8 Outputs		
C	CGS54CT2525	† National
	CGS54C2525	† National
	CGS74CT2525	National
	CGS74C2525	National
Clock Driver, 8 Outputs, MUX Clock Inputs		
C	CGS54CT2526	† National
	CGS54C2526	† National
	CGS74CT2526	National
	CGS74C2526	National
Code Identification System		
	CT15530	GEC Plessey
Color Space Converter		
	BT281	Brooktree
Comparator, Linear, Quad		
C	MM54C909	† National
	MM74C909	National
Comparator Phase		
C	MM74C932	National
Comparator, Dual with Dual Op Amp		
4XXX	MC14574	Motorola
Comparator, Quad		
4XXX	MC14575	Motorola
Controller, 16-Bit Programmable		
ACT	SN74ACT29116	° TI
Converter (converts 2-wire serial port to 3-wire serial port)	DS1209S-B1	Dallas
Convolutional Encoder/Viterbi Decoder		
CMOS	**STEL2030**	**† STEL (3797)**
	STEL2030A	**STEL (3797)**
	STEL3310B	**STEL (3797)**

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Coordinate Transformer			
	TMC2330	TRWLSI	
Diagnostic Scan Register			
FCT	P29PCT818A	‡ Performance	
PCT	P29PCT818	‡ Performance	
	P29PCT818B	‡ Performance	
Digital Audio Interface Transmitter			
	CS8401	Crystal	5
	CS8401AC	Crystal	
	CS8402	Crystal	
	CS8402AC	Crystal	
	CS8411C	Crystal	
CMOS	CS8401AI	Crystal	10
	CS8402AI	Crystal	
	CS8411I	Crystal	
	CS8412C	Crystal	
	CS8412I	Crystal	
Digital Mixer (two 12-bit multipliers, an adder and a cascadable accumulator)			
	TMC2249	TRWLSI	15
Direct Digital Synthesizer (AKA numerically controlled oscillator, 50 MHz sampling rate)			
	Q2334C-50N	Qualcomm	
	Q2334I-20	Qualcomm	
Direction Discriminator			
HCT	THCT2000	TI	
Error Correction Code (ECC), Corrects 3 Errors and Detects 4 Errors	SRT24-12-03	‡ SpaceResearch	
Error Detection and Circuit, 32-Bit (30ns)			
	AM29C660BC	AMD	20
Error Detection and Correction Circuit, 32-Bit (36ns)			
	AM29C660AC	AMD	
Error Detection and Correction Circuit, 32-Bit (24ns)			
	AM29C660CC	AMD	
	AM29C660DC	AMD	
	AM29C660EC	AMD	
Error Detection and Correction Unit, 32-Bit			
C	IDT49C465	IDT	25
	IDT49C465A	IDT	
Filter, Digital PLL (Phase-Locked Loop)			
HC	74HC297	Philips	
HCT	74HCT297	° Philips	
Forward Error Correction Circuit (FEC), Implements MIL-STD-188-144A and Fed. Std. 1045 ALE Functions	SRT-141A/1045	† SpaceResearch	
Golay Encoder/Decoder with Programmable Interleaving			
	SRT-2412INT	SpaceResearch	30
HSYNC GenLock Controller			
CMOS	BT261	Brooktree	
Industrial Time-Base Generator			
4XXX	CD4566B	Harris	
Latchable Transceiver, 9-Bit with Parity Generator/Checker			
AC	54AC899	† National	
	74AC899	National	
ACT	54ACT899	† National	35
	74ACT899	National	
FCT	54FCT899A	† National	
	74FCT899A	National	
Latched Transceiver			
AC	54AC11853	† TI	
	54AC11854	† TI	40
	74AC11853	TI	
	74AC11854	TI	
ACT	54ACT11853	† TI	
	54ACT11854	† TI	
	74ACT11853	TI	45
	74ACT11854	TI	
Logarithmic Gain/Attenuator (serial interface)			
	ML204	MicroLinear	

Function	Device	Source	Line
Matrix Multiplier	TMC2250	TRWLSI	
Modulated Numerically Controlled Oscillator (MNCO), 25 MHz, 24-Bit	**STEL1179**	**STEL (3796)**	
Modulated Numerically Controlled Oscillator (60 MHz, 32-bit frequency resolution, 12-bit sine or cosine output)			
CMOS	**STEL1175**	**STEL (3796)**	50
Monostable Multivibrator with Schmitt Trigger Inputs			
AHCT	**54AHCT121**	‡ **Ideal Semi (3644)**	
	74AHCT121	‡ **Ideal Semi (3644)**	
Monostable Multivibrator, Dual			
4XXX	CD4538B	Harris	
Monostable Multivibrators with Schmitt Trigger Inputs			
HCTLS	**54HCTLS121**	‡ **Ideal Semi (3643)**	
	74HCTLS121	‡ **Ideal Semi (3643)**	55
Multifunction Circuit, 6-Section			
HC	SN74HC7008	TI	
Multilevel Pipeline Register			
	LPR520	† LogicDev	
	LPR521	† LogicDev	
	L29C520	† LogicDev	
	L29C521	† LogicDev	60
Numerically Controlled Oscillator (Dual NCO)			
CMOS	STEL1178	† STEL	
	STEL1178A	**STEL (3796)**	
Numerically Controlled Oscillator (50 MHz, 16-bit frequency resolution, 12-bit sine or cosine output)			
CMOS	**STEL1174**	**STEL (3796)**	
Numerically Controlled Oscillator (50 MHz, 32-bit frequency resolution, 8-bit sine and cosine output or 12-bit phase output)			
CMOS	**STEL1172B**	**STEL (3796)**	
Numerically Controlled Oscillator (50 MHz, 48-bit frequency resolution, 12-bit sine or cosine output)			
CMOS	**STEL1173**	**STEL (3796)**	65
	STEL1173RH	‡ **STEL (3796)**	
Op Amp, Linear, Quad			
4XXX	MC14573	Motorola	
PC Mouse Controller			
	5720	Commodore	
Phase-Locked Loop			
CMOS	**PLL2001**	**Seponix (3703)**	
HC	CD54HC297	°† Harris	70
	CD74HC297	° Harris	
	MC54HC4046A	† Motorola	
	MM54HC4046	† National	
	MM74HC4046	National	
	74HC4046A	Philips	75
	74HC7046A	Philips	
HCT	CD54HCT297	°† Harris	
	CD54HCT4046	† Harris	
	CD74HCT297	° Harris	
	74HCT4046A	Philips	80
	74HCT7046A	Philips	
4XXX	CD4046B	† Harris	
	CD4046B	‡ Micrel	
	MC14046BC	Motorola	
	CD4046BC	National	85
	CD4046BM	† National	
	HEF4046B	Philips	
	BCL4046B	R&E Intl	
	SCL4046B	R&E Intl	
	SCL4446B	R&E Intl	90
	HCC4046B	† SGS-Thomson	
	HCF4046B	SGS-Thomson	
Phase-Locked Loop w/VCO			
HC	CD54HC4046A	† Harris	
	CD54HC7046A	† Harris	
	CD74HC4046A	Harris	95
	CD74HC7046A	Harris	

(Continued)

Function	Device	Source	Line
Phase-Locked Loop w/VCO (Cont'd)			
HCT	CD54HCT4046A	† Harris	
	CD54HCT7046A	† Harris	
	CD74HCT4046A	Harris	
	CD74HCT7046A	Harris	100
	MC74HC4046A	Motorola	
Pipeline Register			
AC	54AC11818	† TI	
	54AC11819	† TI	
	74AC11818	TI	
	74AC11819	TI	105
ACT	54ACT11818	† TI	
	54ACT11819	† TI	
	74ACT11818	TI	
	74ACT11819	TI	
PLL Frequency Synthesizer (parallel input)			
	IMI145151	† IMI	110
PLL Frequency Synthesizer (serial control)			
	PMB2306	**Siemens (3770)**	
PLL Frequency Synthesizer (serial input)			
CMOS	**PLL0305**	**Seponix (3703)**	
PLL Frequency Synthesizer, 1.6 GHz			
	Q3036	Qualcomm	
PLL Frequency Synthesizer (4-bit data bus input)			
	IMI145145	† IMI	
	IMI145146	† IMI	115
Priority Encoder, 8-to–3 Line			
HCT	MM54HCT148	† National	
	MM74HCT148	National	
Priority Encoder, 10-to–4 Line			
HCT	MM54HCT147	† National	
	MM74HCT147	National	
Programmable Delay Timer with Oscillator			
HC	74HC5555	Philips	120
HCT	74HCT5555	Philips	
Programmable Digital Delay Timer			
	LS7210	**LSI Comp (3681)**	
Programmable Frequency Divider/Digital Timer			
HC	M74HC292	SGS-Thomson	
	M74HC294	SGS-Thomson	
Programmable Frequency Dividers/Timers			
HC	**TC74HC7292A**	**Toshiba (3836)**	125
	TC74HC7294A	**Toshiba (3836)**	
Programmable Timer			
HC	HCC4536B	SGS-Thomson	
	HCF4536B	SGS-Thomson	
Programmable Video Sync Generator			
ACT	54ACT715	† National	
	54ACT715R	National	130
	74ACT715	National	
	74ACT715R	National	
Programmable One-Shot Pulse Generator (15 ns maximum pulse width)			
	DS1040-A15	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (20 ns maximum pulse width)			
	DS1040-A20	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (32.5 ns maximum pulse width)			
	DS1040-A32	**Dallas (3566)**	135
Programmable One-Shot Pulse Generator (40 ns maximum pulse width)			
	DS1040-B40	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (50 ns maximum pulse width)			
	DS1040-B50	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (60 ns maximum pulse width)			
	DS1040-D60	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (70 ns maximum pulse width)			
	DS1040-D70	**Dallas (3566)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line
Miscellaneous		**(Cont'd)**	
Programmable One-Shot Pulse Generator (75 ns maximum pulse width)			
	DS1040-75	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (100 ns maximum pulse width)			
	DS1040-100	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (150 ns maximum pulse width)			
	DS1040-150	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (200 ns maximum pulse width)			
	DS1040-200	**Dallas (3566)**	
Programmable One-Shot Pulse Generator (250 ns maximum pulse width)			
	DS1040-250	**Dallas (3566)**	5
Programmable One-Shot Pulse Generator (500 ns maximum pulse width)			
	DS1040-500	**Dallas (3566)**	
Rate Multiplier, Binary			
4XXX	CD4089B	† Harris	
	CD4089BC	National	
	CD4089BM	† National	
	HCC4089B	† SGS-Thomson	10
	HCF4089B	SGS-Thomson	
Rate Multiplier, BCD			
4XXX	CD4527B	† Harris	
	MC14527BC	Motorola	
	CD4527BC	National	
	CD4527BM	† National	15
	HEF4527B	Philips	
	BCL4527B	R&E Intl	
	SCL4527B	R&E Intl	
	HCC4527B	† SGS-Thomson	
	HCF4527B	SGS-Thomson	20
	TC4527B	**Toshiba (3838)**	
Register, 8-Bit Multiplexed (with I/O readback)			
ACT	74ACT11979	TI	
Register, 8x9-Bit Multiplexed (with I/O readback)			
ACT	74ACT11987	TI	
	74ACT11988	TI	
Register, 16x8-Bit Multiplexed (with I/O readback)			
ACT	74ACT11980	TI	25
	74ACT11981	TI	
Registered Transceiver			
AC	54AC11833	† TI	
	54AC11834	† TI	
	74AC11833	TI	
	74AC11834	TI	30
ACT	54ACT11833	† TI	
	54ACT11834	† TI	
	74ACT11833	TI	
	74ACT11834	TI	
Shift Register, Variable Length			
	TMC2011	TRWLSI	35
Successive Approximation Register			
C	MM54C905	‡ Micrel	
	MM54C905	† National	
	MM74C905	National	
Successive Approximation Register, Cascadable			
4XXX	MC14549BC	Motorola	
Switch Eliminator (logic to replace manual digital switches)	DS1223	Dallas	40
	DS1290	Dallas	
	DS1291	Dallas	
	DS1292	Dallas	
	DS1293	Dallas	
Terminator, SCSI Bus, 18-Bit			
MOS	MCCS142235	Motorola	45
Terminator, Dual Programmable 4-Bit			
4XXX	**TC40117B**	**Toshiba (3838)**	
Testable Functional Circuit (provides the circuit functionality of various logic devices: multiplexers, decoders, shift registers, addressable latches; TC ± driver, TV ± receiver)			
	LT54TC32	† LSTI	
	LT54TV32	† LSTI	
	LT74TC32	LSTI	
	LT74TV32	LSTI	50
Timekeeper, Internal Lithium Source			
	DS1216E	Dallas	
Timer			
5XXX	**TC5043**	**Toshiba (3838)**	
Timer, 6-Digit Universal			
5XXX	TC5070	Toshiba	
	TC5071	**Toshiba (3838)**	
	TC5072	**Toshiba (3838)**	55
Touch Switch	TC9130	Toshiba	
	TC9135	Toshiba	
T1, Digital T1 Transceiver			
	CS2180B	Crystal	
Video Data Compression and Expansion Controller			
	TC35190	Toshiba	
Single Chip Transceiver (provides AES/EBU ansi s4.40 interface for Digital Audio Data)			
CMOS	CA16C440	Newbridge	60
Dual D-Type Flip-Flop, 2-Input NAND/NOR Combination			
HC	SN74HC7074	TI	
Dual Differential Line Driver			
	MM78C30	‡ Micrel	
	MM78C30	† National	
	MM88C30	National	
Dual Retriggerable Monostable Multivibrators			
HCTLS	**54HCTLS123**	**‡ Ideal Semi (3643)**	65
	74HCTLS123	**‡ Ideal Semi (3643)**	
Dual Schmitt Trigger			
AC	54AC11013	TI	
	74AC11013	TI	
ACT	54ACT11013	TI	
	74ACT11013	TI	70
4XXX	MC14583BC	Motorola	
	TC4583B	**Toshiba (3838)**	
Dual 4-Bit Terminator			
4XXX	CD40117B	Harris	
Dual 4-Channel Analog Multiplexer/Demultiplexer			
HC	74HC4052	Philips	
HCT	74HCT4052	Philips	75
Triple 2-Channel Analog Multiplexer/Demultiplexer			
HC	74HC4053	Philips	
HCT	74HCT4053	Philips	
Quad Bilateral Switch			
4XXX	CD4016A	† Harris	
	CD4016B	† Harris	
	CD4066B	† Harris	80
	BCL4016B	R&E Intl	
	SCL4016B	R&E Intl	
Quad Precision Timer/Driver (inputs cause outputs to switch state for 100 clock pulses)			
4XXX	MC14415	Motorola	
	MC14415E	† Motorola	
Quad Single Ended Line Driver			
	MM78C29	‡ Micrel	85
	MM78C29	† National	
	MM88C29	National	
Quad 2-Input NAND Schmitt Trigger			
HC	GD54HC132	† GoldStar	
	GD74HC132	GoldStar	
	CD54HC132	† Harris	90
	CD74HC132	Harris	
	HCS132MS	‡ Harris	
	HCTS132MS	‡ Harris	
	MC54HC132A	† Motorola	
		(Continued)	
Quad 2-Input NAND Schmitt Trigger			
HC		(Cont'd)	
	MC74HC132A	Motorola	95
	MM54HC132	† National	
	MM74HC132	National	
	74HC132	Philips	
	M74HC132	SGS-Thomson	
	SN54HC132	† TI	100
	SN74HC132	TI	
	TC74HC132A	**Toshiba (3836)**	
HCT	GD54HCT132	† GoldStar	
	CD54HCT132	† Harris	
	CD74HCT132	Harris	105
	74HCT132	Philips	
VHC	**TC74VHC132**	**Toshiba (3837)**	
4XXX	GD4093B	† GoldStar	
	CD4093B	°† Harris	
	CD4093B	‡ Micrel	110
	MC14093BC	Motorola	
	CD4093BC	National	
	CD4093BM	† National	
	HEF4093B	Philips	
	BCL4093B	R&E Intl	115
	SCL4093B	R&E Intl	
	HCC4093B	† SGS-Thomson	
	HCF4093B	SGS-Thomson	
	TC4093B	**Toshiba (3838)**	
Quad 2-Port Registers			
HCTLS	**54HCTLS399**	**‡ Ideal Semi (3643)**	120
	74HCTLS399	**‡ Ideal Semi (3643)**	
Quad 2-Input NAND Schmitt Trigger			
AC	54AC11132	† TI	
	74AC11132	TI	
ACT	54ACT11132	† TI	
	74ACT11132	TI	125
Quadrature Amplitude Modulator			
CMOS	**STEL1130**	**† STEL (3796)**	
Quadrature Clock Converter			
	LS7082	**LSI Comp (3682)**	
	LS7083	**LSI Comp (3682)**	
	LS7084	**LSI Comp (3682)**	
Hex Contact Bounce Eliminator			
4XXX	MC14490	Motorola	130
Hex Schmitt Trigger			
	GD40014B	GoldStar	
	TC584B	Toshiba	
AC	54AC14	† National	
	74AC14	National	
ACT	54ACT14	† National	135
	74ACT14	National	
C	MM54C14	‡ Micrel	
	MM54C914	‡ Micrel	
	MM54C14	† National	
	MM54C914	† National	140
	MM74C14	National	
	MM74C914	National	
HC	CD54HC14	°† Harris	
	CD74HC14	° Harris	
	HCS14MS	‡ Harris	145
	HCTS14MS	‡ Harris	
	74HC14	° Philips	
	M74HC14	SGS-Thomson	
	SN54HC14	† TI	
	SN74HC14	TI	150
HCT	CD54HCT14	°† Harris	
	CD74HCT14	° Harris	
	74HCT14	° Philips	
LVC	SN74LVC14	ℓ TI	
4XXX	CD40106B	† Harris	155
	CD40106B	‡ Micrel	
	CD4584B	‡ Micrel	
	MC14584BC	Motorola	
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

DIGITAL

Miscellaneous (Cont'd)

Function	Device	Source	Line
Hex Schmitt Trigger			
4XXX (Cont'd)			
	CD40106BC	National	
	CD40106BM	† National	
	CD4584BC	National	
	CD4584BM	† National	
	HEF40106B	Philips	5
	BCL4584B	R&E Intl	
	SCL4584B	R&E Intl	
	HCC40106B	† SGS-Thomson	
	HCF40106B	SGS-Thomson	
	TC4584B	**Toshiba (3838)**	10
Hex Schmitt Trigger Inverter			
AC	54AC11014	TI	
	74AC11014	TI	
ACT	54ACT11014	TI	
	74ACT11014	TI	
HC	MC54HC14A	† Motorola	15
	MC74HC14A	Motorola	
	MM54HC14	† National	
	MM74HC14	National	
Hex Voltage-Level Shifter for TTL-to-CMOS or CMOS-to-CMOS			
4XXX	CD4504B	Harris	
Octal Register Transceiver			
FCT	P29PCT52A	Performance	20
	P29PCT52C	Performance	
PCT	P29PCT52B	Performance	
	P29PCT53A	Performance	
	P29PCT53B	Performance	
3-/4-Input NAND/NOR Combination			
HC	SN74HC7006	TI	25
4-Bit Binary Counter/Clock Generator			
5XXX	TC5018B	Toshiba	
4x4x2 Crosspoint Switch			
	M22101	SGS-Thomson	
	M22102	SGS-Thomson	
6-Section Multifunction (Inverter, NOR, Flip-Flop)			
	SN74HC7076	TI	
6-Section Multifunction (NAND, Invert, Flip-Flop)			
	SN74HC7075	TI	30
8-Bit Diagnostic/Pipe-Line Register			
AC	74AC11818	Philips	
8-Bit Diagnostic/Pipe-Line Register w/Parity Even Output			
AC	74AC11819	Philips	
8-Bit Diagnostic Pipeline Register			
ACT	54ACT818	† National	
	74ACT818	National	
8-Bit I/O Port	CDP1852/3	Harris	35
	CDP1852C	† Harris	
	CDP1852C/3	Harris	
	CDP1872C	† Harris	
	CDP1874C	† Harris	
	CDP1875C	† Harris	40
	HB1852	† Hughes	
	HB1852C	† Hughes	
HC	HC1852	Hughes	
	HC1852C	Hughes	
8-Bit Metastable-Resistant Flip-Flops			
AC	54AC11478	† TI	45
	74AC11476	TI	
	74AC11477	TI	
	74AC11478	TI	
ACT	54ACT11478	† TI	50
	74ACT11476	TI	
	74ACT11477	TI	
	74ACT11478	TI	
8-Bit Priority Encoder			
4XXX	GD4532B	GoldStar	
	CD4532B	† Harris	
		(Continued)	
8-Bit Priority Encoder			
4XXX (Cont'd)			
	MC14532BC	Motorola	55
	HEF4532B	Philips	
	BCL4532B	R&E Intl	
	SCL4532B	R&E Intl	
	HCC4532B	† SGS-Thomson	
	HCF4532B	SGS-Thomson	60
	TC4532B	**Toshiba (3838)**	
8-Bit Transceiver with Parity			
FCT	IDT54FCT833A	† IDT	
	IDT54FCT833B	† IDT	
	IDT54FCT853A	† IDT	
	IDT54FCT853B	† IDT	65
	IDT74FCT833A	IDT	
	IDT74FCT833B	IDT	
	IDT74FCT853A	IDT	
	IDT74FCT853B	IDT	
	IDT74FCT854A	IDT	70
	IDT74FCT854B	IDT	
8-Bit Universal Transceiver/Port Controllers			
AC	74AC11852	TI	
	74AC11856	TI	
	74AC11877	TI	
ACT	74ACT11877	TI	75
8-Channel Analog Multiplexer/Demultiplexer			
HC	74HC4051	Philips	
HCT	74HCT4051	Philips	
8-Line to 3-Line Priority Encoder			
HC	MM54HC148	† National	
	MM74HC148	National	
9-Bit Odd/Even Parity Generator/Checker			
AC	74AC11280	° TI	80
HC	54HC180	† Rochester	
	74HC180	Rochester	
	SN54HC180	† TI	
	SN54HC280	† TI	
	SN74HC180	TI	85
	SN74HC280	TI	
	TC74HC280A	**Toshiba (3836)**	
9-Bit Parity Generator/Checker with Parity I/O Port			
AC	74AC11286	° TI	
10-bit Bus Switches, High Speed			
QST	QS32384	Quality Semi	
	QS3384	Quality Semi	90
10-Line to 4-Line DCD Priority Encoder			
HC	**TC74HC147A**	**Toshiba (3836)**	
4XXX	CD40147B	† Harris	
12-Bit Parity Tree			
4XXX	GD4531B	GoldStar	
	ML14531B	Lansdale	
	MC14531BC	Motorola	95
	HEF4531B	Philips	
	BCL4531B	R&E Intl	
	SCL4531B	R&E Intl	
	TC4531B	**Toshiba (3838)**	
16-Bit Multilevel Pipeline Register			
	IDT73200L12	† IDT	100
	IDT73200L15	† IDT	
	IDT73201L12	† IDT	
	IDT73201L15	† IDT	
16-Bit Stereo A/D Converter			
CMOS	CS5336	Crystal	
	CS5338	Crystal	105
	CS5339	Crystal	
18-Bit Stereo D/A Converter			
CMOS	CS4328	Crystal	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—BiCMOS

Arithmetic Functions

Function	Device	Source	Line
Diagnostic/Pipeline Register			
BCT	SN54BCT818	† TI	
	SN54BCT819	† TI	
	SN74BCT818	TI	
	SN74BCT819	TI	
9-Bit Parity Generator/Checker			
ABT	**TD74ABT280**	**Toshiba (3836)**	5

Buffers

Function	Device	Source	Line
Buffer/Line Driver, Octal, Open Collector			
BCT	SN54BCT756	† TI	
	SN54BCT757	† TI	
	SN54BCT760	† TI	
	SN74BCT756	TI	
	SN74BCT757	TI	10
	SN74BCT760	TI	
Buffer/Line Driver, 16-Bit, Three-State			
	MB2241	Philips	
Bus Buffer/Line Driver (with parity checker/generator)			
ABT	**TD74ABT563**	**Toshiba (3836)**	
	TD74ABT564	**Toshiba (3836)**	
BCT	SN54BCT563	† TI	15
	SN54BCT564	† TI	
	SN74BCT563	TI	
	SN74BCT564	TI	
Bus Buffers, Quad, Three-State			
BCT	74BCT125	National	
	SN54BCT125	°† TI	20
	SN54BCT126	°† TI	
	SN74BCT125	° TI	
	SN74BCT126	° TI	
Quad Gated, Three-State			
ABT	74ABT125	Philips	
	74ABT126	Philips	25
	TD74ABT125	Toshiba	
	TD74ABT126	Toshiba	
LVT	74LVT125	ℓ Philips	
Hex Bus Buffer			
BC	**TD74BC365**	**Toshiba (3836)**	
	TD74BC366	**Toshiba (3836)**	30
	TD74BC367	**Toshiba (3836)**	
	TD74BC368	**Toshiba (3836)**	
Octal Buffer/Line Driver			
BCT	SN54BCT541	°† TI	
Octal Buffer/Line Driver, Inverting, Three-State			
	74ABT540	Philips	
ABT	74ABT240	Philips	35
LVT	74LVT240	ℓ Philips	
Octal Buffer/Line Driver, True, Three-State			
FBT	IDT54FBT541	† IDT	
	IDT54FBT541A	† IDT	
	IDT54FBT541C	† IDT	
	IDT74FBT541	IDT	40
	IDT74FBT541A	IDT	
	IDT74FBT541C	IDT	
Octal Buffer/Line Driver with Parity Checker/Generator			
BCT	SN54BCT455	† TI	
	SN54BCT456	† TI	
	SN74BCT455	TI	45
	SN74BCT456	TI	
Octal Buffer/Line Driver with 30 Ohm Termination Resistors, Inverting, Three-State			
ABT	74ABT240-1	Philips	
Octal Buffer/Line Driver, Dual, Three-State			
	MB2541	Philips	
Octal Buffer/Line Driver, Three-State			
	74ABT241	Philips	
	74ABT244	Philips	50
	74ABT541	Philips	
ABT	**TD74ABT541**	**Toshiba (3836)**	
BCT	SN54BCT2241	† TI	
		(Continued)	
Octal Buffer/Line Driver, Three-State			
BCT		(Cont'd)	
	SN74BCT2241	° TI	
	SN74BCT541	° TI	55
LVT	74LVT244	ℓ Philips	
Octal Buffer/Line Driver, Three-State, Inverting			
ABT	**TD74ABT2240**	**Toshiba (3836)**	
BCT	54BCT2240	† National	
	54BCT240	† National	
	74BCT2240	National	60
	74BCT240	National	
	SN74BCT2240	TI	
FBT	IDT54FBT2240	† IDT	
	IDT54FBT2240A	† IDT	
	IDT54FBT2240C	† IDT	65
	IDT54FBT240	† IDT	
	IDT54FBT240A	† IDT	
	IDT54FBT240C	† IDT	
	IDT54FBT540	† IDT	
	IDT54FBT540A	† IDT	70
	IDT54FBT540C	IDT	
	IDT74FBT2240	IDT	
	IDT74FBT2240A	IDT	
	IDT74FBT2240C	IDT	
	IDT74FBT240	IDT	75
	IDT74FBT240A	IDT	
	IDT74FBT240C	IDT	
	IDT74FBT540	IDT	
	IDT74FBT540A	IDT	
	IDT74FBT540C	IDT	80
Octal Buffer/Line Driver, Three-State, True			
ABT	**TD74ABT2241**	**Toshiba (3836)**	
	TD74ABT2244	**Toshiba (3836)**	
FBT	IDT54FBT2244	† IDT	
	IDT54FBT2244A	† IDT	
	IDT54FBT2244C	† IDT	85
	IDT54FBT241	† IDT	
	IDT54FBT241A	† IDT	
	IDT54FBT241C	† IDT	
	IDT54FBT244	† IDT	
	IDT54FBT244A	† IDT	90
	IDT54FBT244C	† IDT	
	IDT74FBT2244	IDT	
	IDT74FBT2244A	IDT	
	IDT74FBT2244C	IDT	
	IDT74FBT241	IDT	95
	IDT74FBT241A	IDT	
	IDT74FBT241C	IDT	
	IDT74FBT244	IDT	
	IDT74FBT244A	IDT	
	IDT74FBT244C	IDT	100
Octal Bus Buffer			
BC	**TD74BC241**	**Toshiba (3836)**	
	TD74BC244	**Toshiba (3836)**	
	TD74BC540	**Toshiba (3836)**	
	TD74BC541	**Toshiba (3836)**	
Octal Bus Buffer, Inverting			
BC	**TD74BC240**	**Toshiba (3836)**	105
10-Bit Buffer/Line Driver, Inverting			
ABT	TD74ABT828	Toshiba	
10-Bit Buffer/Line Driver, Three-State, Inverting			
FBT	IDT54FBT2828A	† IDT	
	IDT54FBT2828B	† IDT	
	IDT54FBT828A	† IDT	
	IDT54FBT828B	† IDT	110
	IDT54FBT828C	† IDT	
	IDT74FBT2828A	IDT	
	IDT74FBT2828B	IDT	
	IDT74FBT828A	IDT	
	IDT74FBT828B	IDT	115
	IDT74FBT828C	IDT	
10-Bit Buffer/Line Driver, Three-State, True			
ABT	74ABT827	Philips	
	TD74ABT827	Toshiba	
		(Continued)	
10-Bit Buffer/Line Driver, Three-State, True			
		(Cont'd)	
FBT	IDT54FBT2827A	† IDT	
	IDT54FBT2827B	† IDT	120
	IDT54FBT827A	† IDT	
	IDT54FBT827B	† IDT	
	IDT54FBT827C	† IDT	
	IDT74FBT2827A	IDT	
	IDT74FBT2827B	IDT	125
	IDT74FBT827A	IDT	
	IDT74FBT827B	IDT	
	IDT74FBT827C	IDT	
11-Bit			
BCT	SN74BCT2412	TI	
	SN74BCT2413	TI	130
11-Bit with Series Resistor			
BCT	SN54BCT2410	† TI	
	SN54BCT2411	† TI	
	SN74BCT2410	TI	
	SN74BCT2411	TI	
16-Bit Buffer/Line Driver, Three-State, Inverting			
	MB2240	Philips	135

Bus-Oriented Circuits

Function	Device	Source	Line
MCP Address/Data Transceivers			
BCT	SN74BCT2425	° TI	
NuBus Address/Data Transceivers and Registers			
BCT	SN74BCT2420	° TI	
PI-Bus Transceiver, Octal (wired-OR Bus)			
	DS1776	National	
Transceiver/Register, Inverting, (Three-State)			
ABT	74ABT651	Philips	
Transceiver/Register, True, Three-State			
	74ABT652	Philips	140
LVT	74LVT652	ℓ Philips	
Dual octal Transceiver/ Registered, Non-inverting, Three-State	MB2652	Philips	
Dual Octal Bus Transceiver/ Registered, Three-State			
	MB2646	Philips	
Dual Octal Registered Transceiver, Inverting Three-State			
	MB2053	Philips	
Dual Octal Registered Transceiver, Three-State			
	MB2052	Philips	145
Quad Bus Transceiver			
BC	**TD74BC242**	**Toshiba (3836)**	
	TD74BC243	**Toshiba (3836)**	
Quad Octal Transceiver with Direction Pins, Three-State			
	MB4245	Philips	
Hex Bus Buffer, Three-State, Inverting			
BC	MC74BC366	Motorola	
	MC74BC368	Motorola	150
Hex Bus Buffer, Three-State, True			
BC	MC74BC365	Motorola	
	MC74BC367	Motorola	
Octal Bidirectional Transceiver, Three-State			
FCT	54FCT245	† National	
	54FCT245A	† National	
	74FCT245	National	155
	74FCT245A	National	
Octal Buffer/Line Driver, Inverting, Three-State			
ABT	**TD74ABT540**	**Toshiba (3836)**	
BCT	SN54BCT540	† TI	
	SN74BCT540	° TI	
Octal Buffer/Line Driver with 30 Ohm Termination Resistors, Three-State			
ABT	74ABT244-1	Philips	160
Octal Buffer/Line Driver, Three-State, Inverting			
ABT	**TD74ABT240**	**Toshiba (3836)**	
FCT	54FCT240	† National	
	54FCT240A	† National	
	74FCT240	National	
	74FCT240A	National	165

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—BiCMOS (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
Octal Buffer/Line Driver, Three-State, True			
ABT	**TD74ABT241**	**Toshiba (3836)**	
FCT	54FCT241	† National	
	54FCT241A	† National	
	54FCT244	† National	
	54FCT244A	† National	5
	74FCT241	National	
	74FCT241A	National	
	74FCT244	National	
	74FCT244A	National	
Octal Bus Buffer, Three-State, Inverting			
BC	MC74BC540	Motorola	10
Octal Bus Buffer, Three-State, True			
BC	MC74BC541	Motorola	
Octal Bus Driver			
ABT	**TD74ABT244**	**Toshiba (3836)**	
BCT	SN74BCT244	TI	
	SN74BCT757	TI	
	SN74BCT760	TI	15
Octal Bus Transceiver			
BCT	SN54BCT620A	† TI	
	SN74BCT620A	TI	
Octal Bus Transceiver, Inverting, Three-State			
ABT	**TD74ABT640**	**Toshiba (3836)**	
Octal Bus Transceiver/Register			
ABT	74ABT648	Philips	
	TD74ABT646	**Toshiba (3836)**	20
	TD74ABT652	**Toshiba (3836)**	
	TD74ABT653	**Toshiba (3836)**	
Octal Bus Transceiver/Register with Direction Pin, Three-State, Inverting			
ABT	**TD74ABT648**	**Toshiba (3836)**	
BCT	74BCT646	National	
	SN54BCT646	† TI	25
	SN54BCT648	† TI	
	SN74BCT646	TI	
	SN74BCT648	TI	
Octal Bus Transceiver/Register with Dual Enable, Three-State, Inverting			
ABT	**TD74ABT651**	**Toshiba (3836)**	
BCT	SN54BCT651	† TI	30
	SN74BCT651	TI	
Octal Bus Transceiver/Register, Three-State			
	74ABT646	Philips	
ABT	**TD74ABT654**	**Toshiba (3836)**	
FCT	CD74FCT654	Harris	
LVT	74LVT646	ℓ Philips	35
Octal Bus Transceiver, True, Three-State			
ABT	**TD74ABT643**	**Toshiba (3836)**	
BCT	SN74BCT643	TI	
Octal Bus Transceiver with Dual Enable, Three-State, Inverting			
ABT	**TD74ABT620**	**Toshiba (3836)**	
	TD74ABT623	**Toshiba (3836)**	
Octal Bus Transceiver, Three-State			
FCT	CD54FCT7623	† Harris	40
	CD74FCT7623	Harris	
Octal Bus Transceiver, Three-State, Inverting			
BC	MC74BC242	Motorola	
	MC74BC243	Motorola	
Octal Bus Transceiver, Three-State, True			
ABT	**TD74ABT245**	**Toshiba (3836)**	
FBT	IDT54FBT245	† IDT	45
	IDT54FBT245A	† IDT	
	IDT54FBT245C	† IDT	
	IDT74FBT245	IDT	
	IDT74FBT245A	IDT	
	IDT74FBT245C	IDT	50
Octal Register-Transceiver, Three-State			
FCT	CD54FCT2952A	† Harris	
	CD74FCT2952A	Harris	

Function	Device	Source	Line
Octal Register-Transceiver, Three-State, Inverting			
FCT	CD54FCT2953A	† Harris	
	CD74FCT2953A	Harris	
Octal Registered Bus Transceiver			
BCT	74BCT652	National	55
	SN74BCT652	TI	
Octal Registered Transceiver			
FCT	54FCT543	† National	
	54FCT543A	† National	
	74FCT543	† National	
	74FCT543A	National	60
Octal Registered Transceiver, Inverting, Three-State			
ABT	74ABT2953	Philips	
	TD74ABT2953	Toshiba	
Octal Registered Transceiver, Three-State			
ABT	74ABT2952	Philips	
	TD74ABT2952	Toshiba	
Octal Transceiver, Non-Inverting, Three-State			
	74ABT623	Philips	65
Octal Transceiver/Register with Dual Enable, Three-State, True			
ABT	74ABT543	Philips	
	TD74ABT543	**Toshiba (3836)**	
LVT	74LVT543	ℓ Philips	
Octal Transceiver/Register, Three-State, Inverting			
ABT	**TD74ABT544**	**Toshiba (3836)**	
Octal Transceiver with Direction Pin, Inverting, Three-State	74ABT640	Philips	70
Octal Transceiver with Directional Pin, Three-State			
	74ABT245	Philips	
LVT	74LVT245	ℓ Philips	
Octal Transceiver with Parity Generator/Checker, Three-State			
ABT	74ABT833	Philips	
Octal Transceiver with Dual Enable, Inverting, Three-State	74ABT620	Philips	
Octal Transceiver with Dual Enable, True, Three-State			
	MB2623	Philips	75
Octal Transceiver with 8-Bit Parity Generator/Checker, Three-State	74ABT657	Philips	
8-Bit to 9-Bit Parity Bus Transceiver			
BCT	SN74BCT29833	TI	
	SN74BCT29834	TI	
	SN74BCT29853	TI	
	SN74BCT29854	TI	80
9-Bit Bus Interface Register, Three-State, True			
FBT	IDT54FBT823A	† IDT	
	IDT54FBT823B	† IDT	
	IDT54FBT823C	† IDT	
	IDT74FBT823A	IDT	
	IDT74FBT823B	IDT	85
	IDT74FBT823C	IDT	
9-Bit Bus Transceiver, Three-State			
BCT	SN74BCT29863A	TI	
	SN74BCT29864A	TI	
FCT	CD74FCT863A	Harris	
9-Bit Bus Transceiver, Three-State, Inverting			
FCT	CD74FCT864A	Harris	90
9-Bit Bus Transceiver, Three-State, True			
ABT	74ABT863	Philips	
	TD74ABT863	Toshiba	
	TD74ABT864	Toshiba	
9-Bit Dual Latch Transceiver with 8-Bit Parity Generator/Checker, Three-State, True			
	74ABT899	Philips	
10-Bit Buffer/Line Driver, Three-State, Inverting			
BCT	SN74BCT29828A	° TI	95
10-Bit Buffer/Line Driver, Three-State, True			
BCT	54BCT827B	† National	
	74BCT827B	National	
	SN74BCT29827A	° TI	

Function	Device	Source	Line
10-Bit Bus Interface Latch, Three-State			
	74ABT841	Philips	
10-Bit Bus Interface Register, Three-State, True			
FBT	IDT54FBT821A	† IDT	100
	IDT54FBT821B	† IDT	
	IDT54FBT821C	† IDT	
	IDT74FBT821A	IDT	
	IDT74FBT821B	IDT	
	IDT74FBT821C	IDT	105
10-Bit Bus Transceiver, Three-State			
BCT	SN74BCT29861A	TI	
	SN74BCT29862A	TI	
FCT	CD74FCT861A	Harris	
10-Bit Bus Transceiver, Three-State, Inverting			
FCT	CD74FCT862A	Harris	
10-Bit Bus Transceiver, Three-State, True			
ABT	74ABT861	Philips	110
	TD74ABT861	Toshiba	
	TD74ABT862	Toshiba	
10-Bit, Inverting			
ABT	**TD74ABT822**	**Toshiba (3836)**	
16-Bit Buffer/Line Driver, Three-State, Inverting			
	MB2244	Philips	
16-Bit Bus Transceiver, Three-State, Non-Inverting			
	MB2245	Philips	115
16-Bit Multiplexed Bus Transceiver with Latches			
BCT	SN74BCT2423	° TI	
	SN74BCT2424	° TI	
Decoders			
3-Line to 8-Line Memory Decoder with Battery Backup			
BCT	SN74BCT2414	TI	
Drivers			
Octal Bus Driver			
BC	**TD74BC230**	**Toshiba (3836)**	
	TD74BC231	**Toshiba (3836)**	120
Octal 25-Ohm Line Driver, Inverting, Three-State			
BCT	SN54BCT25240	† TI	
	SN74BCT25240	TI	
Octal 25-Ohm Line Driver, Open Collector			
BCT	SN54BCT25756	† TI	
	SN54BCT25757	† TI	
	SN54BCT25760	† TI	125
	SN74BCT25756	TI	
	SN74BCT25757	TI	
	SN74BCT25760	TI	
Octal 25-Ohm Line Driver, True, Three-State			
BCT	SN54BCT25241	† TI	
	SN54BCT25244	† TI	130
	SN74BCT25241	TI	
	SN74BCT25244	TI	
2-Bit Clock Driver			
BCT	SN74BCT306	TI	
Flip-Flops, D-Type			
Dual Octal, Positive-Edge Trigger, Three-State			
	MB2374	Philips	
Octal			
BC	TD74BC564	Toshiba	135
	TD74BC574	Toshiba	
	TD74BC575	Toshiba	
Octal D-Type, Edge-Triggered			
ABT	**TD74ABT574**	**Toshiba (3836)**	
BCT	SN54BCT574	† TI	
	SN74BCT574	TI	140
Octal D-Type, Three-State			
BC	**TD74BC374**	**Toshiba (3836)**	
	TD74BC534	Toshiba	
Octal D-Type, Three-State, Inverting			
BC	MC74BC534	Motorola	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—BiCMOS (Cont'd)

Function	Device	Source
Flip-Flops, D-Type (Cont'd)		
Octal D-Type, Three-State, True		
BC	MC74BC374	Motorola
Octal, Edge-Triggered		
	74ABT273	Philips
FCT	54FCT273	† National
	54FCT377	† National
	74FCT273	National
	74FCT377	† National
LVT	74LVT273	ℓ Philips
Octal, Positive-Edge Trigger Three-State		
	74ABT574	Philips
Octal, Positive-Edge Trigger, Three-State		
	74ABT374	Philips
LVT	74LVT574	ℓ Philips
Octal, True		
BC	MC74BC575	Motorola
Octal with Enable	74ABT377	Philips
Octal, Three-State		
FCT	54FCT374	† National
	54FCT374A	† National
	54FCT564	† National
	54FCT564A	† National
	54FCT574	† National
	54FCT574A	† National
	74FCT374	National
	74FCT374A	National
	74FCT564	National
	74FCT564A	National
	74FCT574	National
	74FCT574A	National
	P54FCT564AT	Performance
	P54FCT564CT	Performance
	P54FCT564T	Performance
Octal Three-State, Inverting		
	74ABT534	Philips
ABT	**TD74ABT534**	**Toshiba (3836)**
BC	MC74BC564	Motorola
BCT	SN54BCT534	† TI
	SN74BCT534	TI
Octal Three-State, True		
	ABT574	Philips
ABT	**TD74ABT374**	**Toshiba (3836)**
BC	MC74BC574	Motorola
BCT	74BCT374	National
	SN74BCT374	TI
FBT	IDT54FBT374	† IDT
	IDT54FBT374A	† IDT
	IDT54FBT374C	† IDT
	IDT74FBT374	IDT
	IDT74FBT374A	IDT
	IDT74FBT374C	IDT
9-bit Three-State, True		
ABT	74ABT823	Philips
	TD74ABT823	Toshiba
	TD74ABT824	Toshiba
10-Bit		
ABT	**TD74ABT821**	**Toshiba (3836)**
10-Bit, Positive-Edge Triggered, Three-State		
	74ABT821	Philips
Gates, AND		
Quad 2-Input		
BC	MC74BC08	Motorola
	TD74BC08	**Toshiba (3836)**
Gates, NAND		
Quad 2-Input		
BC	MC74BC00	Motorola
	TD74BC00	**Toshiba (3836)**

Function	Device	Source
Gates, OR		
Quad 2-Input		
BC	MC74BC32	Motorola
	TD74BC32	**Toshiba (3836)**
Gates, Miscellaneous		
8-Bit Bidirectional with Handshake		
BCT	74BCT2952	National
	SN74BCT2952	TI
	SN74BCT2953	TI
Latches		
Dual Octal D-Type Transparent Latch, Three-State		
	MB2373	Philips
Dual Octal Latched Transceivers with Dual Enable, Three-State	MB2543	Philips
Octal D-Type		
ABT	**TD74ABT533**	**Toshiba (3836)**
BC	MC74BC564	Motorola
	TD74BC373	**Toshiba (3836)**
Octal D-Type Latch		
BCT	SN74BCT533	TI
Octal D-Type, Transparent, Three-State		
	74ABT373	Philips
ABT	**TD74ABT573**	**Toshiba (3836)**
BC	**TD74BC573**	**Toshiba (3836)**
BCT	SN74BCT573	TI
Octal D-Type, Three-State		
	74ABT573	Philips
ABT	**TD74ABT373**	**Toshiba (3836)**
BCT	SN54BCT573	† TI
	SN74BCT373	TI
LVT	74LVT573	ℓ Philips
Octal D-Type, Three-State, Inverting		
BC	MC74BC533	Motorola
	MC74BC563	Motorola
	TD74BC533	**Toshiba (3836)**
Octal D-Type, Three-State, True		
BC	MC74BC373	Motorola
	MC74BC573	Motorola
Octal inverting Transceiver with Parity generator/checker, Three-State		
	74ABT834	Philips
Octal Latched Transceiver with Dual Enable, Inverting		
	74ABT544	Philips
Octal Transparent		
BC	**TD74BC563**	**Toshiba (3836)**
Octal Transparent, D-Type, Three-State		
FBT	IDT54FBT373	† IDT
	IDT54FBT373A	† IDT
	IDT54FBT373C	† IDT
	IDT74FBT373	IDT
	IDT74FBT373A	IDT
	IDT74FBT373C	IDT
Octal Transparent, D-Type, Three-State, True		
FBT	IDT54FBT2373	† IDT
	IDT54FBT2373A	† IDT
	IDT54FBT2373C	† IDT
	IDT74FBT2373	IDT
	IDT74FBT2373A	IDT
	IDT74FBT2373C	IDT
Octal Transparent, Three-State		
FCT	CD54FCT373	Harris
	CD54FCT573	† Harris
	CD74FCT373	Harris
	CD74FCT573	Harris
	54FCT373	† National
	54FCT373A	† National
	54FCT533	† National
	54FCT533A	† National
	54FCT563	† National
	54FCT563A	† National

(Continued)

Function	Device	Source
Octal Transparent, Three-State (Cont'd)		
FCT	54FCT573	† National
	54FCT573A	† National
	74FCT373	National
	74FCT373A	National
	74FCT533	National
	74FCT533A	National
	74FCT563	National
	74FCT563A	National
	74FCT573	National
	74FCT573A	National
	P74FCT563AT	Performance
	P74FCT563CT	Performance
	P74FCT563T	Performance
	54FCT563AT	Performance
	54FCT563BT	Performance
	54FCT563T	Performance
Octal Transparent, Three-State, Inverting		
FCT	CD54FCT533	† Harris
	CD54FCT563	† Harris
	CD74FCT533	Harris
	CD74FCT563	Harris
8-Bit, Tranparent D-Type, Three-State(bus interface)		
BCT	SN74BCT29845	TI
	SN74BCT29846	TI
9-Bit, Transparent		
ABT	74ABT843	Philips
	TD74ABT843	Toshiba
	TD74ABT844	Toshiba
9-Bit, Transparent D-Type, Three-State (bus interface)		
BCT	SN74BCT29843	TI
	SN74BCT29844	TI
9-Bit Transparent, Three-State		
FCT	CD54FCT843A	† Harris
	CD74FCT843A	Harris
	54FCT843A	† National
	54FCT843B	† National
	74FCT843A	National
	74FCT843B	National
9-Bit Transparent, Three-State, Inverting		
FCT	CD54FCT844A	† Harris
10-Bit, D-Type		
ABT	**TD74ABT841**	**Toshiba (3836)**
10-Bit, D-Type, Inverting		
ABT	**TD74ABT842**	**Toshiba (3836)**
10-Bit, Transparent D-Type, Three-State (bus interface)		
BCT	SN74BCT29841	TI
	SN74BCT29842	TI
10-Bit Transparent, D-Type, Three-State, True		
FBT	IDT54FBT841A	† IDT
	IDT54FBT841B	† IDT
	IDT54FBT841C	† IDT
	IDT74FBT841A	IDT
	IDT74FBT841B	IDT
	IDT74FBT841C	IDT
10-Bit Transparent, Three-State		
FCT	CD74FCT841A	Harris
	74FCT841A	National
	74FCT841B	National
10-Bit Transparent, Three-State, Inverting		
FCT	CD54FCT842A	† Harris
	CD74FCT842A	Harris
10-Bit Transparent, Three-State		
FCT	CD54FCT841A	† Harris
	54FCT841A	† National
	54FCT841B	† National
8-Bit Bus interface Latch with Set and Reset, Three-State	74ABT845	Philips
8-Bit inverting Transceiver with 9-Bit parity checker/generator and flag Latch, Three-State		
	74ABT854	Philips

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—BiCMOS (Cont'd)

Function	Device	Source	Line
Latches (Cont'd)			
8-Bit Transceiver with 9-Bit parity checker/generator and flag Latch, Three-State			
	74ABT853	Philips	
9-Bit Transparent			
FCT	CD74FCT844A	Harris	
Shift Registers			
Pipeline Register			
BCT	SN74BCT29818	TI	
8-Bit Bus Interface Register, Three-State			
BCT	SN54BCT29825	† TI	
	SN54BCT29826	† TI	5
	SN74BCT29826	TI	
8-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)			
BCT	SN74BCT29825	TI	
8-Bit Universal Shift/Storage, Three-State			
BCT	SN54BCT299	† TI	
	SN54BCT323	† TI	
	SN74BCT299	TI	10
	SN74BCT323	TI	
9-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)			
BCT	SN74BCT29823	° TI	
10-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)			
BCT	SN74BCT29821	° TI	
	SN74BCT29822	TI	
Transceivers, Bus			
Octal Bus Transceiver			
BC	**TD74BC620**	**Toshiba (3836)**	15
	TD74BC623	**Toshiba (3836)**	
	TD74BC640	**Toshiba (3836)**	
	TD74BC643	**Toshiba (3836)**	
	TD74BC645	**Toshiba (3836)**	
Octal Bus Transceiver/Register, Three-State, True			
LVT	74LVT2952	ℓ Philips	20
	SN54LVT2952	ℓ† TI	
	SN74LVT2952	ℓ† TI	
9-Bit Latchable Transceiver with Parity			
BCT	SN74BCT899	TI	
25 Ohm Registered Octal Bus Transceiver			
BCT	SN74BCT25646	TI	
	SN74BCT25648	TI	25
	SN74BCT25651	TI	
	SN74BCT25652	TI	
Miscellaneous			
Bus Receivers, Octal, Three-State			
BCT	SN54BCT643	† TI	
Clock Driver, 10 Outputs			
	SC3517	AMCC	
	SC3518	AMCC	30
Clock Driver, 20 Outputs			
	SC3500	AMCC	
	SC3502	AMCC	
	SC3506	AMCC	
	SC3507	AMCC	
	SC3508	AMCC	35
Clock Multiplier, x2, 50 MHz			
	SC1210	AMCC	
Clock Multiplier, x2/4/8, 80 MHz			
	S4501	AMCC	
Crossbar Switch, 4x4x20 (8 Gbit/s)			
	SC2001	Silicon Conn	
Cyclic Redundancy Checker, 64-Bit			
	S2023	° AMCC	
Parity Checker/Register			
ABT	TD74ABT833	Toshiba	40
	TD74ABT834	Toshiba	
	TD74ABT853	Toshiba	
	TD74ABT854	Toshiba	
Pipeline Register			
BCT	SN54BCT29818	† TI	
PLL Clock Generator			
	SC1110	AMCC	45
PLL Clock Generator (10 to 80 MHz), PECL			
	S4405	AMCC	
PLL Clock Generator (20 to 66 MHz), PLL			
	S4403	AMCC	
PLL Clock Generator (20 to 66 MHz), TTL			
	S4402	AMCC	
PLL Clock Generator (20 to 80 MHz), TTL			
	S4406	AMCC	
PLL Clock Generator (50 to 100 MHz), 14 Output			
	S4407	AMCC	50
PLL/Prescaler, Single-Chip			
	MB1501	Fujitsu	
	MB1502	Fujitsu	
	MB1504	Fujitsu	
	MB1505	Fujitsu	
	MB1507	Fujitsu	55
	MB1508	Fujitsu	
	MB1509	Fujitsu	
	MB1510	**Fujitsu (3625)**	
	MB1511	Fujitsu	
	RC1505	Rochester	60
Test Device with Octal Bus Driver			
BCT	SN54BCT8244	† TI	
	SN74BCT8244	° TI	
Test Device with Octal Bus Transceiver			
BCT	SN54BCT8245	† TI	
	SN74BCT8245	° TI	
Test Device with Octal D-Type Flip-Flop			
BCT	SN74BCT8374	° TI	65
Test Device with Octal D-Type Latch			
BCT	SN74BCT8383	TI	
Video Clock Synthesizer			
	S4503	AMCC	
Octal Buffer/Line Driver, Three-State			
BCT	SN54BCT2240	° TI	
	SN54BCT2244	°† TI	
	SN74BCT2244	° TI	70
Octal Bus Buffer, Three-State, Inverting			
BC	MC74BC231	Motorola	
	MC74BC240	Motorola	
Octal Bus Buffer, Three-State, Inverting and Non-Inverting			
BC	MC74BC230	Motorola	
Octal Bus Buffer, Three-State, True			
BC	MC74BC241	Motorola	
	MC74BC244	Motorola	75
Octal Bus Transceiver, Inverting, Three-State			
BCT	SN74BCT642	TI	
Octal Bus Transceiver, Inverting, Three-State (A- and B-port has 25-ohm line driver output)			
BCT	SN54BCT25622	† TI	
	SN54BCT25642	† TI	
	SN74BCT25622	TI	
	SN74BCT25642	TI	80
Octal Bus Transceiver, Inverting, Three-State (A-port has 25-ohm line driver output)			
BCT	SN54BCT25640	† TI	
	SN74BCT25640	TI	
Octal Bus Transceiver, Latched, Three-State			
BCT	SN54BCT956	† TI	
	SN54BCT957	† TI	
	SN54BCT958	† TI	85
	SN54BCT959	† TI	
	SN74BCT956	TI	
(Continued)			
Octal Bus Transceiver, Latched, Three-State			
BCT (Cont'd)			
	SN74BCT957	TI	
	SN74BCT958	TI	
	SN74BCT959	TI	90
Octal Bus Transceiver, True, Three-State			
BCT	SN54BCT657	† TI	
Octal Bus Transceiver, True, Three-State (A- and B-port has 25-ohm line driver output)			
BCT	SN54BCT25621	† TI	
	SN54BCT25641	† TI	
	SN74BCT25621	TI	
	SN74BCT25641	TI	95
Octal Bus Transceiver, True, Three-State (A-port has 25-ohm line driver output)			
BCT	SN54BCT25623	† TI	
	SN74BCT25623	TI	
Octal Bus Transceiver (with 8-bit parity generator/checker)			
BCT	SN74BCT657	TI	
Octal Bus Transceiver, Three-State (A-port has 25-ohm line driver output)			
BCT	SN54BCT25245		
		°† TI	
	SN54BCT25620	† TI	100
	SN74BCT25620	TI	
Octal Bus Transceiver, Three-State, Inverting			
BC	MC74BC620	Motorola	
	MC74BC640	Motorola	
Octal Bus Transceiver, Three-State, Inverting/True			
BC	MC74BC643	Motorola	
Octal Bus Transceiver, Three-State, True			
BC	MC74BC623	Motorola	105
	MC74BC645	Motorola	
Octal Bus Transceivers, Three-State (A-port has 25-ohm line driver output)			
BCT	SN74BCT25245	° TI	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—ECL

10K Series

Arithmetic Functions

Function	Device	Source
Barrel Shifter, 16-Bit Parallel/Serial with 10K Compatible Outputs.	TIE10H897	TI
Crosspoint Switch 32x32, (with 1.2 Gbit/s throughput)	S2025	AMCC
Crosspoint Switch 32x32, (with 800 Mbit/s throughput)	S2024	† AMCC
Look-Ahead Carry Circuit	**SL10179**	**Lansdale (3676)**
	MC10H179	Motorola
	MC10179	Motorola
Magnitude Comparator, 9-Bit	MC10E166	Motorola
Microsequencer with TTL Compatible Outputs	TIET890A	TI
Microsequencer with 10K Compatible Outputs	TIE10H890	TI
Parity Generator/Checker, 12-Bit	MC10E160	Motorola
Dual Analog Comparator	MC10E1651	Motorola
	MC10E1652	Motorola
Dual High Speed Adder/Subtractor	**SL10180**	**Lansdale (3676)**
	MC10H180	Motorola
	MC10180	Motorola
2-Bit Logic Unit/Function Generator	MC10182	Motorola
4-Bit Logic Unit/Function Generator	**SL10181**	**Lansdale (3676)**
	MC10H181	Motorola
	MC10181	Motorola
	10H581	† Motorola
5-Bit Comparator	MC10H166	Motorola
	MC10166	Motorola
8-Bit Processor Slices with TTL Compatible Outputs	TIET888	° TI
8-Bit Processor Slices with 10K Compatible Outputs	TIE10H888	TI
9-Bit Magnitude Comparator	**SY10E166**	**Synergy (3804)**
12-Bit Parity Generator/Checker	**SY10E160**	**Synergy (3804)**

Buffers

Function	Device	Source
Hex	**SL10188**	**Lansdale (3676)**
	MC10H188	Motorola
	MC10188	Motorola
	10H588	† Motorola
2:1 Differential Fanout	**SY10EL11**	**Synergy (3805)**
9-Bit	MC10E122	Motorola
	SY10E122	**Synergy (3804)**

Inverters

Function	Device	Source
Hex	**SL10189**	**Lansdale (3676)**
	MC10H189	° Motorola
	MC10189	° Motorola
	10H589	† Motorola
Hex Inverter/Buffer	MC10195	Motorola

Bus-Oriented Circuits

Function	Device	Source
ECL/TTL Transceiver, 6-Bit, 50 Ohm	MC10H681	Motorola
ECL/TTL Translator and High-Speed Bus Driver	CY10E383-2C	Cypress
	CY10E383-3C	Cypress
	CY10E383-3M	† Cypress
TTL/ECL Bus Transceiver, Quad, 25 Ohm	MC10H680	Motorola
3-Bit Registered Bus Transceiver	**SY10E336**	**Synergy (3805)**
3-Bit Scannable Registered Bus Transceiver	**SY10E337**	**Synergy (3805)**

Counters

Function	Device	Source
6-Bit Universal Counter	**SY10E136**	**Synergy (3804)**
8-Bit Ripple	MC10E137	Motorola
8-Bit Ripple Counter	**SY10E137**	**Synergy (3804)**
8-Bit Synchronous Count Up	MC10E016	Motorola

Counters, Binary

Function	Device	Source
4-Bit	MC10H016	° Motorola
	MC10154	Motorola
	MC10178	Motorola
	10H416	† Motorola
4-Bit Universal	**SL10136**	**Lansdale (3676)**
	MC10H136	Motorola
	MC10136	Motorola
	10H536	† Motorola
8-Bit Synchronous Count Up	**SY10E016**	**Synergy (3804)**

Counters, Decade

Function	Device	Source
Bi-Quinary	MC10138	° Motorola
Universal	**SL10137**	**Lansdale (3676)**
	MC10137	Motorola

Decoders

Function	Device	Source
Binary to 1–8 (high)	**SL10162**	**Lansdale (3676)**
	MC10H162	° Motorola
	MC10162	° Motorola
	10H562	† Motorola
Binary to 1–8 (low)	**SL10161**	**Lansdale (3676)**
	MC10H161	Motorola
	MC10161	Motorola
	10H561	† Motorola
Dual Binary to 1–4 (high)	**SL10172**	**Lansdale (3676)**
	MC10H172	Motorola
	MC10172	Motorola
Dual Binary to 1–4 (low)	**SL10171**	**Lansdale (3676)**
	MC10H171	Motorola
	MC10171	Motorola
	10H571	† Motorola

Delay Lines

Function	Device	Source
Delay Line Module, 5-Tap (10 to 50 ns)	ECLDL050	Technitrol
Delay Line Module, 5-Tap (100 to 500 ns)	ECLDL500	Technitrol
Delay Line Module, 5-Tap (15 to 75 ns)	ECLDL075	Technitrol
Delay Line Module, 5-Tap (20 to 100 ns)	ECLDL100	Technitrol
Delay Line Module, 5-Tap (25 to 125 ns)	ECLDL125	Technitrol
Delay Line Module, 5-Tap (30 to 150 ns)	ECLDL150	Technitrol
Delay Line Module, 5-Tap (40 to 200 ns)	ECLDL200	Technitrol
Delay Line Module, 5-Tap (50 to 250 ns)	ECLDL250	Technitrol
Delay Line Module, 5-Tap (60 to 300 ns)	ECLDL300	Technitrol
Delay Line Module, 5-Tap (70 to 350 ns)	ECLDL350	Technitrol
Delay Line Module, 5-Tap (80 to 400 ns)	ECLDL400	Technitrol
Delay Line Module, 5-Tap (90 to 450 ns)	ECLDL450	Technitrol
Delay Line Module,5-Tap (5 to 25 ns)	ECLDL025	Technitrol
Delay Line, Programmable 3-Bit (0.5 ns steps)	PDU108H-0.5	Data Delay
Delay Line, Programmable 3-Bit (1 ns steps)	PDU108H-1	Data Delay
Delay Line, Programmable 3-Bit (10 ns steps)	PDU108H-10	Data Delay
Delay Line, Programmable 3-Bit (12 ns steps)	PDU108H-12	Data Delay
Delay Line, Programmable 3-Bit (15 ns steps)	PDU108H-15	Data Delay
Delay Line, Programmable 3-Bit (2 ns steps)	PDU108H-2	Data Delay
Delay Line, Programmable 3-Bit (20 ns steps)	PDU108H-20	Data Delay
Delay Line, Programmable 3-Bit (25 ns steps)	PDU108H-25	Data Delay
Delay Line, Programmable 3-Bit (3 ns steps)	PDU108H-3	Data Delay
Delay Line, Programmable 3-Bit (30 ns steps)	PDU108H-30	Data Delay
Delay Line, Programmable 3-Bit (35 ns steps)	PDU108H-35	Data Delay
Delay Line, Programmable 3-Bit (4 ns steps)	PDU108H-4	Data Delay
Delay Line, Programmable 3-Bit (40 ns steps)	PDU108H-40	Data Delay
Delay Line, Programmable 3-Bit (45 ns steps)	PDU108H-45	Data Delay
Delay Line, Programmable 3-Bit (5 ns steps)	PDU108H-5	Data Delay
Delay Line, Programmable 3-Bit (50 ns steps)	PDU108H-50	Data Delay
Delay Line, Programmable 3-Bit (6 ns steps)	PDU108H-6	Data Delay
Delay Line, Programmable 3-Bit (7 ns steps)	PDU108H-7	Data Delay
Delay Line, Programmable 3-Bit (8 ns steps)	PDU108H-8	Data Delay
Delay Line, Programmable 3-Bit (9 ns steps)	PDU108H-9	Data Delay
Delay Line, Programmable 4-Bit (0.5 ns steps)	PDU1016H-0.5	Data Delay
Delay Line, Programmable 4-Bit (1 ns steps)	PDU1016H-1	Data Delay
Delay Line, Programmable 4-Bit (10 ns steps)	PDU1016H-10	Data Delay
Delay Line, Programmable 4-Bit (100 ns steps)	PDU1016H-100	Data Delay
Delay Line, Programmable 4-Bit (12 ns steps)	PDU1016H-12	Data Delay
Delay Line, Programmable 4-Bit (15 ns steps)	PDU1016H-15	Data Delay

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—ECL (Cont'd)

10K Series

Delay Lines (Cont'd)

Function	Device	Source
Delay Line, Programmable 4-Bit (2 ns steps)	PDU1016H-2	Data Delay
Delay Line, Programmable 4-Bit (20 ns steps)	PDU1016H-20	Data Delay
Delay Line, Programmable 4-Bit (25 ns steps)	PDU1016H-25	Data Delay
Delay Line, Programmable 4-Bit (3 ns steps)	PDU1016H-3	Data Delay
Delay Line, Programmable 4-Bit (30 ns steps)	PDU1016H-30	Data Delay
Delay Line, Programmable 4-Bit (35 ns steps)	PDU1016H-35	Data Delay
Delay Line, Programmable 4-Bit (4 ns steps)	PDU1016H-4	Data Delay
Delay Line, Programmable 4-Bit (40 ns steps)	PDU1016H-40	Data Delay
Delay Line, Programmable 4-Bit (45 ns steps)	PDU1016H-45	Data Delay
Delay Line, Programmable 4-Bit (5 ns steps)	PDU1016H-5	Data Delay
Delay Line, Programmable 4-Bit (50 ns steps)	PDU1016H-50	Data Delay
Delay Line, Programmable 4-Bit (6 ns steps)	PDU1016H-6	Data Delay
Delay Line, Programmable 4-Bit (60 ns steps)	PDU1016H-60	Data Delay
Delay Line, Programmable 4-Bit (7 ns steps)	PDU1016H-7	Data Delay
Delay Line, Programmable 4-Bit (8 ns steps)	PDU1016H-8	Data Delay
Delay Line, Programmable 4-Bit (80 ns steps)	PDU1016H-80	Data Delay
Delay Line, Programmable 4-Bit (9 ns steps)	PDU1016H-9	Data Delay
Delay Line, Programmable 5-Bit (0.5 ns steps)	PDU1032H-0.5	Data Delay
Delay Line, Programmable 5-Bit (1 ns steps)	PDU1032H-1	Data Delay
Delay Line, Programmable 5-Bit (10 ns steps)	PDU1032H-10	Data Delay
Delay Line, Programmable 5-Bit (12 ns steps)	PDU1032H-12	Data Delay
Delay Line, Programmable 5-Bit (15 ns steps)	PDU1032H-15	Data Delay
Delay Line, Programmable 5-Bit (2 ns steps)	PDU1032H-2	Data Delay
Delay Line, Programmable 5-Bit (20 ns steps)	PDU1032H-20	Data Delay
Delay Line, Programmable 5-Bit (3 ns steps)	PDU1032H-3	Data Delay
Delay Line, Programmable 5-Bit (4 ns steps)	PDU1032H-4	Data Delay
Delay Line, Programmable 5-Bit (5 ns steps)	PDU1032H-5	Data Delay
Delay Line, Programmable 5-Bit (6 ns steps)	PDU1032H-6	Data Delay
Delay Line, Programmable 5-Bit (8 ns steps)	PDU1032H-8	Data Delay
Delay Line, Programmable 6-Bit (0.5 ns steps)	PDU1064H-0.5	Data Delay
Delay Line, Programmable 6-Bit (1 ns steps)	PDU1064H-1	Data Delay
Delay Line, Programmable 6-Bit (10 ns steps)	PDU1064H-10	Data Delay
Delay Line, Programmable 6-Bit (100 ns steps)	PDU1064H-100	Data Delay
Delay Line, Programmable 6-Bit (12 ns steps)	PDU1064H-12	Data Delay
Delay Line, Programmable 6-Bit (15 ns steps)	PDU1064H-15	Data Delay
Delay Line, Programmable 6-Bit (2 ns steps)	PDU1064H-2	Data Delay
Delay Line, Programmable 6-Bit (20 ns steps)	PDU1064H-20	Data Delay
Delay Line, Programmable 6-Bit (25 ns steps)	PDU1064H-25	Data Delay
Delay Line, Programmable 6-Bit (3 ns steps)	PDU1064H-3	Data Delay
Delay Line, Programmable 6-Bit (30 ns steps)	PDU1064H-30	Data Delay
Delay Line, Programmable 6-Bit (35 ns steps)	PDU1064H-35	Data Delay
Delay Line, Programmable 6-Bit (4 ns steps)	PDU1064H-4	Data Delay
Delay Line, Programmable 6-Bit (40 ns steps)	PDU1064H-40	Data Delay
Delay Line, Programmable 6-Bit (45 ns steps)	PDU1064H-45	Data Delay
Delay Line, Programmable 6-Bit (5 ns steps)	PDU1064H-5	Data Delay
Delay Line, Programmable 6-Bit (50 ns steps)	PDU1064H-50	Data Delay
Delay Line, Programmable 6-Bit (6 ns steps)	PDU1064H-6	Data Delay
Delay Line, Programmable 6-Bit (60 ns steps)	PDU1064H-60	Data Delay
Delay Line, Programmable 6-Bit (8 ns steps)	PDU1064H-8	Data Delay
Delay Line, Programmable 6-Bit (80 ns steps)	PDU1064H-80	Data Delay
Delay Line, Programmable 8-Bit (0.5 ns steps)	PDU10256H-0.5	Data Delay
Delay Line, Programmable 8-Bit (1 ns steps)	PDU10256H-1	Data Delay
Delay Line, Programmable 8-Bit (10 ns steps)	PDU10256H-10	Data Delay
Delay Line, Programmable 8-Bit (2 ns steps)	PDU10256H-2	Data Delay
Delay Line, Programmable 8-Bit (3 ns steps)	PDU10256H-3	Data Delay
Delay Line, Programmable 8-Bit (4 ns steps)	PDU10256H-4	Data Delay
Delay Line, Programmable 8-Bit (5 ns steps)	PDU10256H-5	Data Delay
Delay Line, Programmable 8-Bit (6 ns steps)	PDU10256H-6	Data Delay
Delay Line, Programmable 8-Bit (7 ns steps)	PDU10256H-7	Data Delay
Delay Line, Programmable 8-Bit (8 ns steps)	PDU10256H-8	Data Delay
Delay Line, Programmable 8-Bit (9 ns steps)	PDU10256H-9	Data Delay
Delay Line (2 independent taps: 10 ns each)	MDU12-10	Data Delay
Delay Line (2 independent taps: 100 ns each)	MDU12-100	Data Delay
Delay Line (2 independent taps: 125 ns each)	MDU12-125	Data Delay
Delay Line (2 independent taps: 15 ns each)	MDU12-15	Data Delay
Delay Line (2 independent taps: 150 ns each)	MDU12-150	Data Delay
Delay Line (2 independent taps: 20 ns each)	MDU12-20	Data Delay
Delay Line (2 independent taps: 200 ns each)	MDU12-200	Data Delay
Delay Line (2 independent taps: 25 ns each)	MDU12-25	Data Delay
Delay Line (2 independent taps: 250 ns each)	MDU12-250	Data Delay
Delay Line (2 independent taps: 30 ns each)	MDU12-30	Data Delay
Delay Line (2 independent taps: 35 ns each)	MDU12-35	Data Delay
Delay Line (2 independent taps: 40 ns each)	MDU12-40	Data Delay
Delay Line (2 independent taps: 45 ns each)	MDU12-45	Data Delay
Delay Line (2 independent taps: 5 ns each)	MDU12-5	Data Delay
Delay Line (2 independent taps: 50 ns each)	MDU12-50	Data Delay
Delay Line (2 independent taps: 60 ns each)	MDU12-60	Data Delay
Delay Line (2 independent taps: 75 ns each)	MDU12-75	Data Delay
Delay Line (3 independent taps: 10 ns each)	MDU13-10	Data Delay
Delay Line (3 independent taps: 15 ns each)	MDU13-15	Data Delay
Delay Line (3 independent taps: 20 ns each)	MDU13-20	Data Delay
Delay Line (3 independent taps: 25 ns each)	MDU13-25	Data Delay
Delay Line (3 independent taps: 30 ns each)	MDU13-30	Data Delay
Delay Line (3 independent taps: 35 ns each)	MDU13-35	Data Delay
Delay Line (3 independent taps: 40 ns each)	MDU13-40	Data Delay
Delay Line (3 independent taps: 45 ns each)	MDU13-45	Data Delay
Delay Line (3 independent taps: 5 ns each)	MDU13-5	Data Delay
Delay Line (3 independent taps: 50 ns each)	MDU13-50	Data Delay
Delay Line (4 independent taps: 10 ns each)	MDU14-10	Data Delay
Delay Line (4 independent taps: 12.5 ns each)	MDU14-12.5	Data Delay
Delay Line (4 independent taps: 15 ns each)	MDU14-15	Data Delay
Delay Line (4 independent taps: 2 ns each)	MDU14-2	Data Delay
Delay Line (4 independent taps: 2.5 ns each)	MDU14-2.5	Data Delay
Delay Line (4 independent taps: 20 ns each)	MDU14-20	Data Delay
Delay Line (4 independent taps: 25 ns each)	MDU14-25	Data Delay
Delay Line (4 independent taps: 3 ns each)	MDU14-3	Data Delay
Delay Line (4 independent taps: 4 ns each)	MDU14-4	Data Delay
Delay Line (4 independent taps: 5 ns each)	MDU14-5	Data Delay
Delay Line (4 independent taps: 6 ns each)	MDU14-6	Data Delay
Delay Line (4 independent taps: 7 ns each)	MDU14-7	Data Delay

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—ECL (Cont'd)

10K Series

Delay Lines (Cont'd)

Function	Device	Source
Delay Line (4 independent taps: 8 ns each)	MDU14-8	Data Delay
Delay Line (4 independent taps: 9 ns each)	MDU14-9	Data Delay
Delay Line (5 taps: 1 ns each)	DDU11-5	Data Delay
Delay Line (5 taps: 10 ns each)	DDU11-50	Data Delay
Delay Line (5 taps: 100 ns each)	DDU11-500	Data Delay
Delay Line (5 taps: 15 ns each)	DDU11-75	Data Delay
Delay Line (5 taps: 2 ns each)	DDU11-10	Data Delay
Delay Line (5 taps: 20 ns each)	DDU11-100	Data Delay
Delay Line (5 taps: 30 ns each)	DDU11-150	Data Delay
Delay Line (5 taps: 4 ns each)	DDU11-20	Data Delay
Delay Line (5 taps: 40 ns each)	DDU11-200	Data Delay
Delay Line (5 taps: 5 ns each)	DDU11-25	Data Delay
Delay Line (5 taps: 50 ns each)	DDU11-250	Data Delay
Delay Line (5 taps: 60 ns each)	DDU11-300	Data Delay
Delay Line (5 taps: 80 ns each)	DDU11-400	Data Delay
Delay Line (10 taps: 1 ns each)	DDU12-10	Data Delay
Delay Line (10 taps: 10 ns each)	DDU12-100	Data Delay
Delay Line (10 taps: 100 ns each)	DDU12-1000	Data Delay
Delay Line (10 taps: 15 ns each)	DDU12-150	Data Delay
Delay Line (10 taps: 150 ns each)	DDU12-1500	Data Delay
Delay Line (10 taps: 2 ns each)	DDU12-20	Data Delay
Delay Line (10 taps: 2.5 ns each)	DDU12-25	Data Delay
Delay Line (10 taps: 20 ns each)	DDU12-200	Data Delay
Delay Line (10 taps: 25 ns each)	DDU12-250	Data Delay
Delay Line (10 taps: 30 ns each)	DDU12-300	Data Delay
Delay Line (10 taps: 4 ns each)	DDU12-40	Data Delay
Delay Line (10 taps: 40 ns each)	DDU12-400	Data Delay
Delay Line (10 taps: 5 ns each)	DDU12-50	Data Delay
Delay Line (10 taps: 50 ns each)	DDU12-500	Data Delay
Delay Line (10 taps: 7.5 ns each)	DDU12-75	Data Delay
Delay Line (10 taps: 75 ns each)	DDU12-750	Data Delay
Programmable Delay Line	CXB1159	Sony
	CXB1559	Sony
Programmable Delay Module (up to 10 ns)	ECLPG301	Technitrol
Programmable Delay Module (up to 17 ns)	ECLPG302	Technitrol
Programmable Delay Module (up to 24 ns)	ECLPG303	Technitrol
Programmable Delay Module (up to 31 ns)	ECLPG304	Technitrol
Programmable Delay Module (up to 38 ns)	ECLPG305	Technitrol
Programmable Delay Module (up to 45 ns)	LM1414	Rochester
Programmable Delay Module (up to 52 ns)	ECLPG307	Technitrol
Programmable Delay Module (up to 59 ns)	ECLPG308	Technitrol
Programmable Delay Module (up to 66 ns)	ECLPG309	Technitrol
Programmable Delay Module (up to 73 ns)	ECLPG310	Technitrol
Programmable Delay Module (up to 108 ns)	ECLPG315	Technitrol
Programmable Delay Module (up to 143 ns)	ECLPG320	Technitrol
Programmable Delay Module (up to 178 ns)	ECLPG325	Technitrol
Programmable Delay Module (up to 213 ns)	ECLPG330	Technitrol
Programmable Delay Module (up to 248 ns)	ECLPG335	Technitrol
Programmable Delay Module (up to 283 ns)	ECLPG340	Technitrol
Programmable Delay Module (up to 318 ns)	ECLPG345	Technitrol
Programmable Delay Module (up to 353 ns)	ECLPG350	Technitrol
2Kx12 Programmable Delay Line	**SY69170**	**Synergy (3803)**

Drivers

Function	Device	Source
Coaxial Cable Driver	**SY10EL89**	**Synergy (3805)**
ECL-to-TTL Octal Bus Driver, Inverting (open collector)	SN10KHT5538	TI
ECL-to-TTL Octal Bus Driver, Inverting (three-state)	SN10KHT5540	TI
ECL-to-TTL Octal Bus Driver (open collector)	SN10KHT5539	TI
ECL-to-TTL Octal Bus Driver (three-state)	SN10KHT5541	TI
Low Impedance	**SY10EL12**	**Synergy (3805)**
Master/Slave Auto De-Skew Clock Distribution System (PECL-to-TTL)	**SY69401**	**Synergy (3803)**
PECL to TTL 1:4 Clock Driver	**SY10H841**	**Synergy (3803)**
	SY10H842	**Synergy (3803)**
	SY10H843	**Synergy (3803)**
PECL to TTL 1:9 Clock Driver	**SY10H641**	**Synergy (3803)**
PECL/TTL to TTL 1:8 Clock Driver	**SY10H646**	**Synergy (3803)**
PECL/TTL-TTL Clock Driver	MC10H644	Motorola
TTL-to-ECL Octal Bus Driver, Inverting (output enable)	SN10KHT5542	° TI
TTL-to-TTL Octal Bus Driver (output enable)	SN10KHT5543	° TI
Dual Transceiver	MC10194	Motorola
Dual TTL/MST Bus	MC10128	Motorola
Triple 3-Input Bus	MC10H423	Motorola
Triple 4–3 Input Bus	**SL10123**	**Lansdale (3676)**
	MC10H123	° Motorola
	MC10123	° Motorola
Quad Bus	**SL10192**	**Lansdale (3676)**
	MC10192	Motorola
Quad Driver with Enable	**SY10E112**	**Synergy (3804)**
1:6 Differential Clock Distribution Chip	MC10E211	Motorola
1:8 PECL-TTL-TTL Clock Driver	MC10H646	Motorola
	MC100H646	Motorola
1:9 Differential Clock Driver	**SY10E111**	**Synergy (3803)**
1:9 ECL-TTL Clock Driver	MC10H643	Motorola
1:9 TTL-TTL Clock Distribution Chip	MC10H645	Motorola
3-Bit Scannable Driver	**SY10E212**	**Synergy (3805)**

Flip-Flops, D-Type

Function	Device	Source
D Flip-Flop with Set and Reset	**SY10EL31**	**Synergy (3805)**
Differential Clock	**SY10EL51**	**Synergy (3805)**
Differential Data and Clock	**SY10EL52**	**Synergy (3805)**
ECL-to-TTL Octal D-Type Flip-Flop, Inverting (three-state)	SN10KHT5576	TI
ECL-to-TTL Octal D-Type Flip-Flop (three-state)	SN10KHT5574	TI
TTL-to-ECL Octal D-Type Flip-Flop, Inverting (output enable)	SN10KHT5580	TI
TTL-to-ECL Octal D-Type Flip-Flop (output enable)	SN10KHT5578	TI
Dual Master-Slave	**SL10131**	**Lansdale (3676)**
	SL10231	**Lansdale (3676)**
	MC10H131	° Motorola
	MC10131	° Motorola
	MC10231	Motorola
	10H531	† Motorola
Hex Master-Slave	**SL10176**	**Lansdale (3676)**
	MC10H176	Motorola
	MC10176	Motorola
	10H576	† Motorola
Hex Master-Slave (with common reset)	MC10H186	° Motorola
	MC10186	° Motorola
	10H586	† Motorola
4-Bit	MC10E131	Motorola
	10E531	† Motorola
4-Bit D Flip-Flop	**SY10E131**	**Synergy (3804)**

Flip-Flops, J-K Type

Function	Device	Source
JK Flip-Flop	**SY10EL35**	**Synergy (3805)**
Dual J-K Master-Slave	**SL10135**	**Lansdale (3676)**
	MC10H135	° Motorola

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—ECL (Cont'd)

10K Series

Flip-Flops, J-K Type (Cont'd)

Function	Device	Source	Line
Dual J-K Master-Slave (Cont'd)	MC10135	• Motorola	
	10H535	† Motorola	

Gates, AND

Function	Device	Source	Line
Quint 2-Input AND NAND	**SY10E104**	**Synergy (3804)**	
Quad 2-Input (3 AND, 1 AND/NAND)	**SL10104**	**Lansdale (3676)**	
	MC10H104	• Motorola	5
	MC10104	• Motorola	
	10H504	† Motorola	
Hex	MC10197	Motorola	

Gates, AND/NAND

Function	Device	Source	Line
Quint 2-Input	MC10E104	Motorola	
	10E504	† Motorola	10
Quad High Frequency Differential	**SY10E404**	**Synergy (3805)**	
Quad 2-Input, Differential	MC10E404	Motorola	
2-Input	**SY10EL04**	**Synergy (3805)**	
2-Input Differential	**SY10EL05**	**Synergy (3805)**	

Gates, OR

Function	Device	Source	Line
Dual 3-Input 3-Output (line driver)	**SL10110**	**Lansdale (3676)**	15
	MC10H210	Motorola	
	MC10110	Motorola	
	MC10210	Motorola	
	10H610	† Motorola	
Quad 2-Input (3 OR, 1 OR/NOR)	**SL10103**	**Lansdale (3676)**	20
	MC10H103	Motorola	
	MC10103	Motorola	
	10H503	† Motorola	

Gates, NOR

Function	Device	Source	Line
Dual 3-Input 3-Output (line driver)	**SL10111**	**Lansdale (3676)**	
	SL10210	**Lansdale (3676)**	25
	SL10211	**Lansdale (3676)**	
	MC10H211	Motorola	
	MC10111	Motorola	
	MC10211	Motorola	
Dual 3-Input 3-Output (1 OR, 2 NOR) (line driver)	MC10212	Motorola	30
Triple 4–3–3 Input	**SL10106**	**Lansdale (3676)**	
	MC10H106	Motorola	
	MC10106	Motorola	
	10H506	† Motorola	
Quad 2-Input	10H500	† Motorola	35
Quad 2-Input (3 NOR, 1 OR/NOR)	**SL10102**	**Lansdale (3676)**	
	MC10H102	• Motorola	
	MC10102	Motorola	
	10H502	† Motorola	
Quad 3-Input (one input common)	**SL10100**	**Lansdale (3676)**	40
	MC10H100	Motorola	
	MC10100	Motorola	

Gates, OR/NOR

Function	Device	Source	Line
Dual 4–5 Input	**SL10109**	**Lansdale (3676)**	
	MC10H109	• Motorola	
	MC10109	• Motorola	45
	10H509	† Motorola	
Triple 2–3–2 Input	**SL10105**	**Lansdale (3676)**	
	MC10H105	• Motorola	
	MC10105	• Motorola	
	10H505	† Motorola	50
Quad 2-Input (one input common)	**SL10101**	**Lansdale (3676)**	
	MC10H101	• Motorola	
	MC10101	• Motorola	
	10H501	† Motorola	
Quad 4-Input	MC10E101	Motorola	55
	10E501	† Motorola	
	SY10E101	**Synergy (3804)**	
4-Input	**SY10EL01**	**Synergy (3805)**	

Gates, OR-AND

Function	Device	Source	Line
Dual 2-Wide 3-Input	**SL10118**	**Lansdale (3676)**	
	MC10H118	Motorola	60
	MC10118	Motorola	
	10H518	† Motorola	
4-Wide 4–3–3–3 Input	**SL10119**	**Lansdale (3676)**	
	MC10H119	Motorola	
	MC10119	Motorola	65
	10H519	† Motorola	

Gates, OR-AND/OR-AND Invert

Function	Device	Source	Line
Dual 2-Wide 2–3 Input	**SL10117**	**Lansdale (3676)**	
	MC10H117	• Motorola	
	MC10117	• Motorola	
	10H517	† Motorola	70
4-Wide 3-Input	**SL10121**	**Lansdale (3676)**	
	MC10H121	• Motorola	
	MC10121	• Motorola	
	10H521	† Motorola	

Gates, Exclusive OR

Function	Device	Source	Line
Quad	**SL10113**	**Lansdale (3676)**	75
	MC10H113	• Motorola	
	MC10113	• Motorola	
	10H513	† Motorola	
1–8 or 2–4 Input	MC10H304	Motorola	
2–4 or 1–6/1–4 Input	MC10H302	Motorola	80
2–4/1–2 Input	MC10H301	Motorola	
2–5 Input	MC10H303	Motorola	

Gates, Exclusive OR/NOR

Function	Device	Source	Line
Quint 2-Input	MC10E107	Motorola	
	10E507	† Motorola	
	SY10E107	**Synergy (3804)**	85
Triple 2-Input	**SL10107**	**Lansdale (3676)**	
	MC10H107	Motorola	
	MC10107	Motorola	
	MC10507	† Motorola	
	10H507	† Motorola	90
2-Input	**SY10EL07**	**Synergy (3805)**	

Latches

Function	Device	Source	Line
ECL-to-TTL Octal D-Type Latch, Inverting (three-state)	SN10KHT5575	TI	
ECL-to-TTL Octal D-Type Latch (three-state)	SN10KHT5573	TI	
Quint	**SL10175**	**Lansdale (3676)**	
	MC10H175	Motorola	95
	MC10175	Motorola	
TTL-to-ECL Octal D-Type Latch, Inverting (output enable)	SN10KHT5579	TI	
TTL-to-ECL Octal D-Type Latch (output enable)	SN10KHT5577	TI	
Dual D Clocked	**SL10130**	**Lansdale (3676)**	
	MC10H130	Motorola	100
	MC10130	Motorola	
Dual 2 to 1 Multiplexer-Latch	**SL10134**	**Lansdale (3676)**	
	MC10134	Motorola	
Dual 2 to 1 Multiplexer-Latch, Common Reset	**SL10132**	**Lansdale (3676)**	
	MC10132	Motorola	105
Quad, Common Clock, Separate Output Enable	MC10168	Motorola	
Quad D, Gated Output	**SL10133**	**Lansdale (3676)**	
	MC10133	Motorola	
	MC10153	Motorola	
Quad 2-Input Multiplexer-Latch	**SL10173**	**Lansdale (3676)**	110
	MC10H173	Motorola	
	MC10173	Motorola	
3-Bit 4:1 Multiplexer	SY10E156	Synergy	
6-Bit	**SY10E150**	**Synergy (3804)**	
6-Bit D-Type	MC10E150	Motorola	115
9-Bit with Parity Generator/Checker	MC10E175	Motorola	

Memories

Function	Device	Source	Line
CAM (16-Bit content addressable)	MC10H155	Motorola	
PROM (256x4)	MCM10149	Motorola	
RAM (16x4)	MC10H145	Motorola	
RAM (1024x1)	F10415	National	120
1024x4 RAM (5 nsF)	μPB10474A-5	NEC	
1024x4 RAM (6 nsF)	μPB10474A-6	NEC	

Multiplexers (Digital)

Function	Device	Source	Line
Dual 4 to 1	**SL10174**	**Lansdale (3676)**	
	MC10H174	Motorola	
	MC10174	Motorola	125
	10H574	† Motorola	
Dual 8-Input	**SY10E163**	**Synergy (3804)**	
Quad 2 to 1 (inverting with enable)	MC10H159	Motorola	
	MC10159	Motorola	
Quad 2 to 1 (non-inverting)	**SL10158**	**Lansdale (3676)**	130
	MC10H158	Motorola	
	MC10158	Motorola	
	10H558	† Motorola	
Quad 2:1 Multiplexer, Individual Select	**SY10E157**	**Synergy (3804)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–ECL (Cont'd)

10K Series

Multiplexers (Digital) (Cont'd)

Function	Device	Source
Quad 2:1, Separate Selects	MC10E157	Motorola
2:1 Multiplexer	**SY10EL58**	**Synergy (3805)**
2:1 Multiplexer, Triple High Frequency Differential	**SY10E457**	**Synergy (3805)**
2:1 Triple Differential	MC10E457	Motorola
2-Bit 8:1	MC10E163	Motorola
3-Bit 4:1	MC10E171	Motorola
3-Bit 4:1 Multiplexer	**SY10E171**	**Synergy (3804)**
3-Bit 4:1 Multiplexer/Latch	**SY10E256**	**Synergy (3805)**
3-Bit 4:1 with Latches	MC10E156	Motorola
	MC10E256	Motorola
	10E556	† Motorola
5-Bit 2:1	MC10E158	Motorola
5-Bit 2:1 Multiplexer	**SY10E158**	**Synergy (3804)**
5-Bit 2:1 Multiplexer/Latch	**SY10E154**	**Synergy (3804)**
5-Bit 2:1 with Latches	MC10E154	Motorola
6-Bit 2:1 Multiplexer/Latch	**SY10E155**	**Synergy (3804)**
6-Bit 2:1 Multiplexer Register	**SY10E167**	**Synergy (3804)**
6-Bit 2:1 Mux-Register	MC10E167	Motorola
6-Bit 2:1 with Latches	MC10E155	Motorola
8 to 1	**SL10164**	**Lansdale (3676)**
	MC10H164	° Motorola
	MC10164	° Motorola
	10H564	† Motorola
16:1, Single	MC10E164	Motorola
16:1 Multiplexer	**SY10E164**	**Synergy (3804)**

Multivibrators

Function	Device	Source
Monostable	MC10198	° Motorola

Shift Registers

Function	Device	Source
4-Bit Universal	**SL10141**	**Lansdale (3676)**
	MC10H141	Motorola
	MC10141	Motorola
	10H541	† Motorola
5-Bit D Register with Differential Data, CLK & Q	**SY10E452**	**Synergy (3805)**
6-Bit D Register	MC10E151	Motorola
	10E551	† Motorola
	10E851	† Motorola
6-Bit D Register, Differential Data and Clock Inputs	**SY10E451**	**Synergy (3805)**
8-Bit	**SY10E141**	**Synergy (3804)**
8-Bit Scannable Register	**SY10E241**	**Synergy (3805)**
8-Bit Universal	MC10E141	Motorola
	10E541	† Motorola
	100E541	† Motorola
9-Bit	MC10E142	Motorola
	10E542	† Motorola
9-Bit Hold	MC10E143	Motorola
	10E543	† Motorola
9-Bit Hold Register	**SY10E143**	**Synergy (3804)**
9-Bit Shift Register	**SY10E142**	**Synergy (3804)**

Translators

Function	Device	Source
Differential PECL-to-TTL, Dual	**SY10ELT23**	**Synergy (3802, 3805)**
ECL-to-TTL Octal Bus Driver	SN10KHT5540	TI
	SN10KHT5541	TI
PECL-to-TTL, Registered Hex	**SY10H607**	**Synergy (3802)**
TTL-to-Differential PECL, Dual	**SY10ELT22**	**Synergy (3802, 3805)**
TTL-to-PECL, Registered Hex	**SY10H606**	**Synergy (3802)**
Triple ECL to NMOS	MC10177	Motorola
Quad CMOS to MECL Translator	MC10H352	Motorola
Quad Differential Receiver/MST to ECL	MC10190	Motorola
Quad ECL to TTL	MC10H350	Motorola
	10H750	† Motorola
Quad ECL to TTL (differential input)	MC10H125	° Motorola
	MC10125	° Motorola
	10H525	† Motorola
Quad TTL/NMOS to MECL Translator	MC10H351	Motorola
	10H751	† Motorola
Quad TTL to ECL	MC10H424	Motorola
Quad TTL to ECL OR/NOR	**SL10124**	**Lansdale (3676)**
	MC10H124	° Motorola
	MC10124	° Motorola
	10H524	† Motorola
Hex ECL to MST	MC10191	Motorola
Hex TTL-to-ECL Translator	MC10H604	Motorola
Octal 10KH ECL to TTL and TTL to 10KH ECL	BT501	Brooktree
9-Bit ECL to TTL	MC10H600	Motorola
	MC10H601	Motorola
	SY10HA601	Synergy
	SY10H600	**Synergy (3802)**
	SY10H601	**Synergy (3802)**
9-Bit Latch/ECL to TTL	MC10H603	Motorola
	SY10HA603	Synergy
	SY10H603	**Synergy (3802)**
9-Bit Latch/TTL to ECL	MC10H602	Motorola
	SY10HA602	Synergy
	SY10H602	**Synergy (3802)**
9-Bit TTL to ECL	SY10HA600	Synergy
10K ECL to TTL with Latch	DP8480	National
	DP8482	National
	DP8480	TI

Miscellaneous

Function	Device	Source
Analog Comparator with Latch, Dual	**SY10E1651**	**Synergy (3805)**
	SY10E1652	**Synergy (3805)**
Analog Mixer, Double Balanced	MC12002	Motorola
Analog Mixer, 150–2500 MHz RF/30–500 MHz IF	**TQ9172**	**TriQuint (3843)**
Bus Transceiver, 3-Bit Registered	MC10E336	Motorola
D-Type Flip-Flop/Register, 5-Bit	MC10E452	Motorola
D-Type Flip-Flop/Register, 6-Bit	MC10E451	Motorola
Differential Clock Driver, 1:9	MC10E111	Motorola
	10E511	† Motorola
Divide-by-2 Divider	**SY10EL32**	**Synergy (3805)**
Divide-by-4 Divider	**SY10EL33**	**Synergy (3805)**
ECL Active Terminator- 6 pin SIP	S1011	AMCC
ECL/TTL Clock Driver (for 68030/040 processors)	MC10H642	Motorola
ECL/TTL Clock Driver (generates clocks for 68030/040 processors)	MC10H640	Motorola
ECL-to-TTL Octal Bus Transceiver, Inverting (output enable)	SN10KHT5563	TI
ECL-to-TTL Octal Bus Transceiver (output enable)	SN10KHT5562	TI
ECL-to-TTL Octal Registered Bus Transceiver, Inverting (output enable)	SN10KHT5593	TI
	SN10KHT5648	TI
ECL-to-TTL Octal Registered Bus Transceiver, (output enable)	SN10KHT5592	TI
	SN10KHT5646	TI
ECL-to-TTL Octal Registered Transceiver, Inverting (output enable)	SN10KHT5591	TI
ECL-to-TTL Octal Registered Transceiver (output enable)	SN10KHT5590	TI
ECL-TTL Load Reducing DRAM Driver, 4-Bit	MC10H660	Motorola
Error Detection/Correction Circuit	MC10163	Motorola
Error Detection/Correction Circuit (Motorola code)	MC10193	Motorola
High Frequency Line Receiver	**SY10E416**	**Synergy (3805)**
PECL-TTL 1:9 Clock Driver (for ECL in PS series)	MC10H641	Motorola
Programmable Delay Chip	MC10E195	Motorola
	MC10E196	Motorola
	SY10E195	**Synergy (3803)**
Programmable Delay Chip (& Analog)	**SY10E196**	**Synergy (3803)**
Quint Differential Line Receiver	MC10E116	Motorola
	10E516	† Motorola
	SY10E116	**Synergy (3804)**
Quint Line Receiver	MC10E416	Motorola
Scannable ECL Driver, 3-Bit	MC10E212	Motorola
Scannable Register, 8-Bit	MC10E241	Motorola

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–ECL (Cont'd)

10K Series

Miscellaneous (Cont'd)

Function	Device	Source
Serial/Parallel Converter, 4-Bit	**SY10E445**	**Synergy (3805)**
Set/Reset Flip-Flop, 3-Bit Differential	MC10E431	Motorola
Terminator, Active, 4-Channel, –2 V	S1012	AMCC
Terminator, Active, 4-Channel, –4.5 V	S1013	† AMCC
Terminator, Active, 4-Channel, –5.2 V	S1014	† AMCC
	S1015	† AMCC
Terminator, Active, 6-Channel, –2 V	S1016	AMCC
	S1017	AMCC
Dual Bus Driver/Receiver with 4-to–1 Output Multiplexers	MC10H332	Motorola
Dual Comparator	CXB1160	Sony
	CXB1560	Sony
Triple Differential Line Receiver	**SL10114**	**Lansdale (3676)**
	SL10116	**Lansdale (3676)**
	SL10216	**Lansdale (3676)**
	MC10H116	° Motorola
	MC10114	° Motorola
	MC10116	° Motorola
	MC10216	Motorola
	10H516	† Motorola
Quad Bus Driver/Receiver with Transmit and Receiver Latches	MC10H334	Motorola
Quad Bus Driver/Receiver with 2-to–1 Output Multiplexers	MC10H330	Motorola
Quad Bus Receiver	**SL10129**	**Lansdale (3676)**
	MC10129	Motorola
Quad Differential Line Receiver	**SL10115**	**Lansdale (3676)**
	MC10H115	° Motorola
	MC10115	° Motorola
	10H515	† Motorola
Quad Driver, Common Enable	MC10E112	Motorola
	10E512	† Motorola
Two Modulus Prescaler, Divide by 20/21	MC12019	Motorola
3-Bit Differential Set/Reset Flip-Flop	**SY10E431**	**Synergy (3805)**
4:1 Parallel/Serial Connector	**SY10E446**	**Synergy (3805)**
6-Bit D-Register	**SY10E151**	**Synergy (3804)**
8-Bit Error Detection and Correction with Parity	MC10E193	Motorola
8-Bit Error Detection/Correction (EDAC)	**SY10E175**	**Synergy (3804)**
	SY10E193	**Synergy (3804)**
8-Input Priority Encoder	MC10H165	Motorola
	MC10165	Motorola
9-Bit Parity Circuit (2 carry inputs)	MC10170	Motorola
12-Bit Parity Generator/Checker	**SL10160**	**Lansdale (3676)**
	MC10H160	Motorola
	MC10160	Motorola
	10H560	† Motorola

100K Series

Arithmetic Functions

Function	Device	Source
Barrel Shifter, 16-Bit Parallel/Serial with TTL Compatible Outputs.	TIET897	TI
Barrel Shifter, 16-Bit Parallel/Serial with 100K Compatible Outputs.	TIE100897	TI
Decision Circuit	CXB1107	Sony
Look Ahead Carry Block	CXB1111	Sony
Look Ahead Carry Circuit	F100179	National
	100179	Philips
Magnitude Compacator, 9-Bit	MC100E166	Motorola
Parity Checker/Generator, Dual	F100360	National
Parity Generator/Checker, 12-Bit	MC100E160	Motorola
Parity Generator, Dual (with 8-bit comparator)	100160A	Philips
Dual Parity Generator/Checker	**SY100S360**	**Synergy (3806)**
4-Bit Arithmetic Logic Unit	CXB1138	Sony
8-Bit Processor Slices with 100K Compatible Outputs	TIE100888	TI
8-Bit Shift Matrix	CXB1137	Sony
8-to–16Bit Comparator	CXB1135	Sony
9-Bit Comparator	F100166	National
	100166	Philips
	SY100S366	**Synergy (3806)**
9-Bit Magnitude Comparator	**SY100E166**	**Synergy (3804)**
12-Bit Parity Generator/Checker	**SY100E160**	**Synergy (3804)**

Buffers

Function	Device	Source
Triple Fan-Out	CXB1505	Sony
Triple Fan-Out Buffer	CXB1105	Sony
2:1 Differential Fanout	**SY100EL11**	**Synergy (3805)**
8-Bit, Low Power	F100352	National
9-Bit	MC10E122	Motorola
	MC100E122	Motorola
	F100122	National
	100122	Philips
	SY100E122	**Synergy (3804)**
	SY100S322	**Synergy (3806)**

Inverters

Function	Device	Source
9-Bit	F100121	National
	SY100S321	**Synergy (3806)**
9-Bit, Low Power	F100321	National

Bus-Oriented Circuits

Function	Device	Source
ECL/TTL Transceiver, 6-Bit, 50 Ohm	MC100H681	Motorola
ECL/TTL Translator and High-Speed Bus Driver	CY101E383-2C	Cypress
	CY101E383-3C	Cypress
TTL/ECL Bus Transceiver, Quad, 25 Ohm	MC100H680	Motorola
3-Bit Registered Bus Transceiver	**SY100E336**	**Synergy (3805)**
3-Bit Scannable Registered Bus Transceiver	**SY100E337**	**Synergy (3805)**
5-Bit Registered Transceiver	**SY100S891**	**Synergy (3806)**

Counters

Function	Device	Source
Multipurpose Counting Register	F100136	National
	100136	Philips
4-Bit Ripple Counter	CXB1116	Sony
4-Stage Counter/Shift Register	F100336	National
4-Stage Ripple Counter	CXB1106	Sony
6-Bit Universal Counter	**SY100E136**	**Synergy (3804)**
8-Bit Ripple Counter	**SY100E137**	**Synergy (3804)**
8-Bit Synchronous	100E416	† Motorola
8-Bit Synchronous Count Up	MC100E016	Motorola
	SY100E016	**Synergy (3804)**
8-Bit Universal	CXB1536	Sony
8-Bit Universal Counter	CXB1136	Sony

Decoders

Function	Device	Source
Priority Encoder, Universal	100165A	Philips
Universal	F100170	National
	100170	Philips
Universal Demultiplexer/Decoder	**SY100S370**	**Synergy (3806)**
Universal, Low Power	100370	National
1-to–4 Demultiplexer	CXB1114	Sony
9, 8, 4-Bit Multiplexer	CXB1131	Sony

Delay Lines

Function	Device	Source
Delay Line Module, 8-Tap (1.2 to 5 ns)	EKLDL005	Technitrol
Delay Line Module, 8-Tap (1.2 to 8 ns)	EKLDL008	Technitrol
Delay Line Module, 8-Tap (10 to 80 ns)	TL080	Rochester
	EKLDL080	Technitrol
Delay Line Module, 8-Tap (12.5 to 100 ns)	EKLDL100	Technitrol
Delay Line Module, 8-Tap (15 to 120 ns)	EKLDL120	Technitrol
Delay Line Module, 8-Tap (2 to 16 ns)	EKLDL016	Technitrol
Delay Line Module, 8-Tap (20 to 160 ns)	EKLDL160	Technitrol
Delay Line Module, 8-Tap (25 to 200 ns)	EKLDL200	Technitrol

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—ECL (Cont'd)

100K Series

Delay Lines (Cont'd)

Function	Device	Source	Line
Delay Line Module, 8-Tap (4 to 25 ns)	EKLDL025	Technitrol	
Delay Line Module, 8-Tap (4 to 32 ns)	EKLDL032	Technitrol	
Delay Line Module, 8-Tap (5 to 40 ns)	EKLDL040	Technitrol	
Delay Line Module, 8-Tap (6 to 48 ns)	EKLDL048	Technitrol	
Delay Line Module, 8-Tap (7 to 56 ns)	EKLDL056	Technitrol	5
Delay Line Module, 8-Tap (8 to 64 ns)	EKLDL064	Technitrol	
Delay Line Module, 8-Tap (9 to 72 ns)	EKLDL072	Technitrol	
Delay Line, Programmable 3-Bit (0.1 ns steps)	PDU53-100	Data Delay	
Delay Line, Programmable 3-Bit (0.2 ns steps)	PDU53-200	Data Delay	
Delay Line, Programmable 3-Bit (0.25 ns steps)	PDU53-250	Data Delay	10
Delay Line, Programmable 3-Bit (0.4 ns steps)	PDU53-400	Data Delay	
Delay Line, Programmable 3-Bit (0.5 ns steps)	PDU53-500	Data Delay	
Delay Line, Programmable 3-Bit (0.75 ns steps)	PDU53-750	Data Delay	
Delay Line, Programmable 3-Bit (1 ns steps)	PDU53-1000	Data Delay	
Delay Line, Programmable 3-Bit (1.2 ns steps)	PDU53-1200	Data Delay	15
Delay Line, Programmable 3-Bit (1.5 ns steps)	PDU53-1500	Data Delay	
Delay Line, Programmable 3-Bit (2 ns steps)	PDU53-2000	Data Delay	
Delay Line, Programmable 3-Bit (2.5 ns steps)	PDU53-2500	Data Delay	
Delay Line, Programmable 3-Bit (3 ns steps)	PDU53-3000	Data Delay	
Delay Line, Programmable 4-Bit (0.1 ns steps)	PDU54-100	Data Delay	20
Delay Line, Programmable 4-Bit (0.2 ns steps)	PDU54-200	Data Delay	
Delay Line, Programmable 4-Bit (0.25 ns steps)	PDU54-250	Data Delay	
Delay Line, Programmable 4-Bit (0.4 ns steps)	PDU54-400	Data Delay	
Delay Line, Programmable 4-Bit (0.5 ns steps)	PDU54-500	Data Delay	
Delay Line, Programmable 4-Bit (0.75 ns steps)	PDU54-750	Data Delay	25
Delay Line, Programmable 4-Bit (1 ns steps)	PDU54-1000	Data Delay	
Delay Line, Programmable 4-Bit (1.2 ns steps)	PDU54-1200	Data Delay	
Delay Line, Programmable 4-Bit (1.5 ns steps)	PDU54-1500	Data Delay	
Delay Line, Programmable 4-Bit (2 ns steps)	PDU54-2000	Data Delay	
Delay Line, Programmable 4-Bit (2.5 ns steps)	PDU54-2500	Data Delay	30
Delay Line, Programmable 4-Bit (3 ns steps)	PDU54-3000	Data Delay	
Delay Line (8 taps: 0.5 ns each)	DDU18-4	Data Delay	

Function	Device	Source	Line
Delay Line (8 taps: 1 ns each)	DDU18-8	Data Delay	
Delay Line (8 taps: 1.5 ns each)	DDU18-12	Data Delay	
Delay Line (8 taps: 10 ns each)	DDU18-80	Data Delay	35
Delay Line (8 taps: 12.5 ns each)	DDU18-100	Data Delay	
Delay Line (8 taps: 15 ns each)	DDU18-120	Data Delay	
Delay Line (8 taps: 2 ns each)	DDU18-16	Data Delay	
Delay Line (8 taps: 2.5 ns each)	DDU18-20	Data Delay	
Delay Line (8 taps: 20 ns each)	DDU18-160	Data Delay	40
Delay Line (8 taps: 25 ns each)	DDU18-200	Data Delay	
Delay Line (8 taps: 3 ns each)	DDU18-24	Data Delay	
Delay Line (8 taps: 4 ns each)	DDU18-32	Data Delay	
Delay Line (8 taps: 5 ns each)	DDU18-40	Data Delay	
Delay Line (8 taps: 6 ns each)	DDU18-48	Data Delay	45
Delay Line (8 taps: 7 ns each)	DDU18-56	Data Delay	
Delay Line (8 taps: 8 ns each)	DDU18-64	Data Delay	
Delay Line (8 taps: 9 ns each)	DDU18-72	Data Delay	
Programmable Delay Line	CXB1119	Sony	
	CXB1139	Sony	50
	CXB1539	Sony	
Programmable Delay Line Module (0.1 to 3.5 ns)	EKLPGR10	Technitrol	
Programmable Delay Line Module (0.25 to 5.75 ns)	EKLPGR25	Technitrol	
Programmable Delay Line Module (0.5 to 9.5 ns)	EKLPGR50	Technitrol	
Programmable Delay Line Module (1 to 17 ns)	EKLPG010	Technitrol	55
Programmable Delay Line Module (1.5 to 24.5 ns)	EKLPG015	Technitrol	
Programmable Delay Line Module (2 to 32 ns)	EKLPG020	Technitrol	
Programmable Delay Line Module (2.5 to 39.5 ns)	EKLPG025	Technitrol	
Programmable Delay Line Module (3 to 47 ns)	EKLPG030	Technitrol	
Programmable Delay Line Module (3.5 to 54.5 ns)	EKLPG035	Technitrol	60
Programmable Delay Line Module (4 to 62 ns)	EKLPG040	Technitrol	
Programmable Delay Line Module (4.5 to 69.5 ns)	EKLPG045	Technitrol	
Programmable Delay Line Module (5 to 77 ns)	EKLPG050	Technitrol	
Programmable Delay Line Module (6 to 92 ns)	EKLPG060	Technitrol	
Programmable Delay Line Module (7 to 107 ns)	EKLPG070	Technitrol	65
Programmable Delay Line Module (8 to 122 ns)	EKLPG080	Technitrol	
Programmable Delay Line Module (9 to 137 ns)	EKLPG090	Technitrol	

Function	Device	Source	Line
Programmable Delay Line Module (10 to 152 ns)	EKLPG100	Technitrol	
Programmable Delay Line Module (40.75 to 13.25 ns)	EKLPGR75	Technitrol	

Drivers

Function	Device	Source	Line
Backplane	F100126	National	70
	100126	Philips	
ECL-to-TTL Octal Bus Driver, Inverting (open-collector)	SN100KT5538	TI	
ECL-to-TTL Octal Bus Driver, Inverting (three-state)	SN100KT5540	TI	
ECL-to-TTL Octal Bus Driver (open-collector)	SN100KT5539	TI	
ECL-to-TTL Octal Bus Driver (three-state)	SN100KT5541	TI	75
High Speed Line	F100113	National	
	100113	Philips	
Low Impedance	**SY100EL12**	**Synergy (3805)**	
PECL to TTL 1:4 Clock Driver	**SY100H841**	**Synergy (3803)**	
	SY100H842	**Synergy (3803)**	80
	SY100H843	**Synergy (3803)**	
PECL to TTL 1:9 Clock Driver	**SY100H641**	**Synergy (3803)**	
PECL/TTL-TTL Clock Driver	MC100H644	Motorola	
TTL-to-ECL Octal Bus Driver, Inverting (output enable)	SN100KT5542	° TI	
TTL-to-ECL Octal Bus Driver (output enable)	SN100KT5543	° TI	85
Quad	F100112	National	
	100112	Philips	
Quad Driver	**SY100S313**	**Synergy (3806)**	
Quad Driver (low skew differential drivers)	F100115	National	
Quad Driver with Enable	**SY100E112**	**Synergy (3804)**	90
Hex Bus	F100123	National	
	100123	Philips	
Hex Bus, Low Power	100323	National	
	100323A	National	
1:6 Differential Clock Distribution Chip	MC100E211	Motorola	95
1:9 Differential Clock Driver	**SY100E111**	**Synergy (3803)**	
1:9 ECL-TTL Clock Driver	MC100H643	Motorola	
1:9 TTL-TTL Clock Distribution Chip	MC100H645	Motorola	
3-Bit Scannable Driver	**SY100E212**	**Synergy (3805)**	

Flip-Flops, D-Type

Function	Device	Source	Line
D Flip-Flop with Set and Reset	**SY100EL31**	**Synergy (3805)**	100
Differential Clock	**SY100EL51**	**Synergy (3805)**	
Differential Data and Clock	**SY100EL52**	**Synergy (3805)**	
ECL-to-TTL Octal D-Type Flip-Flop, Inverting (three-state)	SN100KT5576	TI	
ECL-to-TTL Octal D-Type Flip-Flop (three-state)	SN100KT5574	TI	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–ECL (Cont'd)

100K Series

Flip-Flops, D-Type (Cont'd)

Function	Device	Source
TTL-to-ECL Octal D-Type Flip-Flop, Inverting (output enable)	SN100KT5580	TI
TTL-to-ECL Octal D-Type Flip-Flop (output enable)	SN100KT5578	TI
Dual D Flip-Flop	CXB1104	Sony
Dual D-Type	CXB1504	Sony
Triple	F100131	National
	100131	Philips
Triple D Flip-Flop	F100331	National
	SY100S331	**Synergy (3806)**
Triple D-Type Master/Slave	100231A	Philips
Quad D-FF w/Master Reset	CXB1109	Sony
Quad D-Type	CXB1509	Sony
Hex	F100151	National
	100151	Philips
Hex D Flip-Flop	**SY100S351**	**Synergy (3806)**
Hex, Low Power	F100351	National
4-Bit	MC100E131	Motorola
	100E531	† Motorola
4-Bit D Flip-Flop	**SY100E131**	**Synergy (3804)**

Flip-Flops, J-K Type

Function	Device	Source
JK Flip-Flop	**SY100EL35**	**Synergy (3805)**
Triple J-K Master-Slave	F100135	National

Gates, AND/NAND

Function	Device	Source
Quint 2-Input	MC100E104	Motorola
	100E504	† Motorola
	F100304	National
	SY100E104	**Synergy (3804)**
	SY100S304	**Synergy (3806)**
Quad High Frequency Differential	**SY100E404**	**Synergy (3805)**
	SY101E404	Synergy
Quad 2-Input, Differential	MC100E404	Motorola
Quad 3-Input	CXB1101	Sony
	CXB1501	Sony
Quintuple with Function Output	F100104	National
2-Input	**SY100EL04**	**Synergy (3805)**
2-Input Differential	**SY100EL05**	**Synergy (3805)**

Gates, OR/NOR

Function	Device	Source
Quint 2-Input	F100102	National
	F100302	National
	100102	Philips
	SY100S302	**Synergy (3806)**
Triple 5-Input	F100101	National
	F100301	National
	100101	Philips
	SY100S301	**Synergy (3806)**
Quad 3-Input	CXB1100	Sony
	CXB1500	Sony
Quad 4-Input	MC100E101	Motorola
	100E501	† Motorola
	SY100E101	**Synergy (3804)**
4-Input	**SY100EL01**	**Synergy (3805)**

Gates, OR-AND/OR-AND Invert

Function	Device	Source
Triple	F100117	National
	100117	Philips
Triple 2-Wide OA/OAI	**SY100S317**	**Synergy (3806)**
5-Wide	F100118	National
	100118	Philips
5-Wide 5,4,4,4,2 OA/OAI	**SY100S318**	**Synergy (3806)**

Gates, Exclusive OR/NOR

Function	Device	Source
Quint	F100107	National
Quint 2-Input	MC100E107	Motorola
	100E507	† Motorola
	F100307	National
	SY100E107	**Synergy (3804)**
	SY100S307	**Synergy (3806)**
Quad	CXB1502	Sony
Quad 2-Input	CXB1102	Sony
2-Input	**SY100EL07**	**Synergy (3805)**

Latches

Function	Device	Source
ECL-to-TTL Octal D-Type Latch, Inverting (three-state)	SN100KT5575	TI
ECL-to-TTL Octal D-Type Latch (three-state)	SN100KT5573	TI
Mask-Merge/Latch	SY100S356	Synergy
TTL-to-ECL Octal D-Type Latch, Inverting (output enable)	SN100KT5579	TI
TTL-to-ECL Octal D-Type Latch (output enable)	SN100KT5577	TI
Triple D	F100130	National
Quad Multiplexer/Latch	**SY100S355**	**Synergy (3806)**
Hex D	F100150	National
	100150	Philips
Hex D-Type	**SY100S350**	**Synergy (3806)**
Hex D-Type Latch	F100350	National
6-Bit	SY100E150	Synergy
6-Bit D-Type	MC100E150	Motorola
8-Bit, Low Power	F100343	National
8-Bit, Low Power with Cut-Off Drivers	F100344	National
9-Bit with Parity Generator/Checker	MC100E175	Motorola

Memories

Function	Device	Source
CAM (4x4)	F100142	National
PROM (256x4)	100149	Philips
RAM (16x4)	F100402	National
RAM (16x4 register file)	F100145	National
RAM (256x4)	F100422	National
Register File (16x4)	10402	National
1024x4 RAM (5 ns)	μPB100474A-5	NEC
1024x4 RAM (6 ns)	μPB100474A-6	NEC

Multiplexers (Digital)

Function	Device	Source
Dual 8 to 1 Multiplexer w/ D-FF	CXB1145	Sony
Dual 8 to 1 Multiplexer w/ Latch	CXB1144	Sony
Dual 8:1 with D-FF	CXB1545	Sony
Dual 8:1 with Latch	CXB1544	Sony
Dual 8-Input	F100163	National
	F100363	National
	100163	Philips
	SY100E163	**Synergy (3804)**
Dual 8-Input Multiplexer	**SY100S363**	**Synergy (3806)**
Triple 4-Input	F100171	National
	100171	Philips
Triple 4-Input Multiplexer with Enable	**SY100S371**	**Synergy (3806)**
Quad 2-Input with Latch	F100155	National
	100155	Philips
Quad 4 to 1 Multiplexer w/ D-FF	CXB1143	Sony
Quad 4 to 1 Multiplexer w/ Latch	CXB1142	Sony
Quad 4:1 with D-FF	CXB1543	Sony
Quad 4:1 with Latch	CXB1542	Sony
Quad 2:1 Multiplexer, Individual Select	**SY100E157**	**Synergy (3804)**
Quad 2:1, Separate Selects	MC100E157	Motorola
Hex 2 to 1 Multiplexer w/ D-FF	CXB1141	Sony
Hex 2 to 1 Multiplexer w/ Latch	CXB1140	Sony
Hex 2:1 with Latch	CXB1540	Sony
	CXB1541	Sony
2:1 Multiplexer	**SY100EL58**	**Synergy (3805)**
2:1 Multiplexer, Triple High Frequency Differential	**SY100E457**	**Synergy (3805)**
2:1 Triple Differential	MC100E457	Motorola
2-Bit 8:1	MC100E163	Motorola
3-Bit 4:1	MC100E171	Motorola
	SY100E171	**Synergy (3804)**
3-Bit 4:1 Multiplexer/Latch	**SY100E156**	**Synergy (3804)**
	SY100E256	**Synergy (3805)**
3-Bit 4:1 with Latches	MC100E156	Motorola
	MC100E256	Motorola
	100E556	† Motorola
4-to–1 Multiplexer	CXB1113	Sony
5-Bit 2:1	MC100E158	Motorola
	100E558	† Motorola
5-Bit 2:1 Multiplexer	**SY100E158**	**Synergy (3804)**
5-Bit 2:1 Multiplexer/Latch	SY100E154	Synergy

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–ECL (Cont'd)

100K Series

Multiplexers (Digital) (Cont'd)

Function	Device	Source	Line
5-Bit 2:1 with Latches	MC100E154	Motorola	
6-Bit 2:1 Multiplexer/Latch	**SY100E155**	**Synergy (3804)**	
6-Bit 2:1 Multiplexer Register	**SY100E167**	**Synergy (3804)**	
6-Bit 2:1 Mux Register	MC100E167	Motorola	
6-Bit 2:1 with Latches	MC100E155	Motorola	5
9, 8, 4-Bit Multiplexer	CXB1130	Sony	
16:1, Single	MC100E164	Motorola	
16:1 Multiplexer	**SY100E164**	**Synergy (3804)**	
16-Input	F100164 100164A	National Philips	10
16-Input Multiplexer	**SY100S364**	**Synergy (3806)**	
16-to-1 Multiplexer	CXB1110	Sony	

Shift Registers

Function	Device	Source	Line
Mask-Merge	F100156	National	
Dual 4-Bit	CXB1532	Sony	
4-Stage Counter/Shift Register	**SY100S336**	**Synergy (3806)**	15
5-Bit D Register with Differential Data, CLK, & Q	**SY100E452**	**Synergy (3805)**	
6-Bit D Register	MC100E151 100E551 100E851	Motorola † Motorola † Motorola	
6-Bit D Register, Differential Data and Clock Inputs	**SY100E451**	**Synergy (3805)**	20
8-Bit	100141A **SY100E141** **SY100S341**	Philips **Synergy (3804)** **Synergy (3806)**	
8-Bit, Low Power	F100341 F100353	National National	25
8-Bit, Low Power with Cut-Off Drivers	F100354	National	
8-Bit Scannable Register	**SY100E241**	**Synergy (3805)**	
8-Bit Universal	MC100E141 F100141	Motorola National	
9, 8, 4-Bit Universal Shift Register	CXB1132	Sony	30
9-Bit	MC100E142 100E542	Motorola † Motorola	
9-Bit Hold	MC100E143 100E543	Motorola † Motorola	
9-Bit Hold Register	**SY100E143**	**Synergy (3804)**	35
9-Bit Shift Register	**SY100E142**	**Synergy (3804)**	

Translators

Function	Device	Source	Line
Differential PECL-to-TTL, Dual	**SY100ELT23**	**Synergy (3802, 3805)**	
ECL to TTL Bidirectional, 100K in/10K out	F100128	National	
ECL-to-TTL with Registers	F100395	National	
PECL-to-TTL, Registered Hex	**SY100H607**	**Synergy (3802)**	40
Registered Bidirectional Transceiver, 40-Bit (common ECL input and output pins)	SC3002	Silicon Conn	
Registered Bidirectional Transceiver, 40-Bit (separate ECL input and output pins)	SC3001	Silicon Conn	
Registered Transmitter, 40-Bit ECL to CMOS	SC3010	Silicon Conn	
TTL-to-Differential PECL, Dual	**SY100ELT22**	**Synergy (3802, 3805)**	
TTL-to-PECL, Registered Hex	**SY100H606**	**Synergy (3802)**	45
TTL–100K ECL	F100124	National	
Quad ECL/TTL Translating Transceiver with Registers	100984	Philips	
Hex ECL/TTL Translating Transceiver with Registers	100982	Philips	
Hex ECL-to-TTL, Low Power	100390	National	
Hex ECL-to-TTL Translator	MC10H605 MC100H605 F100325 **SY100S325**	Motorola Motorola National **Synergy (3802, 3806)**	50
Hex PECL-to-TTL Translator	MC10H607 MC100H607	Motorola Motorola	55
Hex TTL-to-ECL Translator	MC100H604 F100324 100124A **SY100S324**	Motorola National Philips **Synergy (3802, 3806)**	
Hex TTL-to-PECL Translator	MC10H606 MC100H606	Motorola Motorola	60
Octal ECL-to-TTL Bidirectional Translator with Latch	**SY100S328**	**Synergy (3802, 3806)**	
Octal ECL-to-TTL Bidirectional Translator with Register	**SY100S329**	**Synergy (3802, 3806)**	
Octal 100K ECL to TTL and TTL to 100K ECL	BT502	Brooktree	
8-Bit Bidirectional ECL to TTL	F100128	National	65
9-Bit ECL to TTL	MC100H601 SY100HA601 **SY100H601**	Motorola Synergy **Synergy (3802)**	
9-Bit Latch/ECL to TTL	MC100H603 SY100HA603 **SY100H603**	Motorola Synergy **Synergy (3802)**	70
9-Bit Latch/TTL to ECL	MC100H602 SY100HA602 **SY100H602**	Motorola Synergy **Synergy (3802)**	
9-Bit TTL to ECL	MC100H600 SY100HA600 **SY100H600**	Motorola Synergy **Synergy (3802)**	75
100K ECL-TTL	F100125 100125	National Philips	
100K ECL–10K ECL	F100175	National	80
100K-to-10K Translator w/Latches, 5-Bit	100175F	Philips	

Miscellaneous

Function	Device	Source	Line
Bus Transceiver, 3-Bit Registered	MC100E336	Motorola	
Clock Distributor	CXB1515	Sony	
Clock Recovery Circuit	T7035	AT&T	
D-Type Flip-Flop/Register, 5-Bit	MC100E452	Motorola	85
D-Type Flip-Flop/Register, 6-Bit	MC100E451	Motorola	
Differential Clock Driver, 1:9	100E511	† Motorola	
Differential Clock Driver, 1:9	MC100E111	Motorola	
Divide-by-2 Divider	**SY100EL32**	**Synergy (3805)**	
Divide-by-4 Divider	**SY100EL33**	**Synergy (3805)**	90
ECL/TTL Clock Driver (for 68030/040 processors)	MC100H642	Motorola	
ECL/TTL Clock Driver (generates clocks for 68030/040 processors)	MC100H640	Motorola	
ECL-to-TTL Octal Bus Transceiver, Inverting (output enable)	SN100KT5563	TI	
ECL-to-TTL Octal Bus Transceiver (output enable)	SN100KT5562	TI	
ECL-to-TTL Octal Registered Bus Transceiver, Inverting (output enable)	SN100KT5593 SN100KT5648	TI TI	95
ECL-to-TTL Octal Registered Bus Transceiver (output enable)	SN100KT5592 SN100KT5646	TI TI	
ECL-to-TTL Octal Registered Transceiver, Inverting (output enable)	SN100KT5591	TI	
ECL-to-TTL Octal Registered Transceiver (output enable)	SN100KT5590	TI	100
ECL-TTL Load Reducing DRAM Driver, 4-Bit	MC100H660	Motorola	
High Frequency Line Receiver	**SY100E416**	**Synergy (3805)**	
Laser Driver	CXB1108	Sony	
Line Receiver, Differential Inputs/Single-Ended Outputs	100114A	Philips	
Low Power Quad Driver	F100313	National	105
Microsequencer with 100K Compatible Outputs.	TIE100890	TI	
Numerically Controlled Oscillator (300 MHz with 28-bit resolution)	**STEL2172**	**STEL (3796)**	
PECL-TTL 1:9 Clock Driver (for ECL in PS series)	MC100H641	Motorola	
Phase Frequency Detector	CXB1112	Sony	
Programmable Delay Chip	MC100E195 MC100E196 **SY100E195**	Motorola Motorola **Synergy (3803)**	110
Programmable Delay Chip (& Analog)	**SY100E196**	**Synergy (3803)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–ECL (Cont'd)

100K Series

Miscellaneous (Cont'd)

Function	Device	Source	Line
Programmable Delay Line	CXB1119	Sony	
	CXB1139	Sony	
Quint Differential Line Receiver	MC100E116	Motorola	
	100E516	† Motorola	
	SY100E116	**Synergy (3804)**	5
	SY100S314	**Synergy (3806)**	
Quint Line Receiver	MC100E416	Motorola	
	CXB1103	Sony	
	CXB1503	Sony	
Scannable ECL Driver, 3-Bit	MC100E212	Motorola	10
Scannable Register, 8-Bit	MC100E241	Motorola	
Serial/Parallel Converter, 4-Bit	**SY100E445**	**Synergy (3805)**	
Set/Reset Flip-Flop, 3-Bit Differential	MC100E431	Motorola	
Universal Priority Encoder	F100165	National	
	SY100S365	Synergy	15
Dual 9-Bit Parity Generator/Checker	F100160	National	
Quad Clock Driver, Low Skew	F100115	National	
Quad Driver, Common Enable	MC100E112	Motorola	
	100E512	† Motorola	
Quad Output Clock Driver, Test Clock Input	100315	National	20
Quintuple Line Receiver	F100114	National	
Quintuple Line Transceiver	F100250	National	
1-to-10 Clock Distributor	CXB1115	Sony	
3-Bit Differential Set/Reset Flip-Flop	**SY100E431**	**Synergy (3805)**	
4:1 Parallel/Serial Connector	**SY100E446**	**Synergy (3805)**	25
6-Bit D-Register	SY100E151	Synergy	
8 Output Clock Driver, Mux 2 Inputs	100310	National	
8-Bit Error Detection and Correction with Parity	MC100E193	Motorola	
8-Bit Error Detection/Correction (EDAC)	**SY100E175**	**Synergy (3804)**	
	SY100E193	**Synergy (3804)**	30
9 Output Clock Driver	100311	National	
9-Bit Transceiver, Three-State Bidirectional Lines	100790	Philips	
	100990	Philips	
22, 15, 7 Stage Descrambler	CXB1134	Sony	
22, 15, 7 Stage Scrambler	CXB1133	Sony	35

101K Series

Arithmetic Functions

Function	Device	Source	Line
Dual Parity Generator/Checker	SY101S360	Synergy	
9-Bit Comparator	SY101S366	Synergy	
9-Bit Magnitude Comparator	SY101E166	Synergy	
12-Bit Parity Generator/Checker	SY101E160	Synergy	

Buffers

Function	Device	Source	Line
9-Bit	SY101E122	Synergy	40
	SY101S322	Synergy	

Bus-Oriented Circuits

Function	Device	Source	Line
3-Bit Registered Bus Transceiver	SY101E336	Synergy	
3-Bit Scannable Registered Bus Transceiver	SY101E337	Synergy	

Counters

Function	Device	Source	Line
6-Bit Universal Counter	SY101E136	Synergy	
8-Bit Ripple Counter	SY101E137	Synergy	45
8-Bit Synchronous Count Up	SY101E016	Synergy	

Decoders

Function	Device	Source	Line
Universal Demultiplexer/Decoder	SY101S370	Synergy	

Drivers

Function	Device	Source	Line
Quad Driver	SY101S313	Synergy	
Quad Driver with Enable	SY101E112	Synergy	
1:9 Differential Clock Driver	SY101E111	Synergy	50
3-Bit Scannable Driver	SY101E212	Synergy	

Flip-Flops, D-Type

Function	Device	Source	Line
Triple D Flip-Flop	SY101S331	Synergy	
Hex D Flip-Flop	SY101S351	Synergy	
4-Bit D-Type	SY101E131	Synergy	

Gates, AND/NAND

Function	Device	Source	Line
Quint 2-Input	SY101E104	Synergy	55
	SY101S304	Synergy	
Quad High Frequency Differencial	SY101E404	Synergy	

Gates, OR/NOR

Function	Device	Source	Line
Quint 2-Input	SY101S302	Synergy	
Triple 5-Input	SY101S301	Synergy	
Quad 4-Input	SY101E101	Synergy	60

Gates, OR-AND/OR-AND Invert

Function	Device	Source	Line
Triple 2-Wide OA/OAI	SY101S317	Synergy	
5-Wide 5,4,4,4,2 OA/OAI	SY101S318	Synergy	

Gates, Exclusive OR/NOR

Function	Device	Source	Line
Quint 2-Input	SY101E107	Synergy	
	SY101S307	Synergy	

Latches

Function	Device	Source	Line
Mask-Merge/Latch	SY101S356	Synergy	65
Quad Multiplexer/Latch	SY101S355	Synergy	
Hex D-Type	SY101S350	Synergy	
6-Bit	SY101E150	Synergy	

Multiplexers (Digital)

Function	Device	Source	Line
Dual 8-Input	SY101E163	Synergy	
Dual 8-Input Multiplexer	SY101S363	Synergy	70
Triple 4-Input Multiplexer with Enable	SY101S371	Synergy	
Quad 2:1 Multiplexer, Individual Select	SY101E157	Synergy	
2:1 Multiplexer, Triple High Frequency Differential	SY101E457	Synergy	
3-Bit 4:1	SY101E171	Synergy	
3-Bit 4:1 Multiplexer/Latch	SY101E156	Synergy	75
	SY101E256	Synergy	
5-Bit 2:1 Multiplexer	SY101E158	Synergy	
5-Bit 2:1 Multiplexer/Latch	SY101E154	Synergy	
6-Bit 2:1 Multiplexer/Latch	SY101E155	Synergy	
6-Bit 2:1 Multiplexer/Register	SY101E167	Synergy	80
16:1 Multiplexer	SY101E164	Synergy	
16-Input Multiplexer	SY101S364	Synergy	

Shift Registers

Function	Device	Source	Line
4-Stage Counter/Shift Register	SY101S336	Synergy	
5-Bit D Register with Differential Data, CLK, & Q	SY101E452	Synergy	
6-Bit D Register, Differential Data and Clock Inputs	SY101E451	Synergy	85
6-Bit D-Register	SY101E151	Synergy	
8-Bit	SY101E141	Synergy	
	SY101S341	Synergy	
8-Bit Scannable	SY101E241	Synergy	
9-Bit	SY101E142	Synergy	90
9-Bit Hold Register	SY101E143	Synergy	

Translators

Function	Device	Source	Line
Hex ECL-to-TTL Translator	SY101S325	Synergy	
Hex TTL-to-ECL Translator	SY101S324	Synergy	

Miscellaneous

Function	Device	Source	Line
High Frequency Line Receiver	SY101E416	Synergy	
Programmable Delay Chip	SY101E195	Synergy	95
Programmable Delay Chip (& Analog)	SY101E196	Synergy	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–ECL (Cont'd)

101K Series

Miscellaneous (Cont'd)

Function	Device	Source
Quint Differential Line Receiver	SY101E116	Synergy
	SY101S314	Synergy
Universal Priority Encoder	SY101S365	Synergy
3-Bit Differential Set/Reset Flip-Flop	SY101E431	Synergy
4:1 Parallel/Serial Connector	SY101E446	Synergy
8-Bit Error Detection/Correction (EDAC)	SY101E175	Synergy
	SY101E193	Synergy
9-Bit Inverter	SY101S321	Synergy

III and Other Series

Counters

Function	Device	Source
Bi-Quinary	1678	† Motorola
Divide by 4 Prescaler (1 GHz)	MC1699	Motorola
Divide by 4 (1 GHz)	SP8610	GEC Plessey
	SP8611A	GEC Plessey
	SP8611B	GEC Plessey
	SP8617B	GEC Plessey
	11C05C	National
	11C05M	† National
Divide by 5/6 Prescaler, 650 MHz	11C91C	National
	11C91M	† National
Divide by 10/11 Prescaler, 650 MHz	SP8680	GEC Plessey
	11C90C	National
	11C90M	† National
Divide by 20 Prescaler	CA3232	Harris
4-Bit Binary	1654	† Motorola

Flip-Flops, D-Type

Function	Device	Source
Master-Slave	SP1670B	GEC Plessey
	11C70C	National
Master-Slave (UHF prescaler)	11C06C	National
UHF Prescaler	1690	† Motorola

Flip-Flops, R-S Type

Function	Device	Source
Master-Slave	1670	† Motorola

Gates, OR

Function	Device	Source
Quad 2-Input	1664	† Motorola

Gates, NOR

Function	Device	Source
Quad 2-Input	1662	† Motorola

Gates, OR/NOR

Function	Device	Source
Dual 4-Input	SP16F60	GEC Plessey
	SP1660B	GEC Plessey
Dual 4–5 Input	MC10H209	° Motorola
	10H609	† Motorola
	11C01C	National
Dual 4-Input	1660	† Motorola

Gates, Exclusive OR

Function	Device	Source
Triple 2-Input	1672	† Motorola

Latches

Function	Device	Source
Dual Clocked	1668	† Motorola

Multivibrators

Function	Device	Source
Master Clock Oscillator	**MD100**	**MicroNet (3694)**
Voltage Controlled	SP1658	GEC Plessey
	MD300	**MicroNet (3694)**
	MC12100	Motorola
	MC12101	Motorola
	MC1658	Motorola
Voltage Controlled, Low Power	MC12148	Motorola

Miscellaneous

Function	Device	Source
A/D Converter, Dual	1650	† Motorola
	1651	† Motorola
Prescaler for Multiband Digital Tuning System	TD6109	Toshiba
Voltage Controlled Oscillator	SP1648	GEC Plessey
	MC1648M	† Motorola
Dual Analog/Digital Comparator	SP1650B	GEC Plessey
Quad Line Receiver	SP1692B	GEC Plessey
Quad Line Receiver with Bias Driver	1692	† Motorola

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—Gallium Arsenide

Function	Device	Source
Buffers		
Low-Skew 10-Output Clock Buffer	**GA1086E**	**TriQuint (3841)**
Dual Fanout Buffer with 2:1 Multiplexer Inputs (1.6 GHz data rate)	10G010-2	TriQuint
	10G010-3	TriQuint
	10G010M-2	TriQuint
	10G010M-3	TriQuint
11-Output Clock Buffer, 30–80 MHz	**GA1086**	**TriQuint (3841)**
11-Output Configurable Clock Buffer, 18–105 MHz	**GA1088**	**TriQuint (3841)**
	TQ1086L	**TriQuint (3841)**
11-Output Configurable Clock Buffer, 24–105 MHz	**GA1085**	**TriQuint (3841)**
	GA1087	**TriQuint (3841)**
11-Output Configurable Clock Buffer, 65 to 90 Mhz and 130 to 180 MHz	**GA1089**	**TriQuint (3841)**
Counters, Binary		
Counter, Divider, 7-Stage, Divide by 2, 4—64 (3 GHz)	10G065	TriQuint
Divider, Divide by 5/6, 10/11, 20/21, 40/41 (2 GHz)	10G070	TriQuint
Four-Stage Synchronous Programmable Counter (1.3 GHz clock rate)	10G061	TriQuint
Drivers		
Dual Complementary Driver/Comparator (1.5 GHz data rate)	10G012B-3	TriQuint
Dual Complementary Driver/Comparator (1.75 GHz data rate)	10G012B	TriQuint
Flip-Flops, D-Type		
Dual Precision D-Type (1.8 GHz clock rate)	10G021A-3	TriQuint
Dual Precision D-Type (2.3 GHz clock rate)	10G021A	TriQuint
Dual Precision D-Type (2.7 GHz clock rate)	10G021A-2	TriQuint
Quad D-Type with 2:1 Mulptiplexer Inputs (1.6 GHz data rate)	10G023-3	TriQuint
Quad D-Type with 2:1 Multiplexer Inputs (1.9 GHz data rate)	10G023-2	TriQuint
Gates, NOR		
Quad 2-Input (320 ps gate delay)	10G001	TriQuint
Quad 2-Input (390 ps gate delay)	10G001-4	TriQuint
Gates, Exclusive OR/NOR		
Quad 2-Input Exclusive-OR/Exclusive-NOR Gate (1.8 GHz data rate)	10G002M	TriQuint
Multiplexers		
Time Division Demultiplexer (1.45 Gbps)	10G041A	TriQuint
Time Division Multiplexer (1.45 Gbps)	10G040A	TriQuint
Quad 2:1 Multiplexer (1.45 GHz data rate)	10G004-3	TriQuint
Quad 2:1 Multiplexer (1.8 GHz data rate)	10G004-2	TriQuint
Quad 4:1/Dual 8:1 Multiplexer (1.5 GHz data rate)	10G046	TriQuint
Shift Registers		
Octal Shift/Storage, PN Code Generator (1.5 GHz clock rate)	10G022	TriQuint
Miscellaneous		
Amplifier, Low Noise (1.2 to 1.6 GHz)	**TQ9121**	**TriQuint (3843)**
Amplifier, Low Noise (100 to 2.5 GHz)	**TQ9122**	**TriQuint (3843)**
Amplifier, Low Noise (500 to 3500 MHz)	**TQ9132**	**TriQuint (3843)**
Attenuator, 10dB variable	TQ9161	TriQuint
Custom Clock Generator	**GA1000**	**TriQuint (3841)**
High-Frequency Clock Generator, 300 to 400 MHz	**TQ2060**	**TriQuint (3841)**
High-Frequency Clock Generator, 500 to 600 MHz	**TQ2061**	**TriQuint (3841)**
Line Receiver (3 GHz data rate)	TQ6331-M	TriQuint
Multi-Phase Clock Generator/Buffer	**GA1110E**	**TriQuint (3841)**
NCO/DAC Hybrid	**STEL2373**	**STEL (3796)**
Pin/Line Driver (3 GHz data rate)	TQ6330-M	TriQuint
Power Combiner, Active (1 to 10 GHz, provides in-phase signal combining and switching)	TQ9131	TriQuint
Power Divider (Active signal splitter)	**TQ9141**	**TriQuint (3843)**
Receiver, 1 Gb/s	**GA9012**	**TriQuint (3840)**
Switch, SPDT, Microwave	TQ9152	TriQuint
Switch, SPDT, Microwave, with Driver	**TQ9151**	**TriQuint (3843)**
Transmitter, 1 Gb/s	**GA9011**	**TriQuint (3840)**
TTL Clock Doubler/2 Phase Generator	**GA1210E**	**TriQuint (3841)**
Dual Complementary Driver/Comparator (1.75 GHz data rate)	10G012B	TriQuint
Quad 2-Input XOR/XNOR/Line Receiver (600 ps delay)	10G002	TriQuint
64x64 Crosspoint Swich, ECL I/O Up to 200 M/s data rate, –2V supply	VSC864FC	Vitesse
512x8 Mask Programmable ROM (1.5 ns access time)	14GD048	TriQuint
	14GM048	TriQuint

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—HNIL/HTL

Arithmetic Functions

Function	Device	Source
4-Bit Comparator	343A/C	TeledyneC

Buffers/Inverters

Function	Device	Source
Hex	MC690 332A/C	Motorola TeledyneC
Hex Open Collector	MC678	Motorola
Hex Strobed	MC677 335A/C	Motorola TeledyneC
Hex Strobed, Open Collector	334A/C	TeledyneC

Counters, Binary

Function	Device	Source
Binary	MC685 372A/C	Motorola TeledyneC
Binary Up/Down	374A/C	TeledyneC

Counters, Decade

Function	Device	Source
Decade	371A/C	TeledyneC
Decade Up/Down	373A/C	† TeledyneC

Decoders

Function	Device	Source
BCD to Decimal, Open Collector	381A/C	TeledyneC

Decoders/Drivers

Function	Device	Source
BCD to Decimal (for gas discharge display tubes)	382A/C	TeledyneC
BCD to Seven Segment	383A/C	TeledyneC
Quad 2-Input Power, Open Collector	302A/C	TeledyneC

Drivers

Function	Device	Source
BCD to Decimal Decoder/Lamp Driver, Open Collector	380A/C	TeledyneC
Dual 4-Input Line Driver, Expandable	MC662	Motorola
Dual 5-Input Power NAND Driver	301A/C	TeledyneC

Flip-Flops, D-Type

Function	Device	Source
Quad	370A/C	TeledyneC

Flip-Flops, J-K Type

Function	Device	Source
Master-Slave or Reset	311A/C	TeledyneC
Dual or Set-Reset	312A/C 313A/C	TeledyneC TeledyneC
Dual with Reset	MC663	Motorola

Flip-Flops, R-S Type

Function	Device	Source
Master-Slave	MC664	Motorola

Gates, AND

Function	Device	Source
Dual 2-Input Interface Buffer	391	TeledyneC
Dual 4-Input Interface Buffer	390	TeledyneC

Gates, NAND

Function	Device	Source
Dual 2-Input Interface Buffer	392	TeledyneC
Dual 4-Input	MC660 MC661	Motorola Motorola
Dual 4-Input Interface Buffer	395	TeledyneC
Dual 5-Input	322A/C	TeledyneC
Triple 3-Input	MC670 MC671	Motorola Motorola
Quad 2-Input	MC668 MC672 303A/C 321A/C 324A/C	Motorola Motorola TeledyneC TeledyneC TeledyneC
Quad 2-Input, Open Collector	323A/C	TeledyneC
2,2,3,3-Input	325A/C 326A/C	TeledyneC TeledyneC
4, 3, 4-Input	304A/C	TeledyneC

Gates, AND-OR-Invert

Function	Device	Source
Expandable	344A/C	TeledyneC
Dual 2-Wide, 2-Input	341A/C	TeledyneC

Gates, OR

Function	Device	Source
Dual 2-Input Interface Buffer	393	TeledyneC

Gates, NOR

Function	Device	Source
Dual 2-Input Interface Buffer	394	TeledyneC
Quad 2-Input	306A/C	TeledyneC
Quad 2-Input, Open Collector	307A/C	TeledyneC

Gates, Miscellaneous

Function	Device	Source
Dual 4-Input Expander (for 600 series)	MC669	Motorola
Dual 5-Input Expander (for 300 series)	331A/C	TeledyneC
Hex Inverter/Gate (quad inverter, dual NAND)	333A/C	TeledyneC

Multiplexers (Digital)

Function	Device	Source
Dual 4-Bit	351A/C	TeledyneC
8-Bit	350A/C	TeledyneC

Multivibrators

Function	Device	Source
Dual Monostable	MC667 342A/C	Motorola TeledyneC
Dual Retriggerable Monostable	347A/C	TeledyneC

Shift Registers

Function	Device	Source
4-Bit Parallel-In Parallel-Out	375A/C	TeledyneC

Translators

Function	Device	Source
Dual High to Low Interface (HNL to DTL, TTL)	361A/C	TeledyneC
Dual Interface Element, (line driver, receiver, ECL to TTL, MOS to TTL, Schmitt trigger)	396AC	TeledyneC
Dual Low to High Interface (TTL to HNL)	362A/C	TeledyneC
Quad Low to High Interface (TTL to HNL)	363A/C	TeledyneC

Miscellaneous

Function	Device	Source
Timer (see also linear-timers)	LF355 355A/C	Rochester TeledyneC
Dual Pulse Stretcher	MC675 349A/C	Motorola TeledyneC
Quad Schmitt Trigger/Line Receiver	367A/C	TeledyneC
Quad Schmitt Trigger/Line Receiver, Open Collector	368A/C	TeledyneC

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Arithmetic Functions

Function	Device	Source	Line
Adder (natural binary coded decimal)			
TTL	**ML4056**	**Lansdale (3667)**	
	ML4356	**Lansdale (3668)**	
Adder/Subtractor Quad Serial			
TTL-F	54F385	† National	
	74F385	National	
	74F385	Philips	5
TTL-LS	SN54LS385	† TI	
AM, FM, PM Quadrature Output Direct Digital Signal Synthesizer, 16-Bit, 20 MHz			
	TMC2340	TRWLSI	
	TMC2340-1	TRWLSI	
Comparator, Address			
TTL-ALS	SN74ALS677A	TI	
	SN74ALS678	TI	10
	SN74ALS679	TI	
	SN74ALS680	TI	
Comparator, Registered			
TTL-F	54F524	† National	
	74F524	National	
	74F524	Philips	15
Comparator, Dual 4-Bit Magnitude			
TTL	**ML4321**	**Lansdale (3667)**	
	ML4322	**Lansdale (3667)**	
Comparator, 4-Bit Magnitude			
TTL	TD3502A	Toshiba	
Comparator, 4-Bit Magnitude, Separate A = B Output			
TTL	GD54LS85	† GoldStar	
	GD74LS85	GoldStar	20
	SL54LS85	Lansdale	
	SL5485	† Lansdale	
	SL7485	Lansdale	
	DM54LS85	† National	
	DM5485	† National	25
	DM74LS85	National	
	DM7485	National	
	54LS85	† National	
	5485	† National	
	74LS85	National	30
	7485	National	
	9324C	National	
	9324M	† National	
	54L85	† Rochester	
	74LS85	Rochester	35
	7485	Rochester	
	SN54LS85	°† TI	
	SN5485	† TI	
	SN74LS85	° TI	
	SN7485	TI	40
TTL-F	74F85	° Philips	
TTL-LS	**SL74LS85**	**Lansdale (3674)**	
	SN54LS85	† Motorola	
	SN74LS85	Motorola	
TTL-S	GD54S85	† GoldStar	45
	GD74S85	GoldStar	
	SL54S85	**Lansdale (3674)**	
	SL74S85	**Lansdale (3675)**	
	SN54S85	† TI	
	SN74S85	TI	50
Comparator, 6-Bit Identity			
TTL	DM7160	† National	
	DM8160	National	
	7160	Rochester	
	8160	Rochester	
TTL-ALS	SN74ALS29806	TI	55
TTL-S	93S46	Rochester	
Comparator, 6-Bit, Unified Bus, Active Pull Up			
TTL	DM8131	National	
	8131	Rochester	
Comparator, 6-Bit, Unified Bus, Open Collector			
TTL	DM7136	† National	
	DM8136	National	60
		(Continued)	
Comparator, 6-Bit, Unified Bus, Open Collector			
TTL		(Cont'd)	
	7136	Rochester	
	8136	Rochester	
Comparator, 8-Bit			
TTL-ALS	DM74ALS520	National	
	DM74ALS521	National	
	DM74ALS522	National	65
	SN54ALS520	°‡ TI	
	SN74ALS520	° TI	
	SN74ALS521	° TI	
	SN74ALS522	TI	
TTL-F	MC54F521	° Motorola	70
	MC74F521	° Motorola	
	54F521	°† National	
	74F521	° National	
	54F521	°† Philips	
	74F521	° Philips	75
	SN54F520	°† TI	
	SN54F521	°† TI	
	SN74F520	° TI	
	SN74F521	° TI	
Comparator, 8-Bit Identity, Fuse Programmable plus 4-Bit Comparator			
TTL-ALS	SN74ALS527	TI	80
Comparator, 8-Bit Magnitude Open Collector			
TTL-ALS	DM74ALS518	National	
	DM74ALS519	National	
	DM74ALS689	National	
	SN74ALS518	° TI	
	SN74ALS519	° TI	85
	SN74ALS689	TI	
TTL-F	SN54F519	°† TI	
	SN74F518	° TI	
	SN74F519	° TI	
TTL-LS	SN54LS685	† TI	90
Comparator, 8-Bit Magnitude Totem Pole			
TTL-LS	SN54LS682	Motorola	
	SN54LS684	Motorola	
	SN54LS688	Motorola	
Comparator, 8-Bit Magnitude Totem-Pole			
TTL-ALS	SN54ALS688	† TI	
	SN74ALS688	TI	95
TTL-AS	SN54AS885	°† TI	
	SN74AS885	° TI	
TTL-LS	GD54LS688	† GoldStar	
	GD74LS688	GoldStar	
	SN74LS682	Motorola	100
	SN74LS684	Motorola	
	SN74LS688	Motorola	
	SN54LS682	† TI	
	SN54LS684	°† TI	
	SN54LS688	† TI	105
	SN74LS682	TI	
	SN74LS684	° TI	
	SN74LS688	TI	
Comparator, 9-Bit Identity			
TTL-ALS	SN74ALS29809	TI	
Comparator, 10-Bit Identity			
TTL	DM7130	† National	110
	DM8130	National	
	7130	Rochester	
	8130	Rochester	
Comparator, 8-Bit Magnitude Open Collector			
TTL-F	SN54F518	°† TI	
Cycle Redundancy Check (CRC) Generator/Checker			
TTL-F	54F401	† National	115
	74F401	National	
Digital Anti-aliasins (half-band or low pass) Filter, 55 Pre-loaded Coefficients, 12x12-bits, 40 MHz			
	TMC2242-1	TRWLSI	
Digital Anti-aliasins (half-band or low-pass) Filter, 55 Pre-loaded Coefficients, 12x12-bits, 30 MHz			
	TMC2242	TRWLSI	
Error Detection and Correction Circuit, 32-Bit			
TTL-ALS	SN54ALS632A	°† TI	
Full Adder			
TTL	**ML5480**	**† Lansdale (3668)**	120
	ML7480	**Lansdale (3668)**	
	5480	† Rochester	
	7480	Rochester	
Full Adder, BCD with Fast Carry			
	54F583	† National	
	74F583	National	125
	74F583	Philips	
Full Adder, Dual			
TTL	9304	Rochester	
TTL-H	54H183	† Rochester	
	74H183	Rochester	
TTL-LS	SN54LS183	† TI	130
Full Adder, 2-Bit Binary			
TTL	ML7482	Lansdale	
	5482	† Rochester	
	7482	Rochester	
Logic Sequencer			
TTL-S	TIB82S105B	° TI	
Logic Unit/Function Generator			
TTL	DM54181	† National	135
	74181	Rochester	
	9341	Rochester	
TTL-AS	DM54AS881B	† National	
	DM74AS181B	National	
	DM74AS881B	National	140
	SN54AS181B	°† TI	
	SN74AS1181	TI	
	SN74AS181B	° TI	
	SN74AS881A	° TI	
TTL-F	MC54F181	† Motorola	145
	MC54F381	† Motorola	
	MC54F382	† Motorola	
	MC74F181	Motorola	
	MC74F381	Motorola	
	MC74F382	Motorola	150
	54F181	† National	
	54F381	°† National	
	54F382	† National	
	74F181	National	
	74F381	° National	155
	74F382	National	
	54F181	† Philips	
	74F181	Philips	
	74F381	° Philips	
	74F382	Philips	160
	74F881	Philips	
	SN54F381	°† TI	
	SN54F382	† TI	
	SN74F381	° TI	
	SN74F382	TI	165
TTL-LS	SL54LS181	† Lansdale	
	SN54LS181	† Motorola	
	SN74LS181	Motorola	
	54LS181	† National	
	74LS181	National	170
	74LS181	SGS-Thomson	
	SN54LS181	† TI	
	SN54LS381A	°† TI	
	SN54LS382A	† TI	
	SN74LS181	TI	175
	SN74LS381A	° TI	
	SN74LS382A	TI	
TTL-S	**SL54S181**	**Lansdale (3674)**	
	SL74S181	**Lansdale (3675)**	
	54S181	† Rochester	180
	SN54S181	† TI	
	SN54S381	† TI	
	SN74S181	TI	
	SN74S381	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–TTL (Cont'd)

Function	Device	Source	Line
Arithmetic Functions (Cont'd)			
Look-Ahead Carry Generator			
TTL	AM2902AM	°† AMD	
	54182	Rochester	
	74182	Rochester	
	9342	Rochester	
TTL-AS	DM74AS182	National	5
	DM74AS264	National	
	DM74AS282	National	
	SN74AS182	° TI	
	SN74AS264	TI	
	SN74AS282	TI	10
	SN74AS882A	° TI	
TTL-F	MC54F182	† Motorola	
	MC74F182	Motorola	
	54F182	°† National	
	74F182	° National	15
	74F182	° Philips	
	74F882	Philips	
TTL-S	DM74S182	National	
	54S182	† Rochester	
	93S42	Rochester	20
	SN54S182	† TI	
	SN74S182	TI	
Look-Ahead Carry Generator for ALU			
TTL	**ML54182**	† **Lansdale (3668)**	
	ML74182	**Lansdale (3669)**	
Look-Ahead Carry Generator, 32-Bit			
TTL-AS	SN54AS882A	°† TI	25
Magnitude Comparator, 4-Bit			
TTL-F	MC54F85	† Motorola	
Magnitude Comparator, 4-Bit			
TTL-F	MC74F85	Motorola	
Multiplier/Accumulator, 8x8-Bit, 40NS			
	TMC2208	† TRWLSI	
Multiplier (2x4, Binary Parallel, Serial Output)			
TTL-LS	54LS261	Rochester	
	SN54LS261	† TI	30
Multiplier, 4-Bit Three-State (two ICs to a set, 7875A and 7875B)			
TTL	DM8875	National	
Multiplier (4x2), Binary			
TTL	9344	Rochester	
Multiplier (4x2), 2's Complement			
TTL-S	93S43	Rochester	
Multiplier (4x4), Binary Parallel (used with 54/74284)			
TTL	DM54284	† National	
Multiplier, 8x8-Bits, 45 ns			
	TMC208K-1	TRWLSI	35
	TMC28KU-1	TRWLSI	
Multiplier, 8x8-Bits, 65 ns			
	TMC208K	TRWLSI	
	TMC28KU	TRWLSI	
Parity Generator, 10 ns, 36-Bit			
	S4280	† AMCC	
Rectangular/Polar Bi-directional Coordinate Transformer, 25MHz			
	TMC2330-1	TRWLSI	40
Register/Arithmetic Logic Unit			
TTL-LS	SN54LS681	† TI	
	SN74LS681	TI	
TTL-S	54S281	Rochester	
	SN74S281	TI	
Register File, Dual 16x4			
TTL-ALS	SN54ALS870	† TI	45
Register File (4x4)			
TTL-F	74F670	Philips	
Shifter, Barrel Shifter			
TTL-F	SN54F350	°† TI	

Function	Device	Source	Line
Binary Multiplier, 4x4			
TTL-LS	54LS275	Rochester	
	SN54LS275	† TI	
Octal Comparator			
TTL-F	M74F521	Mitsubishi	50
Two's Complement Multiplier, 8-Bit Serial/Parallel			
TTL-F	54F384	† National	
	74F384	National	
4-Bit Microprocessor Slice (ALU)			
TTL-S	AM2901C	° AMD	
	3002	Intel	
	SFC2901B	SGS-Thomson	55
4-Bit ALU			
TTL-LS	T74LS181	SGS-Thomson	
4-Bit ALU and Function Generator			
TTL	**ML54181**	**Lansdale (3668)**	
	ML74181	**Lansdale (3669)**	
	54181	† Rochester	
4-Bit ALU with Look-Ahead Carry			
TTL	9340	Rochester	60
4-Bit Magnitude Comparator			
TTL	**ML5485**	† **Lansdale (3668)**	
	ML7485	**Lansdale (3669)**	
	5485	† Rochester	
4-Bit Slice, Expandable Control			
TTL-S	SN74S482	TI	
4-Bit Binary Full Adder			
TTL	**ML5483**	† **Lansdale (3668)**	65
	ML7483	**Lansdale (3668)**	
TTL-LS	T74LS283	SGS-Thomson	
	T74LS83A	SGS-Thomson	
4-Bit Binary Full Adder, Look-Ahead Carry			
TTL	DM5483	† National	
	54283	† National	70
	5483	† National	
	74283	National	
	7483	Rochester	
	SN54283	† TI	
	SN5483A	† TI	75
	SN74283	TI	
	SN7483A	TI	
TTL-F	MC54F283	† Motorola	
	MC74F283	Motorola	
	54F283	°† National	80
	74F283	° National	
	74F283	° Philips	
	SN54F283	°† TI	
	SN74F283	° TI	
TTL-LS	GD54LS283	† GoldStar	85
	GD74LS283	GoldStar	
	SL54LS283	Lansdale	
	SL54LS83A	Lansdale	
	SL74LS283	**Lansdale (3674)**	
	SL74LS83A	**Lansdale (3674)**	90
	SN54LS283	† Motorola	
	SN54LS83A	† Motorola	
	SN74LS283	Motorola	
	SN74LS83A	Motorola	
	DM54LS283	† National	95
	DM54LS83A	† National	
	DM74LS283	National	
	DM74LS83A	National	
	54LS283	† National	
	54LS83A	† National	100
	74LS283	National	
	74LS83	National	
	74LS83	Rochester	
	54LS283	† SGS-Thomson	
	54LS83A	† SGS-Thomson	105
	74LS283	SGS-Thomson	
	74LS83A	SGS-Thomson	
	SN54LS283	°† TI	
	SN54LS83A	† TI	
	SN74LS283	° TI	110
	SN74LS83A	TI	

(Continued)

Function	Device	Source	Line
4-Bit Binary Full Adder, Look-Ahead Carry (Cont'd)			
TTL-S	SN54S283	† TI	
	SN74S283	TI	
4-Bit Binary Full Adder with Full Carry			
TTL-F	M74F283	Mitsubishi	
4-Bit BCD ALU			
TTL-F	N74F582	Philips	115
4-Bit BCD Arithmetic Logic Unit			
FAST	54F582	† National	
	74F582	National	
8-Bit Magnitude			
TTL-AS	SN74AS866	° TI	
8-Bit Odd/Even Parity Generator/Checker			
TTL	**ML54180**	† **Lansdale (3668)**	
	ML74180	**Lansdale (3669)**	120
	54180	† Rochester	
8-Bit Serial/Parallel Register (for use with 25LS14/74LS384)			
TTL-LS	GD54LS322	† GoldStar	
	GD74LS322	GoldStar	
	SN54LS322A	Motorola	
	SN74LS322A	Motorola	125
	54LS322	† National	
	SN54LS322A	† TI	
	SN74LS322A	TI	
9-Bit Latchable Transceiver w/Parity Generator/Checker			
TTL-F	54F899	† National	
	74F899	° National	130
9-Bit Odd/Even Parity Generator			
TTL-LS	T74LS280	SGS-Thomson	
	54LS280	† SGS-Thomson	
	74LS280	SGS-Thomson	
9-Bit Odd/Even Parity Generator/Checker			
TTL-F	M74F280	Mitsubishi	
9-Bit Parity Generator/Checker			
TTL-AS	SN54AS286	† TI	135
9-Bit Parity Generator/Checker with Parity I/O Port			
TTL-F	SN54F286	† TI	
1024 POWT, 16-Bit FFT Processor, 20 MHz			
	TMC2310	TRWLSI	
	TMC2310-1	TRWLSI	
Buffers			
Buffer/Line Driver, 16-Bit, Three-State, Inverting			
	74FR16540	National	
Buffer/Line Driver, 16-Bit, Three-State, True			
	74FR16541	National	140
Buffer, Parallel-In/Serial-Out Scan Line Buffer			
	M66307	Mitsubishi	
Buffer, Toggle Line Buffer			
	M66305	Mitsubishi	
Dual 4-Input NAND			
TTL-H	**ML3024**	**Lansdale (3667)**	
	ML3124	† **Lansdale (3667)**	
	RC3024	Rochester	145
	RC3124	Rochester	
Dual 4-Input NAND Buffer			
TTL-LS	T54LS40	† SGS-Thomson	
Dual 4-Input NAND (positive)			
TTL-ALS	M74ALS40A	Mitsubishi	
Quad Buffer/Line Driver, Three-State			
TTL-F	M74F125	Mitsubishi	
Quad Gated, Three-State			
	MC74ACT125	Motorola	150
	MC74AC125	Motorola	
TTL	SL54125	† Lansdale	
	SL74125	Lansdale	
	DM54125	† National	
	DM74125	National	155
	DM8093	National	
	54125	† National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Function	Device	Source	Line
Buffers		**(Cont'd)**	
Quad Gated, Three-State			
TTL		(Cont'd)	
	74125	National	
	74125	Rochester	
	SN54125	† TI	
	SN74125	TI	
TTL-F	54F125	† National	5
	74F125	National	
	74F125	° Philips	
	SN74F125	TI	
TTL-LS	GD54LS125	† GoldStar	
	GD54LS125A	† GoldStar	10
	GD74LS125	GoldStar	
	GD74LS125A	GoldStar	
	SL54LS125	† Lansdale	
	SL54LS125A	† Lansdale	
	SL74LS125	**Lansdale (3674)**	15
	SL74LS125A	**Lansdale (3674)**	
	SN54LS125A	† Motorola	
	SN74LS125A	Motorola	
	DM54LS125A	† National	
	DM74LS125A	National	20
	54LS125A	† National	
	74LS125	National	
	54LS125A	† SGS-Thomson	
	74LS125A	SGS-Thomson	
	SN54LS125A	°† TI	25
	SN74LS125A	° TI	
Quad Gated, Three-State (inverted control)			
	MC74ACT126	Motorola	
	MC74AC126	Motorola	
TTL	SL54126	† Lansdale	
	SL74126	Lansdale	30
	54126	† Rochester	
	74126	Rochester	
	SN54126	† TI	
	SN74126	TI	
TTL-F	74F126	° Philips	35
	SN74F126	TI	
TTL-LS	SL54LS126A	† Lansdale	
	SL74LS126A	**Lansdale (3674)**	
	SN54LS126A	† Motorola	
	SN74LS126A	Motorola	40
	DM74LS126	National	
	54LS126	† National	
	74LS126	National	
	54LS126	† SGS-Thomson	
	74LS126	SGS-Thomson	45
	SN54LS126A	°† TI	
	SN74LS126A	° TI	
Quad, Three-State			
TTL-ALS	DM74ALS125	National	
TTL-F	MC54F125	† Motorola	
	MC54F126	† Motorola	50
	MC74F125	Motorola	
	MC74F126	Motorola	
TTL-LS	T74LS125A	SGS-Thomson	
	T74LS126A	SGS-Thomson	
Quad 2-Input NAND			
TTL-ALS	M74ALS37A	Mitsubishi	55
Quad 2-Input NAND Buffer			
TTL-LS	T54LS37	† SGS-Thomson	
	T54LS38	† SGS-Thomson	
Quad 2-Input NAND (positive, open collector)			
TTL-ALS	M74ALS38A	Mitsubishi	
Quad 2-Input NOR Buffer			
TTL-LS	**SL74LS33**	**Lansdale (3674)**	
	74LS28	SGS-Thomson	60
	74LS33	SGS-Thomson	
Quad 2-Input NOR (positive)			
TTL-ALS	M74ALS28A	Mitsubishi	
Quad 2-Input NOR (positive, open collector)			
TTL-ALS	M74ALS33A	Mitsubishi	
Hex			
TTL-LS	T54LS365A	† SGS-Thomson	
	T54LS367A	† SGS-Thomson	65
Hex, Buffer/Driver			
TTL	**ML5417**	**† Lansdale (3668)**	
	ML7417	**Lansdale (3668)**	
Hex Buffer Driver, Gated Enable			
TTL-F	MC54F365	† Motorola	
Hex Buffer Driver, Gated Enable, Inverting			
TTL-F	MC54F366	† Motorola	
	MC74F366	Motorola	70
Hex Buffer Driver, Gated Enable, True			
TTL-F	MC74F365	Motorola	
Hex Buffer/Driver, Non-Inverting, Open Collector			
TTL-F	74F07	Philips	
	74F07A	Philips	
Hex Buffer Driver, 4/2-Bit, Inverting			
TTL-F	MC54F368	† Motorola	
	MC74F368	Motorola	75
Hex Buffer Driver, 4/2-Bit, True			
TTL-F	MC54F367	† Motorola	
	MC74F367	Motorola	
Hex Driver, Non-inverting			
TTL-AS	DM74AS1034	National	
	SN74AS1034A	TI	
Hex, Inverting			
TTL-ALS	SN54ALS1005	† TI	80
Hex, Open Collector			
TTL	**ML5407**	**† Lansdale (3668)**	
	ML7407	**Lansdale (3668)**	
	5407	† Rochester	
TTL-ALS	M74ALS1035	Mitsubishi	
	DM74ALS1035	National	85
	SN54ALS1035	† TI	
	SN74ALS1035	TI	
TTL-LS	GD54LS07	† GoldStar	
	GD74LS07	GoldStar	
Hex, Open Collector, True			
TTL-ALS	SN74ALS35A	TI	90
Hex, True			
TTL-ALS	SN74ALS34	° TI	
TTL-AS	DM74AS34	National	
	SN54AS34	°† TI	
	SN74AS34	° TI	
Hex, Three-State			
TTL	SL54365A	† Lansdale	95
	SL54367A	† Lansdale	
	SL74367A	Lansdale	
	DM54365	† National	
	DM54367	† National	
	DM74367	National	100
	DM8095	National	
	DM8097	National	
	54365	† Rochester	
	54367	† Rochester	
	SN54365A	† TI	105
	SN54367A	† TI	
	SN74365A	TI	
	SN74367A	TI	
TTL-ALS	M74ALS1034	Mitsubishi	
	DM74ALS1034	National	110
	SN54ALS1034	† TI	
	SN74ALS1034	TI	
TTL-AS	SN54AS1034A	† TI	
TTL-F	54F365	† National	
	74F365	National	115
	54F367	† Philips	
	74F365	Philips	
	74F367	Philips	
TTL-LS	GD54LS367A	† GoldStar	
	GD74LS367A	GoldStar	120
		(Continued)	
Hex, Three-State			
TTL-LS		(Cont'd)	
	SL54LS365A	Lansdale	
	SL54LS367A	Lansdale	
	SL74LS365A	**Lansdale (3674)**	
	SN54LS365A	† Motorola	
	SN54LS367A	† Motorola	125
	SN74LS365A	Motorola	
	SN74LS367A	Motorola	
	DM54LS365A	† National	
	DM54LS367A	† National	
	DM74LS365A	National	130
	DM74LS367A	National	
	54LS365	† National	
	54LS367	† National	
	74LS365	National	
	74LS367	National	135
	74LS365	Rochester	
	74LS367	Rochester	
	T74LS365A	SGS-Thomson	
	T74LS367A	SGS-Thomson	
	54LS365	† SGS-Thomson	140
	54LS367	† SGS-Thomson	
	74LS365A	SGS-Thomson	
	74LS367A	SGS-Thomson	
	SN54LS365A	† TI	
	SN54LS367A	† TI	145
	SN74LS365A	TI	
	SN74LS367A	TI	
TTL-S	**ML8T95**	**Lansdale (3670)**	
	ML8T97	**Lansdale (3670)**	
	SL8T95	**Lansdale (3675)**	150
	SL8T97	**Lansdale (3675)**	
	MC8T95	Motorola	
	MC8T97	Motorola	
Hex, Three-State, True			
TTL-AS	DM74AS1034	National	
	SN74AS1034A	TI	155
Octal			
TTL-LS	T74LS240	SGS-Thomson	
	T74LS241	SGS-Thomson	
	T74LS244	SGS-Thomson	
	54LS240	† SGS-Thomson	
	74LS240	SGS-Thomson	160
	74LS241	SGS-Thomson	
	74LS244	SGS-Thomson	
Octal Buffer			
TTL-LS	T54LS240	† SGS-Thomson	
Octal Buffer/Driver, Inverting			
TTL-ALS	SN74ALS763	TI	
Octal Buffer/Line Driver, Three-State, True			
TTL-ALS	M74ALS1244A	Mitsubishi	165
Octal Bus Driver, Inverting with Pull-Up Resistors			
TTL-ALS	SN74ALS746	TI	
	SN74ALS746-1	TI	
Octal Bus Driver, True with Pull-Up Resistors			
TTL-ALS	SN74ALS747	TI	
	SN74ALS747-1	TI	
Octal, with Parity Generator-Checker			
TTL-F	54F656	† Philips	170
	74F656A	Philips	
	SN74F455	TI	
	SN74F456	TI	
Octal, Three-State			
TTL-ALS	M74ALS465A	Mitsubishi	
	M74ALS467A	Mitsubishi	175
	DM74ALS465	National	
	DM74ALS467	National	
	SN74ALS465A	TI	
	SN74ALS467A	TI	
TTL-LS	SN54LS795	† Motorola	180
	SN54LS796	† Motorola	
	SN54LS797	† Motorola	
	SN54LS798	† Motorola	
	SN74LS795	Motorola	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Buffers (Cont'd)			
Octal, Three-State			
TTL-LS (Cont'd)			
	SN74LS796	Motorola	
	SN74LS797	Motorola	
	SN74LS798	Motorola	
	DM81LS95	National	
	DM81LS97	National	5
	SN74LS465	TI	
10-Bit Buffer/Line Driver, Inverting			
TTL-F	MC54F828	† Motorola	
	MC74F828	Motorola	
10-Bit Buffer/Line Driver, True			
TTL-F	MC54F827	† Motorola	
	MC74F827	Motorola	10
10-Bit (bus interface)			
TTL-F	54F827	°† National	
	74F827	° National	
	74F827	° Philips	
TTL-S	AM29827AC	AMD	
	AM29827C	AMD	15
Inverters			
Dual Schmitt Trigger			
TTL	**ML5413**	† **Lansdale (3668)**	
	ML7413	**Lansdale (3668)**	
	5413	† Rochester	
Dual 4-Input Schmitt Trigger			
TTL-F	MC54F13	† Motorola	
	MC74F13	Motorola	20
TTL-LS	**SL74LS13**	**Lansdale (3674)**	
	74LS13	SGS-Thomson	
Quad 2-Input Schmitt Trigger			
TTL-LS	T54LS132	† SGS-Thomson	
	T74LS132	SGS-Thomson	
Hex			
TTL	**ML5404**	† **Lansdale (3668)**	25
	ML7404	**Lansdale (3668)**	
	SL7404	Lansdale	
	5404	† Lansdale	
	DM5404	† National	
	DM7404	National	30
	5404	† National	
	7404	National	
	5404	† Rochester	
	7404	Rochester	
	SN5404	† TI	35
	SN7404	TI	
	TC7404B	Toshiba	
TTL-ALS	M74ALS04B	Mitsubishi	
	M74ALS05A	Mitsubishi	
	M74ALS1004	Mitsubishi	40
	54ALS04	Motorola	
	DM74ALS04	National	
	DM74ALS1004	National	
	74ALS04B	Philips	
	SN54ALS04B	°† TI	45
	SN54AS04	°† TI	
	SN74ALS04B	° TI	
	SN74ALS1004	TI	
TTL-AS	DM74AS04	National	
	DM74AS1004	National	50
	SN54AS1004A	† TI	
	SN74AS04	° TI	
	SN74AS1004A	TI	
TTL-F	M74F04	Mitsubishi	
	M74F14	Mitsubishi	55
	MC54F04	Motorola	
	MC54F14	† Motorola	
	MC74F04	Motorola	
	MC74F14	Motorola	
	54F04	° National	60
	74F04	°† National	
		(Continued)	
Hex			
TTL-F (Cont'd)			
	54F04	° Philips	
	74F04	° Philips	
	SN54F04	°† TI	
	SN74F04	° TI	65
TTL-H	**ML3008**	**Lansdale (3667)**	
	ML3009	**Lansdale (3667)**	
	ML3108	† **Lansdale (3667)**	
	ML3109	† **Lansdale (3667)**	
	ML74H04	**Lansdale (3669)**	70
	RC3008	Rochester	
	RC3009	Rochester	
	RC3108	Rochester	
	RC3109	Rochester	
	74H04	Rochester	75
TTL-L	54L04	† Rochester	
TTL-LS	GD54LS04	† GoldStar	
	GD74LS04	GoldStar	
	54LS04	GoldStar	
	SL54LS04	† Lansdale	80
	SL74LS04	**Lansdale (3674)**	
	SN54LS04	† Motorola	
	SN74LS04	Motorola	
	DM54LS04	† National	
	DM74LS04	National	85
	54LS04	† National	
	74LS04	National	
	74LS04	Rochester	
	T54LS04	† SGS-Thomson	
	T54LS05A	† SGS-Thomson	90
	T54LS366A	† SGS-Thomson	
	T54LS368A	† SGS-Thomson	
	T74LS04	SGS-Thomson	
	T74LS05	SGS-Thomson	
	54LS04	† SGS-Thomson	95
	74LS04	SGS-Thomson	
	SN54LS04	°† TI	
	SN74LS04	° TI	
TTL-S	GD54S04	† GoldStar	
	GD74S04	GoldStar	100
	SL54S04	**Lansdale (3674)**	
	SL74S04	**Lansdale (3675)**	
	DM54S04	† National	
	DM74S04	National	
	74S04	National	105
	54S04	† Rochester	
	74S04	Rochester	
	SN54S04	† TI	
	SN74S04	TI	
Hex, Buffer/Driver			
TTL	**ML5416**	† **Lansdale (3668)**	110
	ML7416	**Lansdale (3668)**	
	5416	† Rochester	
Hex Inverter/Driver, Open Collector			
TTL-F	74F06	Philips	
	74F06A	Philips	
Hex, Open Collector			
	MC74ACT05	Motorola	115
	MC74AC05	Motorola	
TTL	**ML5405**	† **Lansdale (3668)**	
	ML5406	† **Lansdale (3668)**	
	ML7405	**Lansdale (3668)**	
	ML7406	**Lansdale (3668)**	120
	SL7405	Lansdale	
	5405	† Lansdale	
	DM5405	† National	
	DM7405	National	
	7405	National	125
	5406	† Rochester	
	7405	Rochester	
	SN5405	† TI	
	SN7405	TI	
TTL-ALS	M74ALS1005	Mitsubishi	130
	DM74ALS05	National	
	DM74ALS1005	National	
		(Continued)	
Hex, Open Collector			
TTL-ALS (Cont'd)			
	SN54ALS05A	°† TI	
	SN74ALS05A	° TI	
	SN74ALS1005	TI	135
TTL-H	**ML54H05**	**Lansdale (3669)**	
	ML74H05	**Lansdale (3669)**	
	54H05	† Rochester	
	74H05	Rochester	
TTL-LS	GD54LS05	† GoldStar	140
	GD54LS06	† GoldStar	
	GD74LS05	GoldStar	
	GD74LS06	GoldStar	
	SL54LS05	† Lansdale	
	SL74LS05	**Lansdale (3674)**	145
	SN54LS05	† Motorola	
	SN74LS05	Motorola	
	DM54LS05	† National	
	DM74LS05	National	
	54LS05	† National	150
	74LS05	National	
	74LS05	Rochester	
	54LS05	† SGS-Thomson	
	74LS05	SGS-Thomson	
	SN54LS05	°† TI	155
	SN74LS05	° TI	
TTL-S	GD54S05	† GoldStar	
	GD74S05	GoldStar	
	SL54S05	**Lansdale (3674)**	
	SL74S05	**Lansdale (3675)**	160
	DM74S05	National	
	74S05	National	
	74S05	Rochester	
	SN54S05	† TI	
	SN74S05	TI	165
Hex Schmitt Trigger			
TTL	**ML5414**	† **Lansdale (3668)**	
	ML7414	**Lansdale (3668)**	
	5414	† Rochester	
TTL-LS	T54LS14	† SGS-Thomson	
Hex Schmitt Trigger Inverter			
TTL-LS	T74LS14	SGS-Thomson	170
Hex, Three-State			
TTL	SL54366A	† Lansdale	
	SL54368A	† Lansdale	
	DM54368	† National	
	DM74365	National	
	DM74368	National	175
	DM8098	National	
	54368	† Rochester	
	SN54366A	† TI	
	SN54368A	† TI	
	SN74366A	TI	180
	SN74368A	TI	
TTL-F	54F366	† National	
	54F368	† National	
	74F366	National	
	74F368	National	185
	54F366	† Philips	
	54F368	† Philips	
	74F366	Philips	
	74F368	Philips	
TTL-LS	GD54LS366A	† GoldStar	190
	GD54LS368A	† GoldStar	
	GD74LS366A	GoldStar	
	GD74LS368A	GoldStar	
	SL54LS366A	Lansdale	
	SL74LS366A	**Lansdale (3674)**	195
	SL74LS368A	**Lansdale (3674)**	
	SN54LS366A	† Motorola	
	SN54LS368A	† Motorola	
	SN74LS366A	Motorola	
	SN74LS368A	Motorola	200
	DM54LS366A	† National	
	DM54LS368A	† National	
	DM74LS366A	National	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Inverters (Cont'd)

Function	Device	Source	Line
Hex, Three-State			
TTL-LS		(Cont'd)	
	DM74LS368A	National	
	54LS366	† National	
	54LS368	† National	
	74LS366	National	
	74LS368	National	5
	74LS368	Rochester	
	T74LS366A	SGS-Thomson	
	T74LS368A	SGS-Thomson	
	54LS366	† SGS-Thomson	
	54LS368	† SGS-Thomson	10
	74LS366A	SGS-Thomson	
	74LS368A	SGS-Thomson	
	SN54LS366A	† TI	
	SN54LS368A	† TI	
	SN74LS366A	TI	15
	SN74LS368A	TI	
TTL-S	**ML8T96**	**Lansdale (3670)**	
	ML8T98	**Lansdale (3670)**	
	SL8T98	**Lansdale (3675)**	
	MC8T96	Motorola	20
	MC8T98	Motorola	
Octal, with Parity Generator-Checker			
TTL-F	74F655A	Philips	
Octal, Three-State			
TTL-ALS	M74ALS466A	Mitsubishi	
	M74ALS468A	Mitsubishi	
	DM74ALS466	National	25
	DM74ALS468	National	
	SN74ALS466A	TI	
	SN74ALS468A	† TI	
TTL-LS	DM81LS96	National	
	DM81LS98	National	30
	SN74LS466	TI	
10-Bit (bus interface)			
	54F828	† National	
	74F828	National	
	74F828	Philips	
20-Bit Three-State			
TTL-LX	MC20LX240	Motorola	35

Bus-Oriented Circuits

Function	Device	Source	Line
Bus Driver	**IL8216**	**Lansdale (3664)**	
	IL8226	**Lansdale (3664)**	
	IL8228	**Lansdale (3664)**	
Bus Transceiver			
	IL8286	**Lansdale (3664)**	
	IL8287	**Lansdale (3664)**	40
TTL-ALS	SN55ALS056	† TI	
Bus Transceiver/Register, Inverting			
TTL-F	54F651	† National	
	74F651	National	
Bus Transceiver/Register, True			
TTL-F	54F652	† National	
	74F652	National	45
ECL/TTL Translator and High-Speed Bus Driver			
	CY10E383-2C	Cypress	
	CY10E383-3C	Cypress	
	CY101E383-2C	Cypress	
	CY101E383-3C	Cypress	
Future Bus Transceiver, 9-Bit Latched, Bidirectional			
TTL-F	N74F8962	Philips	50
	N74F8963	Philips	
NuBus Block Slave Address Generator			
ALS	SN74ALS2442	° TI	
PI Bus Transceiver			
TTL-F	SN74F776	TI	
Pi-Bus Transceiver, Octal Latched			
	54F776	† Philips	

Function	Device	Source	Line
Test Mode Bus Transceiver, Three-State/Open Collector			
TTL-F	N74F777	Philips	55
Transceiver/Register			
	74F646A	Philips	
	74F648A	Philips	
	74F651A	° Philips	
	74F652A	° Philips	
Dual Latch Transceiver with 8-Bit Parity Generator/Checker, Three-State			
TTL-F	74F899	Philips	60
Triple Bidirectional Latched Bus Transceiver, Three-State	54F777	Philips	
Quad Bidirectional Bus Transceiver, Three-State			
TTL-LS	SN54LS442	† TI	
	SN74LS442	TI	
Quad Bus Transceiver			
TTL-F	54F2243	National	
	74F2243	National	65
Quad Bus Transceiver, Open Collector			
TTL-AS	SN74AS758	TI	
	SN74AS759	TI	
Quad Bus Transceiver, Three-State			
TTL-ALS	SN74ALS758	TI	
Quad FutureBus Transceiver			
TTL-F	MC74F3893A	Motorola	
	74F3893	Philips	70
Hex 2-Input AND Driver			
TTL-AS	SN74AS808	TI	
TTL-F	74F1808	Philips	
	74F808	Philips	
Hex 2-Input NAND Driver			
TTL-F	74F1804	Philips	
	74F804	Philips	75
Hex 2-Input NOR Driver			
TTL-F	74F1805	Philips	
	74F805	Philips	
Hex 2-Input OR Driver			
TTL-F	74F1832	Philips	
	74F832	Philips	
Octal Buffer/Driver w/Parity			
TTL-F	N74F455	Philips	80
Octal Buffer/Line Driver			
TTL-AS	SN54AS760	† TI	
TTL-F	54F2240	National	
	54F2241	† National	
	54F2244	† National	
	74F2240	National	85
	74F2241	National	
	74F2244	National	
	74F2240	Philips	
	74F2241	Philips	
	74F2244	Philips	90
Octal Buffer/Line Driver, Open Collector, True			
TTL-ALS	SN74ALS760	TI	
TTL-AS	SN74AS760	TI	
TTL-F	74F760	Philips	
Octal Buffer/Line Driver, Open-Collector, Inverting			
TTL-ALS	SN74ALS756	° TI	
	SN74ALS756-1	° TI	95
TTL-AS	SN74AS756	° TI	
TTL-F	74F756	Philips	
Octal Buffer/Line Driver, Open-Collector, True			
TTL-ALS	SN74ALS757	TI	
TTL-AS	SN74AS757	° TI	
TTL-F	74F757	Philips	100
Octal Buffer/Line Driver, Three-State, Complementary Inputs			
TTL-ALS	SN74ALS231	TI	
TTL-AS	DM74AS231	National	
	SN74AS231	TI	

Function	Device	Source	Line
Octal Buffer/Line Driver, Three-State Inverting			
	MC54F240	Motorola	
	74FR2240	National	105
	74FR240	National	
TTL-ALS	M74ALS1240A	Mitsubishi	
	M74ALS240A	Mitsubishi	
	M74ALS240A-1	Mitsubishi	
	DM64ALS240A	National	110
	DM74ALS240	National	
	DM74ALS240A	National	
	DM74ALS240A-1	National	
	74ALS240A	Philips	
	74ALS240A-1	Philips	115
	54ALS240	† Rochester	
	SN74ALS1240	TI	
	SN74ALS1240-1	TI	
	SN74ALS2240	TI	
TTL-AS	DM54AS240	† National	120
	DM74ALS1240	National	
	DM74AS240	National	
	SN54ALS240A	°† TI	
	SN54AS240	°† TI	
	SN74ALS240A	° TI	125
	SN74ALS240A-1	° TI	
	SN74AS240	° TI	
TTL-F	M74F240	Mitsubishi	
	MC74F240	Motorola	
	54F240	°† National	130
	74F240	° National	
	54F240	°† Philips	
	74F1240	Philips	
	74F240	° Philips	
	74F240A	Philips	135
	74F30240	° Philips	
	SN54F240	°† TI	
	SN74F240	° TI	
TTL-LS	GD54LS240	† GoldStar	
	GD74LS240	GoldStar	140
	SL54LS240	Lansdale	
	SL74LS240	**Lansdale (3674)**	
	SN54LS240	† Motorola	
	SN74LS240	Motorola	
	DM54LS240	† National	145
	DM74LS240	National	
	54LS240	† National	
	74LS240	National	
	SN54LS240	°† TI	
	SN74LS240	° TI	150
TTL-S	GD54S240	† GoldStar	
	GD54S241	† GoldStar	
	GD54S244	† GoldStar	
	GD74S240	GoldStar	
	GD74S241	GoldStar	155
	GD74S244	GoldStar	
	SL74S240	**Lansdale (3675)**	
	SN54S240	† TI	
	SN74S240	TI	
Octal Buffer/Line Driver, Three-State, Inverting (dual)			
TTL-ALS	DPLALS240Y	Dense-Pac	160
	SN74ALS2540	TI	
	SN74ALS540	° TI	
	SN74ALS540-1	° TI	
TTL-AS	DPLAS240Y	Dense-Pac	
TTL-F	DPLF240Y	Dense-Pac	165
	DPLF540Y	Dense-Pac	
	54F540	°† National	
	74F540	° National	
	74F540	° Philips	
	SN74F540	TI	170
TTL-LS	DPLLS240Y	Dense-Pac	
	DPLLS540Y	Dense-Pac	
	SL54LS540	**Lansdale (3674)**	
	SL74LS540	**Lansdale (3674)**	
	SN54LS540	† Motorola	175
	SN74LS540	Motorola	
	74LS540	National	

(Continued)

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Bus-Oriented Circuits (Cont'd)			
Octal Buffer/Line Driver, Three-State, Inverting (Data Flow-Thru Pinout			
TTL-LS		(Cont'd)	
	T74LS540	SGS-Thomson	
	SN54LS540	°† TI	
	SN74LS540	° TI	
Octal Buffer/Line Driver, Three-State, True			
	74FR244	National	
TTL-ALS	M74ALS1241A	Mitsubishi	5
	M74ALS241A	Mitsubishi	
	M74ALS241A-1	Mitsubishi	
	M74ALS244A	Mitsubishi	
	M74ALS244A-1	Mitsubishi	
	DM74ALS1241	National	10
	DM74ALS1244	National	
	DM74ALS241	National	
	DM74ALS241A	National	
	DM74ALS244	National	
	74ALS241A-1	Philips	15
	74ALS244A	Philips	
	74ALS244A-1	Philips	
	54ALS241	† Rochester	
	54ALS244	† Rochester	
	SN54ALS1244A	† TI	20
	SN54ALS241A	°† TI	
	SN54ALS244A	† TI	
	SN74ALS1244A	TI	
	SN74ALS1244A-1	TI	
	SN74ALS241A	° TI	25
	SN74ALS241A-1	° TI	
	SN74ALS244A	° TI	
	SN74ALS244A-1	° TI	
TTL-AS	DM74AS241	National	
	DM74AS244	National	30
	SN54AS241	°† TI	
	SN54AS244	°‡ TI	
	SN74AS241	° TI	
	SN74AS244	° TI	
TTL-F	M74F241	Mitsubishi	35
	M74F244	Mitsubishi	
	MC54F241	† Motorola	
	MC54F244	† Motorola	
	MC74F241	Motorola	
	MC74F244	Motorola	40
	54F241	°† National	
	54F244	°† National	
	74F241	° National	
	74F244	°† National	
	54F241	† Philips	45
	74F1241	Philips	
	74F1244	Philips	
	74F241	° Philips	
	74F241A	Philips	
	74F244	° Philips	50
	74F244B	Philips	
	74F30241	Philips	
	74F30244	° Philips	
	SN54F241	°† TI	
	SN54F244	°† TI	55
	SN74F241	° TI	
	SN74F244	° TI	
TTL-LS	GD54LS241	† GoldStar	
	GD54LS244	† GoldStar	
	GD74LS241	GoldStar	60
	GD74LS244	GoldStar	
	SL54LS241	† Lansdale	
	SL54LS244	† Lansdale	
	SL74LS241	**Lansdale (3674)**	
	SL74LS244	**Lansdale (3674)**	65
	SN54LS241	† Motorola	
	SN54LS244	† Motorola	
	SN74LS241	Motorola	
	SN74LS244	Motorola	
	DM54LS241	† National	70
	DM74LS241	National	
		(Continued)	
Octal Buffer/Line Driver, Three-State, True			
TTL-LS		(Cont'd)	
	54LS241	† National	
	54LS244	† National	
	74LS241	National	
	74LS244	National	75
	SN54LS241	°† TI	
	SN54LS244	°† TI	
	SN74LS241	° TI	
	SN74LS244	° TI	
TTL-S	AM25-241	† AMD	80
	SL54S244	**Lansdale (3674)**	
	SL74S241	**Lansdale (3675)**	
	SN54S241	† TI	
	SN54S244	† TI	
	SN74S241	TI	85
Octal Buffer/Line Driver, Three-State, True (Data Flow-Thru Pinout)			
TTL-ALS	SN54ALS541	°† TI	
	SN74ALS2541	TI	
	SN74ALS541	° TI	
	SN74ALS541-1	° TI	
TTL-F	54F541	°† National	90
	74F541	° National	
	74F541	° Philips	
	SN74F541	TI	
TTL-LS	**SL54LS541**	**Lansdale (3674)**	
	SL74LS541	**Lansdale (3674)**	95
	SN54LS541	† Motorola	
	SN74LS541	Motorola	
	T74LS541	SGS-Thomson	
	T74LS541B1	SGS-Thomson	
	SN54LS541	°† TI	100
	SN74LS541	° TI	
Octal Buffer/Line Driver, Three-State, True (dual)			
TTL-ALS	DPLALS244Y	Dense-Pac	
TTL-AS	DPLAS244Y	Dense-Pac	
TTL-F	DPLF244Y	Dense-Pac	
TTL-LS	DPLLS244Y	Dense-Pac	105
Octal Buffer/Line Driver, Three-State, True/Inverting			
TTL-AS	DM74AS230	National	
	SN74AS230	TI	
Octal Bus Driver, Inverting, Three-State			
TTL-F	MC54F20	† Motorola	
Octal Bus Driver, Open Collector, Complementary Controls			
TTL-AS	SN74AS763	TI	
Octal Bus Driver, Open Collector, Symmetrical Controls			
TTL-AS	SN74AS762	TI	110
Octal Bus Driver, True, Three-State			
TTL-F	MC54F21	°† Motorola	
Octal Bus Driver with Series Resistor			
ALS	SN74ALS2244	TI	
Octal Bus Transceiver			
TTL-ALS	SN54ALS646	°† TI	
	SN55ALS160	† TI	
TTL-AS	SN54AS756	°† TI	115
TTL-F	SN74F657	TI	
Octal Bus Transceiver, Bidirectional Latched			
TTL-F	74F776	° Philips	
Octal Bus Transceiver, GPIB Compatible			
TTL-F	74F588	Philips	
Octal Bus Transceiver, IEEE–488			
TTL-ALS	SN55ALS161	° TI	
Octal Bus Transceiver, Open-Collector, True/Inverting			
TTL-ALS	M74ALS1644A	Mitsubishi	120
	M74ALS644A	Mitsubishi	
	SN74ALS644A	TI	
	SN74ALS644A-1	TI	
TTL-AS	SN74AS644	TI	
TTL-LS	54LS644	Rochester	125
	SN54LS644	† TI	
		(Continued)	
Octal Bus Transceiver, Open-Collector, True/Inverting			
TTL-LS		(Cont'd)	
	SN74LS644	TI	
	SN74LS644-1	TI	
Octal Bus Transceiver, Open-Collector/Three-State, Inverting			
TTL-ALS	SN74ALS638A	TI	
	SN74ALS638A-1	TI	130
	SN74ALS639A	TI	
	SN74ALS639A-1	TI	
TTL-AS	SN74AS638	TI	
	SN74AS639	TI	
Octal Bus Transceiver/Register			
TTL-ALS	SN54ALS648	°† TI	135
	SN54ALS653	°† TI	
Octal Bus Transceiver/Register with Direction Pin, Three-State, True			
	MC74ACT646	Motorola	
TTL-ALS	M74ALS646	Mitsubishi	
	M74ALS647	Mitsubishi	
	M74ALS648	Mitsubishi	140
	M74ALS649	Mitsubishi	
	74ALS646	Philips	
	74ALS646-1	Philips	
	74ALS648	Philips	
	74ALS648-1	Philips	145
	SN74ALS646	° TI	
	SN74ALS646-1	° TI	
	SN74ALS647	TI	
	SN74ALS647-1	° TI	
	SN74ALS648	° TI	150
	SN74ALS648-1	° TI	
	SN74ALS649	° TI	
	SN74ALS649-1	° TI	
TTL-AS	DM74AS646	National	
	SN54AS646	°† TI	155
	SN74AS646	° TI	
	SN74AS648	° TI	
TTL-F	M74F646	Mitsubishi	
	M74F648	Mitsubishi	
	MC54F646	Motorola	160
	MC54F648	Motorola	
	MC74F646	Motorola	
	MC74F648	Motorola	
	54F646	°‡ National	
	54F648	°† National	165
	74F646	° National	
	74F648	° National	
	54F646	† Philips	
	74F646	Philips	
	74F647	° Philips	170
	74F648	Philips	
	74F649	° Philips	
	SN74F646	TI	
TTL-LS	GD54LS646	† GoldStar	
	GD74LS646	GoldStar	175
	SN74LS646	° TI	
	SN74LS648	° TI	
Octal Bus Transceiver/Register with Dual Enable, Three-State, True			
	MC74ACT652	Motorola	
	MC74AC652	Motorola	
AC	CD74AC652	Harris	180
	CD74AC654	Harris	
ACT	CD74ACT647	Harris	
	CD74ACT652	Harris	
	CD74ACT654	Harris	
ACTQ	54ACTQ652	† National	185
	74ACTQ652	National	
LVC	74LVC652	ℓ Philips	
	SN74LVC652	ℓ TI	
TTL-ALS	M74ALS651	Mitsubishi	
	M74ALS652	Mitsubishi	190
	74ALS651	Philips	
	74ALS651-1	Philips	
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
Octal Bus Transceiver/Register with Dual Enable, Three-State, True			
TTL-ALS		(Cont'd)	
	74ALS652	Philips	
	74ALS652-1	Philips	
	54ALS652	† Rochester	
	SN54ALS652	°† TI	
	SN74ALS651	° TI	5
	SN74ALS651-1	° TI	
	SN74ALS652	° TI	
	SN74ALS652	° TI	
	SN74ALS652-1	° TI	
TTL-AS	DM74AS651	° National	10
	DM74AS652	° National	
	SN54AS651	°† TI	
	SN54AS652	°† TI	
	SN74AS651	° TI	
	SN74AS652	° TI	15
TTL-F	74F651	° Philips	
	74F652	° Philips	
TTL-LS	SN74LS651	° TI	
	SN74LS651	° TI	
	SN74LS652	° TI	20
	SN74LS652	° TI	
Octal Bus Transceiver/Register, Three-State			
TTL-ALS	DM54ALS651	† National	
	DM74ALS651	National	
	DM74ALS651-1	National	
Octal Bus Transceiver/Register, Three-State/Open-Collector, Inverting			
TTL-ALS	SN74ALS653	° TI	25
	SN74ALS653-1	° TI	
	SN74ALS654	° TI	
	SN74ALS654-1	° TI	
TTL-F	74F653	° Philips	
	74F654	° Philips	30
TTL-LS	54LS653	Rochester	
Octal Bus Transceiver with Common Output Enable, Open-Collector, True			
TTL-ALS	M74ALS1641A	Mitsubishi	
	M74ALS1642A	Mitsubishi	
	M74ALS641A	Mitsubishi	
	M74ALS642A	Mitsubishi	35
	SN74ALS641A	TI	
	SN74ALS641A-1	TI	
	SN74ALS642A	TI	
	SN74ALS642A-1	TI	
TTL-AS	SN74AS641	TI	40
	SN74AS642	TI	
TTL-F	74F641	Philips	
	74F642	Philips	
TTL-LS	**SL54LS641-1**	**Lansdale (3674)**	
	SL54LS642	**Lansdale (3674)**	45
	SL74LS641	**Lansdale (3674)**	
	SL74LS641-1	**Lansdale (3674)**	
	SL74LS642	**Lansdale (3674)**	
	SL74LS642-1	**Lansdale (3674)**	
	SN54LS641	† Motorola	50
	SN54LS642	† Motorola	
	SN74LS641	Motorola	
	SN74LS642	Motorola	
	SN54LS641	† TI	
	SN54LS642	† TI	55
	SN74LS641	TI	
	SN74LS641-1	TI	
	SN74LS642	TI	
	SN74LS642-1	TI	
Octal Bus Transceiver with Direction Pin, Three-State, Inverting			
TTL-ALS	M74ALS1640A	Mitsubishi	60
	M74ALS640A	Mitsubishi	
	M74ALS640A-1	Mitsubishi	
	DM74ALS640	National	
		(Continued)	
Octal Bus Transceiver with Direction Pin, Three-State, Inverting			
TTL-ALS		(Cont'd)	
	SN54ALS640A	† TI	
	SN74ALS1640A	TI	65
	SN74ALS1640A-1	TI	
	SN74ALS640A	TI	
	SN74ALS640A-1	TI	
TTL-AS	DPLAS640Y	Dense-Pac	
	DM74AS640	National	70
	SN54AS640	† TI	
	SN74AS2640	TI	
	SN74AS640	TI	
TTL-F	MC74F640	Motorola	
	54F640	† National	75
	74F640	National	
	74F640	Philips	
TTL-LS	DPLLS640Y	Dense-Pac	
	GD54LS640	† GoldStar	
	GD54LS640-1	† GoldStar	80
	GD74LS640	GoldStar	
	GD74LS640-1	GoldStar	
	SL54LS640	**Lansdale (3674)**	
	SL74LS640	**Lansdale (3674)**	
	SL74LS640-1	**Lansdale (3674)**	85
	SN54LS640	† Motorola	
	SN74LS640	Motorola	
	SN54LS640	† TI	
	SN74LS640	TI	
	SN74LS640-1	TI	90
Octal Bus Transceiver with Register, Open Collector			
TTL-ALS	SN74ALS614-1	TI	
Octal Bus Transceiver with Dual Enable, Open-Collector, True			
TTL-ALS	M74ALS1621A	Mitsubishi	
	M74ALS1622A	Mitsubishi	
	M74ALS621A	Mitsubishi	
	M74ALS622A	Mitsubishi	95
	SN74ALS621A	° TI	
	SN74ALS621A-1	° TI	
	SN74ALS622A	° TI	
	SN74ALS622A-1	° TI	
TTL-AS	SN74AS621	° TI	100
	SN74AS622	° TI	
TTL-F	74F621	° Philips	
	74F622	° Philips	
	SN54F621	°† TI	
	SN74F621	° TI	105
	SN74F622	° TI	
TTL-LS	**SL54LS621**	**Lansdale (3674)**	
	SL54LS622	**Lansdale (3674)**	
	SL74LS621	**Lansdale (3674)**	
	SL74LS622	**Lansdale (3674)**	110
Octal Bus Transceiver with Dual Enable, Three-State, True			
AC	CD54AC7623	† Harris	
	CD74AC7623	Harris	
ACT	CD54ACT7623	† Harris	
	CD74ACT7623	Harris	
TTL-ALS	M74ALS1620A	Mitsubishi	115
	M74ALS1623A	Mitsubishi	
	M74ALS620A	Mitsubishi	
	M74ALS620A-1	Mitsubishi	
	M74ALS623A	Mitsubishi	
	M74ALS623A-1	Mitsubishi	120
	74ALS620A	Philips	
	74ALS620A-1	Philips	
	74ALS623A	Philips	
	74ALS623A-1	Philips	
	SN74ALS620A	° TI	125
	SN74ALS620A-1	° TI	
	SN74ALS623A	TI	
	SN74ALS623A-1	° TI	
TTL-AS	DM74AS2620	National	
	DM74AS620	National	130
		(Continued)	
Octal Bus Transceiver with Dual Enable, Three-State, Inverting			
TTL-AS		(Cont'd)	
	SN74AS2620	TI	
	SN74AS2623	TI	
	SN74AS620	° TI	
	SN74AS623	° TI	
TTL-F	MC74F620	Motorola	135
	MC74F623	Motorola	
	54F620	°† National	
	54F623	°† National	
	74F620	° National	
	74F623	° National	140
	74F620	° Philips	
	74F623	° Philips	
	SN54F620	°† TI	
	SN54F623	°† TI	
	SN74F620	° TI	145
	SN74F623	° TI	
TTL-LS	**SL54LS620**	**Lansdale (3674)**	
	SL54LS623	**Lansdale (3674)**	
	SL74LS620	**Lansdale (3674)**	
	SL74LS623	**Lansdale (3674)**	150
	SN54LS623	† Motorola	
	SN74LS623	Motorola	
	74LS623	Rochester	
	SN74LS623	° TI	
Octal Bus Transceiver with 8-Bit Parity Generator/Checker, Three-State, True			
TTL-F	54F657	† National	155
	74F657	National	
	54F657	† Philips	
	74F657	° Philips	
Octal Bus Transceiver, Three-State Inputs/Outputs			
TTL-F	54F545	† National	
	74F545	National	160
	74F545	Philips	
Octal Bus Transceiver, Three-State, Inverting			
TTL-ALS	M74ALS1242A	Mitsubishi	
	M74ALS242A	Mitsubishi	
	DM74ALS1242	National	
	DM74ALS242	National	165
	SN54ALS242B	°† TI	
	SN74ALS1242	TI	
	SN74ALS1242-1	TI	
	SN74ALS2242	TI	
	SN74ALS242B	° TI	170
	SN74ALS242B-1	° TI	
TTL-AS	DM74AS242	National	
	SN54AS242	°† TI	
	SN74AS242	° TI	
TTL-F	MC54F242	† Motorola	175
	MC74F242	Motorola	
	54F242	°† National	
	54F2620	† National	
	54F2640	† National	
	74F242	° National	180
	74F2620	National	
	74F2640	National	
	74F1242	Philips	
	74F242	° Philips	
	SN54F242	°‡ TI	185
	SN74F242	° TI	
TTL-LS	GD54LS242	† GoldStar	
	GD54S242	† GoldStar	
	GD54S243	† GoldStar	
	GD74LS242	GoldStar	190
	GD74S242	GoldStar	
	GD74S243	GoldStar	
	SL54LS242	† Lansdale	
	SL74LS242	**Lansdale (3674)**	
	SN54LS242	† Motorola	195
	SN74LS242	Motorola	
	DM54LS242	† National	
	SN54LS242	°† TI	
	SN74LS242	° TI	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
Octal Bus Transceiver, Three-State, True			
TTL-ALS	M74ALS1243A	Mitsubishi	
	M74ALS1245A	Mitsubishi	
	M74ALS1645A	Mitsubishi	
	M74ALS243A	Mitsubishi	
	M74ALS245A	Mitsubishi	5
	M74ALS245A-1	Mitsubishi	
	M74ALS645A	Mitsubishi	
	M74ALS645A-1	Mitsubishi	
	DM64ALS5245	National	
	DM74ALS1243	National	10
	DM74ALS243	National	
	DM74ALS245	National	
	DM74ALS5245	National	
	DM74ALS5245-1	National	
	DM74ALS645	National	15
	74ALS245A	Philips	
	74ALS245A-1	Philips	
	74ALS645A	Philips	
	74ALS645A-1	Philips	
	54ALS245	† Rochester	20
	SN54ALS1245A	† TI	
	SN54ALS243A	°† TI	
	SN54ALS245A	°† TI	
	SN54ALS645A	† TI	
	SN74ALS1245A	TI	25
	SN74ALS1245A-1	TI	
	SN74ALS1645A	TI	
	SN74ALS1645A-1	TI	
	SN74ALS243A	° TI	
	SN74ALS243A-1	° TI	30
	SN74ALS245A	° TI	
	SN74ALS245A-1	° TI	
	SN74ALS645A	TI	
	SN74ALS645A-1	TI	
TTL-AS	DM74AS243	National	35
	DM74AS245	National	
	DM74AS645	National	
	SN54AS245	°† TI	
	SN54AS645	† TI	
	SN74AS243	° TI	40
	SN74AS245	° TI	
	SN74AS2645	TI	
	SN74AS645	TI	
TTL-F	M74F245	Mitsubishi	
	MC54F243	† Motorola	45
	MC54F245	† Motorola	
	MC74F1245	Motorola	
	MC74F243	Motorola	
	MC74F245	Motorola	
	54F243	† National	50
	54F245	°‡ National	
	54F2623	† National	
	54F2643	† National	
	54F2645	† National	
	54F645	† National	55
	74F243	National	
	74F245	° National	
	74F2623	National	
	74F2643	National	
	74F2645	National	60
	74F645	National	
	74F1243	Philips	
	74F1245	Philips	
	74F243	Philips	
	74F245	° Philips	65
	74F30245	° Philips	
	SN54F243	°† TI	
	SN54F245	°† TI	
	SN74F243	° TI	
	SN74F245	° TI	70
TTL-LS	GD54LS243	† GoldStar	
	GD544LS245	† GoldStar	
	GD74LS243	GoldStar	
	GD74LS245	GoldStar	
	SL54LS243	† Lansdale	75

(Continued)

Function	Device	Source	Line
Octal Bus Transceiver, Three-State, True			
TTL-LS		(Cont'd)	
	SL54LS245	† Lansdale	
	SL54LS645	**Lansdale (3674)**	
	SL54LS645-1	**Lansdale (3674)**	
	SL74LS243	**Lansdale (3674)**	
	SL74LS245	**Lansdale (3674)**	80
	SL74LS645	**Lansdale (3674)**	
	SL74LS645-1	**Lansdale (3674)**	
	SN54LS243	† Motorola	
	SN54LS245	† Motorola	
	SN54LS645	† Motorola	85
	SN74LS243	Motorola	
	SN74LS245	Motorola	
	SN74LS645	Motorola	
	DM54LS243	† National	
	DM54LS245	† National	90
	DM74LS243	National	
	DM74LS245	National	
	54LS245	† National	
	74LS245	National	
	74LS245	Rochester	95
	T74LS245	SGS-Thomson	
	T74LS645	SGS-Thomson	
	T74LS645B1	SGS-Thomson	
	74LS245	SGS-Thomson	
	SN54LS243	°† TI	100
	SN54LS245	°† TI	
	SN54LS645	† TI	
	SN74LS243	° TI	
	SN74LS245	° TI	
	SN74LS645	TI	105
	SN74LS645-1	TI	
Octal Bus Transceiver, Three-State, True (dual)			
TTL-ALS	DPLALS245Y	Dense-Pac	
TTL-AS	DPLAS245Y	Dense-Pac	
TTL-F	DPLF245Y	Dense-Pac	
TTL-LS	DPLLS245Y	Dense-Pac	110
Octal Bus Transceiver, Three-State, True/Inverting			
TTL-ALS	M74ALS1643A	Mitsubishi	
	M74ALS643A	Mitsubishi	
	SN74ALS643A	TI	
	SN74ALS643A-1	TI	
TTL-AS	SN74AS643	TI	115
TTL-F	54F643	† National	
	74F643	National	
Octal Bus Transciever with Parity			
TTL-F	MC54F657A	† Motorola	
	MC54F657B	† Motorola	
	MC74F657A	Motorola	120
	MC74F657B	Motorola	
Octal Crossbar Switch			
TTL	SN74CBT3244	TI	
	SN74CBT3245	TI	
Octal Inverting Bus Transceiver, Three-State			
TTL-ALS	DM74ALS648	National	
	DM74ALS648-1	National	125
Octal Latched Transceiver, Three-State			
	74FR543	National	
Octal Register Transceiver, True, Three-State			
	MC54F543	Motorola	
TTL-F	MC74F543	Motorola	
Octal Register, Three-State, Inverting			
TTL-S	AM74S534	† AMD	
Octal Registered Transceiver with Parity and Flags, Three-State			
TTL-F	54F552	† National	130
	74F552	National	
	74F552	Philips	
Octal Registered Transceiver with Status Flags, Inverting, Three-State			
TTL-F	54F551	† National	
	74F551	National	

Function	Device	Source	Line
Octal Registered Transceiver with Status Flags, True, Three-State			
TTL-F	54F550	† National	135
	74F550	National	
Octal Registered Transceiver with Dual Enable, Three-State, True			
	MC54F544	Motorola	
TTL-F	MC74F544	Motorola	
	54F543	°† National	
	54F544	°† National	140
	74F543	° National	
	74F544	° National	
	74F543	° Philips	
	74F544	° Philips	
	SN54F543	°† TI	145
	SN54F544	°† TI	
	SN74F543	° TI	
	SN74F544	° TI	
Octal Registered Transceiver, Three-State, Inverting			
TTL-F	74F2953	Philips	
Octal Registered Transceiver, Three-State, True			
TTL-F	74F2952	Philips	150
Octal Shift/Count Registered Transceiver with Adder and Parity, Three State			
TTL-F	74F807	Philips	
Octal Transceiver/Register			
TTL-F	N74F646A	Philips	
	N74F648A	Philips	
Octal Transceiver/Register, Inverting, Three-State			
TTL-F	N74F651A	° Philips	
Octal Transceiver/Register, True, Three-State			
TTL-F	N74F652A	° Philips	155
8-Bit Bus Interface Flip-Flop			
TTL-ALS	SN54ALS29825	† TI	
8-Bit Bus Interface Register, Three-State, True			
TTL-ALS	SN74ALS29825	TI	
9-Bit Bus Interface D-Type Latch			
TTL-ALS	SN54ALS29843	† TI	
9-Bit Bus Interface Flip-Flop			
TTL-ALS	SN54ALS29823	† TI	
	SN54ALS29824	† TI	160
9-Bit Bus Interface Register, Three-State, Inverting			
TTL-ALS	SN74ALS29824	TI	
9-Bit Bus Transceiver, Three-State, Inverting			
TTL-ALS	SN74ALS29864	TI	
TTL-F	74F864	° Philips	
9-Bit Bus Transceiver, Three-State, True			
TTL-ALS	DM74ALS29863	National	
	SN74ALS29863	° TI	165
TTL-F	74F863	Philips	
TTL-LS	AM29863C	AMD	
9-Bit Futurebus Address Data Transceiver			
TTL-F	74F8965	Philips	
	74F8966	Philips	
10-Bit Buffer/Line Driver, Three-State, Inverting			
BCT	SN54BCT29828	† TI	170
10-Bit Bus Interface D-Type Latch			
TTL-ALS	SN54ALS29842	† TI	
10-Bit Bus Interface Flip-Flop			
TTL-ALS	SN54ALS29821	† TI	
	SN54ALS29822	† TI	
10-Bit Bus Interface Register, Three-State, Inverting			
TTL-ALS	SN74ALS29822	TI	
10-Bit Bus Transceiver, Three-State, Inverting			
TTL-ALS	SN74ALS29862	TI	175
TTL-F	74F862	Philips	
10-Bit Bus Transceiver, Three-State, True			
TTL	AM29861AC	AMD	
TTL-ALS	SN74ALS29861	° TI	
TTL-F	74F861	Philips	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Bus-Oriented Circuits (Cont'd)

Function	Device	Source	Line
10-Bit Crossbar Switch			
TTL	SN74CBT3383	TI	
	SN74CBT3384	TI	
10-Bit Crossbar Switch, Precharged			
TTL	SN74CBT6800	TI	
16 Bit Bus Transceiver/Register with Dual Enable, Three-State, True			
	54AC16652	† TI	
	74AC16652	TI	5
ACT	54ACT16652	† TI	
	74ACT16652	TI	
ALVC	SN74ALVC16952	ℓ TI	
18-Bit Crossbar Switch			
TTL	SN74CBT16209	TI	
24-Bit Crossbar Switch			
TTL	SN74CBT16212	TI	10
9-Bit Bus Transceiver with Registered 8-Bit Parity Error, Open-Collector			
TTL-F	74F8960	° Philips	
	74F8961	° Philips	

Counters, Binary

Function	Device	Source	Line
4-Bit Binary Bidirectional			
TTL-F	MC54F569	Motorola	
	MC74F569	Motorola	
8-Bit Bidirectional			
TTL-F	MC54F269	† Motorola	15
	MC74F269	Motorola	
8-Bit Bidirectional, Three State			
TTL-F	74F1779	Philips	
8-Bit Bidirectional, Three-State			
	MC54F579	Motorola	
	MC54F779	Motorola	
TTL-F	MC74F579	Motorola	20
	MC74F779	Motorola	

Counters, Binary Count Up

Function	Device	Source	Line
Counter/Latch (divide-by–2, 4, 8, 16), Preset Input			
TTL	74197	National	
	74177	Rochester	
	74197	Rochester	
	SN54177	† TI	25
	SN54197	† TI	
	SN74177	TI	
	SN74197	TI	
TTL-LS	SL54LS197	† Lansdale	
	SL74LS197	**Lansdale (3674)**	30
	SN54LS197	† Motorola	
	SN74LS197	Motorola	
	74LS197	National	
	74LS197	SGS-Thomson	
	SN54LS197	† TI	35
	SN74LS197	TI	
TTL-S	SN54S197	† TI	
	SN74S197	TI	
Counter/Register with Multiplexed Output, Three-State			
TTL-LS	SN54LS691	† TI	
	SN54LS693	† TI	40
Divide by 12			
TTL	**ML5492A**	**† Lansdale (3668)**	
	ML7492A	**Lansdale (3669)**	
	7492	Rochester	
Modulo–16			
TTL-LS	T54LS293	† SGS-Thomson	
Modulo–16 Binary Counter			
TTL-LS	74LS169	SGS-Thomson	45
Synchronous (both conventional and three-state outputs) Preset Input			
TTL	DM7556	National	
	DM8556	National	
	7556	Rochester	
Synchronous, Preset Input (asynchronous clear)			
TTL	DM54161A	† National	
	DM74161A	National	50
	DM8316	† National	
	DM9316	National	
	54161	† National	
	74161	National	
	9316C	National	55
	9316M	† National	
	74161	Rochester	
	SN54161	† TI	
	SN74161	TI	
TTL-ALS	54ALS161	Motorola	60
	DM74ALS161	National	
	SN54ALS161B	°† TI	
	SN74ALS161B	° TI	
TTL-AS	DM74AS161	National	
	DM74AS162	National	65
	SN54AS161	°† TI	
	SN74AS161	° TI	
TTL-F	MC74F161A	Motorola	
	54F161A	°† National	
	74F161A	° National	70
	74F161A	° Philips	
	54F161	† Rochester	
	SN54F161A	°† TI	
	SN74F161A	° TI	
TTL-LS	GD54LS161A	† GoldStar	75
	GD74LS161A	GoldStar	
	SL74LS161A	**Lansdale (3674)**	
	SN54LS161A	† Motorola	
	SN74LS161A	Motorola	
	DM54LS161A	† National	80
	DM74LS161A	National	
	54LS161	† National	
	74LS161	National	
	T74LS161A	SGS-Thomson	
	SN54LS161A	°† TI	85
	SN74LS161A	° TI	
TTL-S	93S16	Rochester	
Synchronous, Preset Input (synchronous clear)			
TTL	DM54163	† National	
	DM74163	National	
	74163	National	90
	74163	Rochester	
	SN54163	† TI	
	SN74163	TI	
TTL-ALS	M74ALS163B	Mitsubishi	
	54ALS163	Motorola	95
	DM74ALS163	National	
	SN54ALS163B	°† TI	
	SN74ALS163B	° TI	
TTL-AS	DM74AS163	National	
	SN54AS163	°† TI	100
	SN74AS163	° TI	
TTL-F	MC74F163A	Motorola	
	54F163A	°† National	
	74F163A	° National	
	74F163A	° Philips	105
	SN54F163A	°† TI	
	SN74F163A	° TI	
TTL-LS	GD54LS163A	† GoldStar	
	GD74LS163A	GoldStar	
	SL54LS163A	† Lansdale	110
	SL74LS163A	**Lansdale (3674)**	
	SN54LS163A	† Motorola	
	SN74LS163A	Motorola	
	DM54LS163A	† National	
	DM74LS163A	National	115
	54LS163A	† National	
		(Continued)	
Synchronous, Preset Input (synchronous clear)			
TTL-LS		(Cont'd)	
	74LS163	National	
	T74LS163A	SGS-Thomson	
	SN54LS163A	°† TI	
	SN74LS163A	° TI	120
TTL-S	GD54S163A	† GoldStar	
	GD74S163A	GoldStar	
	SN54S163	† TI	
	SN74S163	TI	
Synchronous Up/Down 4-Bit Binary Counter			
TTL	**ML54191**	**† Lansdale (3668)**	125
	ML54193	**† Lansdale (3668)**	
	ML74191	**Lansdale (3669)**	
	ML74193	**Lansdale (3669)**	
Synchronous 4-Bit			
TTL	**ML54161**	**† Lansdale (3668)**	
	ML54163	**† Lansdale (3668)**	130
	ML74161	**Lansdale (3669)**	
	ML74163	**Lansdale (3669)**	
TTL-ALS	SN54ALS561	† TI	
Synchronous 6-Bit Binary Rate Multiplier			
TTL	**ML5497**	**† Lansdale (3668)**	
	ML7497	**Lansdale (3669)**	135
Dual 4-Bit Ripple Counter			
TTL-F	N74F393	Philips	
Dual 4-Bit, Ripple (dual 54/7493A)			
TTL	SN54393	† TI	
	SN74393	TI	
TTL-LS	GD54LS393	† GoldStar	
	GD74LS393	GoldStar	140
	SL54LS393	Lansdale	
	SL74LS393	**Lansdale (3674)**	
	SN54LS393	† Motorola	
	SN74LS393	Motorola	
	DM74LS393	National	145
	74LS393	National	
	T54LS393	† SGS-Thomson	
	T74LS393	SGS-Thomson	
	SN54LS393	°† TI	
	SN74LS393	° TI	150
Dual 4-Stage			
TTL-LS	74LS393	SGS-Thomson	
4-Bit, Ripple			
TTL	SL5493	† Lansdale	
	SL7493	Lansdale	
	DM5493A	† National	
	DM7493A	National	155
	7493	National	
	5493	† Rochester	
	74293	Rochester	
	7493A	Rochester	
	SN54293	† TI	160
	SN5493A	† TI	
	SN74293	TI	
	SN7493A	TI	
	TD3505A	Toshiba	
TTL-LS	GD54LS93	† GoldStar	165
	GD74LS93	GoldStar	
	SL54LS93	Lansdale	
	SL74LS93	**Lansdale (3674)**	
	SN54LS293	† Motorola	
	SN54LS93	† Motorola	170
	SN74LS293	Motorola	
	SN74LS93	Motorola	
	DM74LS293	National	
	DM74LS93	National	
	74LS293	National	175
	54L93	† Rochester	
	74LS93	Rochester	
	T74LS93	SGS-Thomson	
	T74LS93B1	SGS-Thomson	
	54LS293	† SGS-Thomson	180
	54LS93	† SGS-Thomson	
	74LS293	SGS-Thomson	
		(Continued)	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Counters, Binary Count Up (Cont'd)

Function	Device	Source	Line
4-Bit, Ripple			
TTL-LS		(Cont'd)	
	74LS93	SGS-Thomson	
	SN54LS293	† TI	
	SN54LS93	† TI	
	SN74LS293	TI	
	SN74LS93	TI	5
4-Bit Binary			
TTL	**ML5493A**	**† Lansdale (3668)**	
	ML7493A	**Lansdale (3669)**	
TTL-ALS	SN74ALS561A	TI	
4-Bit Binary Counter			
TTL	**ML54293**	**† Lansdale (3668)**	
	ML74293	**Lansdale (3669)**	10
4-Bit Binary Counter, Asynchronous Reset			
TTL-ALS	74ALS161B	Philips	
4-Bit Binary Counter/Latch			
TTL	**ML54197**	**† Lansdale (3668)**	
	ML74197	**Lansdale (3669)**	
	54197	† Rochester	
4-Bit Binary Counter/Latch, Presettable			
TTL	**ML54177**	**† Lansdale (3668)**	15
	ML74177	**Lansdale (3669)**	
	54177	† Rochester	
4-Bit Binary Counter, Synchronous Reset			
TTL-ALS	74ALS163B	Philips	
4-Bit Binary with Asynchronous Reset			
TTL-F	M74F161A	Mitsubishi	
4-Bit Binary with Synchronous Reset			
TTL-F	M74F163A	Mitsubishi	20
4-Stage Ripple Counter			
TTL-LS	T74LS196	SGS-Thomson	
	T74LS197	SGS-Thomson	
8-Bit Synchronous			
TTL-ALS	SN74ALS8161	TI	
TTL-LS	DM74LS461	National	
8-Bit with Input Registers			
TTL-LS	SN54LS592	† TI	25
	SN54LS593	† TI	
	SN74LS592	TI	
8-Bit with Output Registers			
TTL-LS	GD54LS590	† GoldStar	
	GD74LS590	GoldStar	
	74LS591	Rochester	30
	SN54LS590	† TI	
	SN74LS590	° TI	
	SN74LS591	TI	

Counters, Binary Count Up/Down

Function	Device	Source	Line
Counter/Register with Multiplexed Three-State Output			
TTL-LS	SN54LS697	† TI	
	SN54LS699	† TI	35
	SN74LS697	TI	
	SN74LS699	TI	
Divide by 16 Counter			
TTL-LS	T54LS93	† SGS-Thomson	
Presettable BCD/Decade Up/Down Counter			
TTL-LS	T54LS192	† SGS-Thomson	
Synchronous			
TTL-ALS	SN54AS867	† TI	40
	SN54AS869	°† TI	
	SN74AS867	TI	
	SN74AS869	° TI	
TTL-F	54F569	† National	
	54F579	† National	45
	54F779	† National	
	74F569	° National	
	74F579	National	
	74F779	National	
		(Continued)	
Synchronous			
TTL-F		(Cont'd)	
	74F779	° Philips	50
	SN74F569	° TI	
Synchronous, Preset Input, Mode Control, Look-Ahead Carry			
TTL-ALS	M74ALS169B	Mitsubishi	
	DM74ALS169	National	
	SN54ALS169B	° TI	
	SN74ALS169B	° TI	55
TTL-AS	DM74AS169	National	
	SN54AS169A	°† TI	
	SN74AS169	° TI	
TTL-F	MC54F169	† Motorola	
	MC74F169	Motorola	60
	MC74F269	Motorola	
	54F169	°† National	
	54F269	† National	
	74F169	° National	
	74F269	National	65
	54F269	† Philips	
	74F169	° Philips	
	74F269	Philips	
	SN54F169	°† TI	
	SN74F169	° TI	70
TTL-LS	SL54LS169A	† Lansdale	
	SL74LS169A	**Lansdale (3674)**	
	SN54LS169	† Motorola	
	SN54LS669	Motorola	
	SN74LS169	Motorola	75
	DM54LS169A	† National	
	DM74LS169A	National	
	54LS169	† National	
	74LS169	National	
	74LS169	Rochester	80
	T54LS169	† SGS-Thomson	
	T74LS169	SGS-Thomson	
	SN54LS169B	°† TI	
	SN54LS669	† TI	
	SN74LS169B	° TI	85
	SN74LS669	TI	
TTL-S	GD54S169A	† GoldStar	
	GD74S169A	GoldStar	
	SN54S169	† TI	
	SN74S169	TI	90
Synchronous, Preset Input with Mode Control			
TTL	DM54191	† National	
	DM74191	National	
	54191	† National	
	74191	National	
	74191	Rochester	95
	SN54191	† TI	
	SN74191	TI	
TTL-ALS	M74ALS191	Mitsubishi	
	SN54ALS191	°† TI	
	SN74ALS191	° TI	100
TTL-F	54F191	°† National	
	74F191	° National	
	74F191	° Philips	
	SN74F191	TI	
TTL-LS	GD54LS191	† GoldStar	105
	GD74LS191	GoldStar	
	SL54LS191	† Lansdale	
	SL74LS191	**Lansdale (3674)**	
	SN54LS191	† Motorola	
	SN74LS191	Motorola	110
	DM54LS191	† National	
	DM74LS191	National	
	74LS191	National	
	74LS191	SGS-Thomson	
	SN54LS191	°† TI	115
	SN74LS191	° TI	
Synchronous, Preset Input, Three-State			
TTL-ALS	SN54ALS569A	°† TI	
	SN74ALS569A	° TI	
		(Continued)	
Synchronous, Preset Input, Three-State			
		(Cont'd)	
TTL-F	MC74F569	Motorola	
TTL-LS	**SL74LS569A**	**Lansdale (3674)**	120
	SN54LS569A	† Motorola	
	SN74LS569A	Motorola	
Synchronous, Preset Input (2 clocks)			
TTL	SL54193	† Lansdale	
	SL74193	Lansdale	
	DM54193	† National	125
	DM74193	National	
	DM7563	† National	
	DM8563	National	
	54193	† Rochester	
	74193	Rochester	130
	SN54193	† TI	
	SN74193	TI	
TTL-ALS	M74ALS193	Mitsubishi	
	SN54ALS193	°† TI	
	SN74ALS193	° TI	135
TTL-F	54F193	°† National	
	74F193	° National	
	74F193	° Philips	
	SN74F193	TI	
TTL-L	54L193	† Rochester	140
TTL-LS	GD54LS193	† GoldStar	
	GD74LS193	GoldStar	
	SL74LS193	**Lansdale (3674)**	
	SN54LS193	† Motorola	
	SN74LS193	Motorola	145
	DM54LS193	† National	
	DM74LS193	National	
	54LS193	† National	
	74LS193	National	
	54LS193	† SGS-Thomson	150
	74LS193	SGS-Thomson	
	SN54LS193	°† TI	
	SN74LS193	° TI	
Synchronous 4-Bit, Look-Ahead Carry			
TTL-LS	SN74LS669	Motorola	
Up/Down Binary Counter			
TTL-F	M74F169	Mitsubishi	155
TTL-LS	T54LS193	† SGS-Thomson	
4-Bit Asynchronous Presettable			
TTL-ALS	74ALS191	Philips	
4-Bit Synchronous Presettable			
TTL-ALS	74ALS193	Philips	
4-Bit Up/Down Counter (synchronous)			
TTL-ALS	M74ALS569A	Mitsubishi	
4-Bit Up/Down BCD Decade (synchronous)			
TTL-ALS	M74ALS568A	Mitsubishi	160
4-Bit Binary Counter with Asynchronous Reset			
TTL-ALS	M74ALS161B	Mitsubishi	
4-Bit Binary Up/Down Counter			
TTL-LS	T74LS191	SGS-Thomson	
	T74LS193	SGS-Thomson	
8-Bit Synchronous			
TTL-ALS	SN74ALS8163	TI	
	SN74ALS8169	TI	165
	SN74ALS869	° TI	

Counters, Decade

Function	Device	Source	Line
Synchronous, Presettable, Three-State			
TTL-ALS	M74ALS560A	Mitsubishi	
Synchronous Up/Down Decade Counter			
TTL	**ML54190**	**† Lansdale (3668)**	
	ML54192	**† Lansdale (3668)**	
	ML74190	**Lansdale (3669)**	170
	ML74192	**Lansdale (3669)**	
	54190	† Rochester	
Synchronous Decade Counter			
TTL	**ML54152**	**Lansdale (3668)**	
	ML54160	**† Lansdale (3668)**	
		(Continued)	

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Counters, Decade (Cont'd)

Function	Device	Source	Line
Synchronous Decade Counter			
TTL		(Cont'd)	
	ML54162	† **Lansdale (3668)**	
	ML74160	**Lansdale (3669)**	
	ML74162	**Lansdale (3669)**	
	54162	† Rochester	
Synchronous Decade Decimal Rate Multiplier			
TTL	**ML54167**	† **Lansdale (3668)**	5
	ML74167	**Lansdale (3669)**	
BCD Decade Counter			
TTL-LS	74LS168	SGS-Thomson	
BCD Decade Counter with Asynchronous Reset			
TTL-ALS	M74ALS160B	Mitsubishi	
BCD Decade Counter with Synchronous Reset			
TTL-ALS	M74ALS162B	Mitsubishi	
Dual			
TTL-LS	SL54LS390	Lansdale	10
	54LS390	† SGS-Thomson	
Dual Decade Counter			
TTL-LS	74LS390	SGS-Thomson	
	74LS490	SGS-Thomson	
Decade Counter			
TTL	**ML54290**	† **Lansdale (3668)**	
	ML74290	**Lansdale (3669)**	15
TTL-LS	T54LS280	† SGS-Thomson	
Decade Counter/Latch, Presettable			
TTL	**ML54176**	† **Lansdale (3668)**	
	ML54196	† **Lansdale (3668)**	
	ML74176	**Lansdale (3669)**	
	ML74196	**Lansdale (3669)**	20
	54176	† Rochester	
	54196	† Rochester	
	74196	Rochester	
4-Bit BCD Bidirectional			
TTL-F	MC54F568	Motorola	
	MC74F568	Motorola	25

Counters, Decade Count Up

Function	Device	Source	Line
Divide-by–2 and by–5			
TTL	SL7490	Lansdale	
	DM5490	† National	
	DM7490	National	
	5490	† National	
	7490	National	30
	5490	† Rochester	
	SN54290	† TI	
	SN5490A	† TI	
	TD3501A	Toshiba	
TTL-LS	GD54LS90	† GoldStar	35
	GD74LS90	GoldStar	
	SL54LS90	Lansdale	
	SL74LS90	**Lansdale (3674)**	
	SN54LS290	† Motorola	
	SN54LS90	† Motorola	40
	SN74LS290	Motorola	
	SN74LS90	Motorola	
	DM74LS290	National	
	DM74LS90	National	
	74LS290	National	45
	T74LS290	SGS-Thomson	
	T74LS90	SGS-Thomson	
	T74LS90B1	SGS-Thomson	
	54LS290	† SGS-Thomson	
	74LS90	SGS-Thomson	50
	SN54LS290	† TI	
	SN54LS90	°† TI	
	SN74LS290	TI	
	SN74LS90	TI	
(Divide-by–2 and divide-by–5) Counter/Latch, Ripple, Preset Input			
TTL	74176	Rochester	55
	SN54176	† TI	
		(Continued)	

Function	Device	Source	Line
(Divide-by–2 and divide-by–5) Counter/Latch, Ripple, Preset Input			
TTL		(Cont'd)	
	SN54196	† TI	
	SN74176	TI	
	SN74196	TI	
TTL-LS	SN54LS196	† Motorola	60
	SN74LS196	Motorola	
	74LS196	National	
	74LS196	SGS-Thomson	
	SN54LS196	† TI	
	SN74LS196	TI	65
TTL-S	SN54S196	† TI	
	SN74S196	TI	
Synchronous, Preset Input (asynchronous clear)			
TTL	74160	Rochester	
	9310	Rochester	
	SN54160	† TI	70
	SN74160	TI	
TTL-ALS	DM74ALS160	National	
	SN74ALS160B	° TI	
TTL-AS	DM74AS160	National	
	SN74AS160	° TI	75
TTL-F	MC74F160A	Motorola	
	54F160A	°† National	
	74F160A	° National	
	74F160A	° Philips	
	SN54F160A	°† TI	80
	SN74F160A	° TI	
TTL-LS	SL54LS160A	† Lansdale	
	SL74LS160A	**Lansdale (3674)**	
	SN54LS160A	† Motorola	
	SN74LS160A	Motorola	85
	54LS160A	† National	
	74LS160	National	
	T74LS160A	SGS-Thomson	
	SN54LS160A	°† TI	
	SN74LS160A	° TI	90
Synchronous, Preset Input (synchronous clear)			
TTL	74162	Rochester	
	SN54162	† TI	
TTL-ALS	DM74ALS162	National	
	SN54ALS162B	°† TI	
	SN74ALS162B	° TI	95
TTL-AS	SN74AS162	° TI	
TTL-F	MC74F162A	Motorola	
	54F162A	°† National	
	74F162A	° National	
	74F162A	° Philips	100
	SN54F162A	°† TI	
	SN74F162A	° TI	
TTL-LS	SL54LS162A	† Lansdale	
	SL74LS162A	**Lansdale (3674)**	
	SN54LS162A	† Motorola	105
	SN74LS162A	Motorola	
	54LS162A	† National	
	74LS162	National	
	54LS690	Rochester	
	T74LS162A	SGS-Thomson	110
	SN54LS162A	°† TI	
	SN74LS162A	° TI	
TTL-S	SN54S162	† TI	
	SN74S162	TI	
Dual, Ripple (dual 54/7490A)			
TTL	74390	Rochester	115
	SN54390	† TI	
	SN74390	TI	
TTL-LS	GD54LS390	† GoldStar	
	GD74LS390	GoldStar	
	SL54LS490	**Lansdale (3674)**	120
	SL74LS390	**Lansdale (3674)**	
	SL74LS490	**Lansdale (3674)**	
	SN54LS390	† Motorola	
	SN54LS490	† Motorola	
		(Continued)	

Function	Device	Source	Line
Dual, Ripple (dual 54/7490A)			
TTL-LS		(Cont'd)	
	SN74LS390	Motorola	125
	SN74LS490	Motorola	
	DM74LS390	National	
	54LS490	† National	
	74LS490	National	
	T54LS390	† SGS-Thomson	130
	T54LS490	† SGS-Thomson	
	T74LS390	SGS-Thomson	
	T74LS490	SGS-Thomson	
	SN54LS390	°† TI	
	SN54LS490	† TI	135
	SN74LS390	° TI	
Dual 4-Bit Decade Counter			
TTL-LS	54LS68	Rochester	
Decade Counter			
TTL-LS	74LS90	Rochester	
Decade Ripple Counter			
TTL	SL5490	† Lansdale	
4-Bit, Three-State			
TTL-ALS	SN74ALS560A	TI	140

Counters, Decade Count Up/Down

Function	Device	Source	Line
Counter/Register with Multiplexed Three-State Output			
TTL-LS	54LS696	Rochester	
	SN54LS696	† TI	
Synchronous			
TTL-ALS	SN74ALS568A	° TI	
TTL-F	54F568	°† National	
	74F568	° National	145
	54F579	† Philips	
	74F568	° Philips	
	74F569	° Philips	
	74F579	° Philips	
	SN74F568	° TI	150
Synchronous, Preset Input, Mode Control, Look-Ahead Carry			
TTL-ALS	M74ALS168B	Mitsubishi	
	DM74ALS168	National	
	SN74ALS168B	° TI	
TTL-AS	DM74AS168	National	
	SN74AS168	° TI	155
TTL-F	MC54F168	† Motorola	
	MC74F168	Motorola	
	54F168	° National	
	74F168	° National	
	74F168	° Philips	160
	SN54F168	°† TI	
	SN74F168	° TI	
TTL-LS	SN54LS168	† Motorola	
	SN74LS168	Motorola	
	DM54LS168A	National	165
	54LS168	† National	
	54S168	† Rochester	
	T54LS168	† SGS-Thomson	
	T74LS168	SGS-Thomson	
	SN54LS668	† TI	170
Synchronous, Preset Input (2 clocks)			
TTL	SL54192	† Lansdale	
	SL74192	Lansdale	
	54192	† Rochester	
	74192	Rochester	
	SN54192	† TI	175
	SN74192	TI	
TTL-ALS	M74ALS192	Mitsubishi	
	SN74ALS192	° TI	
TTL-F	54F192	°† National	
	74F192	° National	180
	74F192	° Philips	
	SN74F192	TI	
TTL-L	54L192	† Rochester	
TTL-LS	SL54LS192	† Lansdale	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Counters, Decade Count Up/Down (Cont'd)

Function	Device	Source	Line
Synchronous, Preset Input (2 clocks)			
TTL-LS		(Cont'd)	
	SL74LS192	**Lansdale (3674)**	
	SN54LS192	† Motorola	
	SN74LS192	Motorola	
	54LS192	† National	
	74LS192	National	5
	54LS192	† SGS-Thomson	
	74LS192	SGS-Thomson	
	SN54LS192	°‡ TI	
	SN74LS192	° TI	
Synchronous, Preset, with Mode Control			
TTL	74190	Rochester	10
	SN54190	† TI	
	SN74190	TI	
TTL-ALS	M74ALS190	Mitsubishi	
	SN74ALS190	° TI	
TTL-F	54F190	°† National	15
	74F190	° National	
	74F190	° Philips	
	SN74F190	TI	
TTL-LS	SN54LS190	† Motorola	
	SN74LS190	Motorola	20
	DM54LS190	† National	
	DM74LS190	National	
	74LS190	National	
	74LS190	SGS-Thomson	
	SN54LS190	°† TI	25
	SN74LS190	° TI	
BCD/Decade Up/Down Counter			
TTL-LS	T74LS190	SGS-Thomson	
	T74LS192	SGS-Thomson	
Four Counter/Latch/Display Driver (synchronous, BCD and segment drives)			
TTL	ZN1040E-RED	GEC Plessey	

Counters, Miscellaneous

Function	Device	Source	Line
Divide-by–12 (divide by 2 and 6), Ripple			
TTL	SL5492	† Lansdale	30
	SL7492	Lansdale	
	DM5492A	† National	
	5492	† Rochester	
	SN5492A	† TI	
	SN7492A	TI	35
TTL-LS	GD54LS92	† GoldStar	
	GD74LS92	GoldStar	
	SL54LS92	Lansdale	
	SL74LS92	**Lansdale (3674)**	
	SN54LS92	† Motorola	40
	SN74LS92	Motorola	
	T74LS92	SGS-Thomson	
	SN54LS92	† TI	
	SN74LS92	TI	
Programmable Counter (16-Bit Countdown)			
	74F525	National	45
TTL-F	54F525	† National	
Programmable Modulo-N Binary			
TTL	**ML4018**	**Lansdale (3667)**	
	ML4019	**Lansdale (3667)**	
Programmable Modulo-N Decade			
TTL	**ML4016**	**Lansdale (3667)**	
	ML4017	**Lansdale (3667)**	50
	MC4016	Motorola	
	MC4316	† Motorola	
Decade Counter/Latch, LED/Lamp Driver (constant current output)			
TTL	74143	Rochester	
	SN74143	TI	
Decade Counter/Latch LED/Lamp Driver (high current output)			
TTL	54144	Rochester	55
Decade Counter/Latch/7 Segment Decoder			
TTL	**ML4050**	**Lansdale (3667)**	
	ML4350	**Lansdale (3667)**	
	MC4350	† Motorola	
4-Bit			
TTL-LS	T74LS293	SGS-Thomson	
8-Bit Binary Counter/Latch			
TTL-LS	SN74LS593	TI	60
16-Bit Programmable Modulo			
TTL-LS	SN74LS294	TI	
32-Bit Programmable Modulo			
TTL-LS	SN74LS292	TI	

Decoders

Function	Device	Source	Line
Excess 3 Gray-to-Decimal (1 of 10)			
TTL	5444	Rochester	
	7444	Rochester	
Excess 3-to-Decimal (1 of 10)			
TTL	5443	Rochester	65
	7443	Rochester	
Excess–3 Gray to Decimal			
TTL	**ML5444**	**† Lansdale (3668)**	
	ML7444	**Lansdale (3668)**	
Excess–3 to Decimal			
TTL	**ML5443**	**† Lansdale (3668)**	
	ML7443	**Lansdale (3668)**	70
Binary to Octal, Inverting/Non-Inverting, Open Collector			
TTL	**ML4038**	**Lansdale (3667)**	
Binary to Octal, Non-Inverting			
TTL	**ML4048**	**Lansdale (3667)**	
Binary to Octal (1 of 8)			
TTL	**ML4006**	**Lansdale (3667)**	
	ML4306	**Lansdale (3667)**	
Binary to 2-of–8, Open Collector			
TTL	**ML4040**	**Lansdale (3667)**	75
BCD-to-Binary and Binary-to-BCD Converter, Open Collector			
TTL	**ML4001**	**Lansdale (3667)**	
BCD-to-Decimal Decoder			
TTL	**ML5442**	**† Lansdale (3668)**	
	ML7442	**Lansdale (3668)**	
BCD-to-Decimal Decoder/Driver, Open Collector 15 V			
TTL-LS	SN54LS145	Motorola	
BCD-to-Decimal Decoder/Driver, Open Collector to 30 V Output			
TTL	SL5445	† Lansdale	80
	SL7445	Lansdale	
	DM5445	† National	
	DM7445	National	
	7445	National	
	7445	Rochester	85
	SN5445	† TI	
	SN7445	TI	
BCD-to-Decimal Decoder/Driver, Open Collector, 15 V			
TTL	SL54145	† Lansdale	
	SL74145	Lansdale	
	DM54145	† National	90
	DM74145	National	
	74145	National	
	54145	† Rochester	
	74145	Rochester	
	SN74145	TI	95
TTL-LS	GD54LS145	† GoldStar	
	GD74LS145	GoldStar	
	SN74LS145	Motorola	
	SN54LS145	† TI	
	SN74LS145	TI	100
BCD-to-Decimal (1 of 10)			
TTL	DM5442	† National	
	DM7442	National	
	5442	† National	
	7442	National	
	9301C	National	105

(Continued)

Function	Device	Source	Line
BCD-to-Decimal (1 of 10)			
TTL		(Cont'd)	
	9301M	† National	
	5442	† Rochester	
	7442	Rochester	
	SN5442A	† TI	
	SN7442A	TI	110
TTL-L	54L42	† Rochester	
TTL-LS	GD54LS42	† GoldStar	
	GD74LS42	GoldStar	
	SL54LS42	† Lansdale	
	SN54LS42	† Motorola	115
	SN54LS42A	Motorola	
	SN74LS42	Motorola	
	DM54LS42	† National	
	DM74LS42	National	
	54LS42	† National	120
	74LS42	National	
	74LS42	Rochester	
	54LS42	† SGS-Thomson	
	74LS42	SGS-Thomson	
	SN54LS42	† TI	125
	SN74LS42	TI	
BCD-to-Decimal (1 of 10), Three-State			
TTL-F	54F537	† National	
	74F537	National	
	74F537	Philips	
BCD-to-Decimal (1 of 8)			
TTL	9302	Rochester	130
BCD-to–7 Segment Decoder			
TTL-LS	SN54LS249	† TI	
Dual Binary to One-of-Four Line Gated			
TTL	**ML4007**	**Lansdale (3667)**	
	ML4307	**Lansdale (3667)**	
Dual 1-of–4 Decoder/Demultiplexer			
TTL-ALS	74ALS139	Philips	
TTL-F	M74F139	Mitsubishi	135
TTL-LS	T54LS139	† SGS-Thomson	
	T54LS155	† SGS-Thomson	
	T54LS156	† SGS-Thomson	
	T74LS139	SGS-Thomson	
	T74LS155	SGS-Thomson	140
	T74LS156	SGS-Thomson	
Dual 1-of–4 Decoder/Demultiplexer (independent address)			
TTL	9321C	National	
	9321M	† National	
Dual 1-of–4 Decoder, Three-State			
TTL-F	MC54F539	† Motorola	
	MC74F539	Motorola	145
Dual 2-Line to 4-Line Decoder/Demultiplexer			
TTL	**ML54155**	**† Lansdale (3668)**	
	ML74155	**Lansdale (3669)**	
	SL54156	† Lansdale	
	DM54155	† National	
	DM74155	National	150
	74155	National	
	54155	† Rochester	
	54156	Rochester	
	74156	Rochester	
	SN54155	† TI	155
	SN54156	† TI	
	SN74155	TI	
	SN74156	TI	
TTL-ALS	SN74ALS155	TI	
TTL-AS	SN74ALS139	° TI	160
TTL-F	MC54F139	† Motorola	
	MC74F139	Motorola	
	54F139	°† National	
	54F539	† National	
	74F139	° National	165
	74F539	National	
	54F139	°† Philips	
	74F139	° Philips	
	74F539	Philips	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Decoders (Cont'd)

Function	Device	Source	Line
Dual 2-Line to 4-Line Decoder/Demultiplexer (Cont'd)			
TTL-LS	GD54LS139	† GoldStar	
	GD54LS155	† GoldStar	
	GD74LS139	GoldStar	
	GD74LS155	GoldStar	
	SL54LS155	† Lansdale	5
	SL54LS156	† Lansdale	
	SL74LS139	**Lansdale (3674)**	
	SL74LS155	**Lansdale (3674)**	
	SL74LS156	**Lansdale (3674)**	
	54LS139	† Lansdale	10
	SN54LS139	† Motorola	
	SN54LS155	† Motorola	
	SN54LS156	† Motorola	
	SN74LS139	Motorola	
	SN74LS155	Motorola	15
	SN74LS156	Motorola	
	DM54LS139	† National	
	DM54LS155	† National	
	DM54LS156	† National	
	DM74LS139	National	20
	DM74LS155	National	
	DM74LS156	National	
	54LS139	† National	
	54LS155	† National	
	54LS156	† National	25
	74LS139	National	
	74LS155	National	
	74LS156	National	
	54LS139	† SGS-Thomson	
	54LS155	† SGS-Thomson	30
	54LS156	† SGS-Thomson	
	74LS139	SGS-Thomson	
	74LS155	SGS-Thomson	
	74LS156	SGS-Thomson	
	SN54LS139A	°† TI	35
	SN54LS155A	† TI	
	SN54LS156	† TI	
	SN74LS139A	° TI	
	SN74LS155A	TI	
	SN74LS156	TI	40
TTL-S	GD54S139	† GoldStar	
	GD74S139	GoldStar	
	SL54S139	**Lansdale (3674)**	
	SL74S139	**Lansdale (3675)**	
	DM54S139	† National	45
	DM74S139	National	
	74S139	National	
	54S139	† Rochester	
	74S139	Rochester	
	SN54S139	† TI	50
	SN74S139	° TI	
Dual 2-Line to 4-Line Decoder/Multiplexer			
TTL-ALS	SN54ALS139	°† TI	
Dual 2-Line to4-Line Decoder/Demultiplexer with Open-Collector Outputs			
TTL-ALS	SN74ALS156	TI	
One-of-Ten Decoder/Demultiplexer, Three-State			
	MC74F537	Motorola	
TTL-F	MC54F537	† Motorola	55
1 of 10 Decoder			
TTL-LS	T74LS42	SGS-Thomson	
1 of 16			
TTL-F	74F154	Philips	
1 of 8 Decoder/Demultiplexer			
TTL-ALS	M74ALS138	Mitsubishi	
TTL-F	M74F138	Mitsubishi	
1 of 8 Decoder/Demultiplexer with Address Latch			
TTL-ALS	M74ALS137	Mitsubishi	60
1-Line to 8-Line Decoder/Demultiplexer			
	54F547	† National	
	54F548	† National	
	74F547	National	
(Continued)			
1-Line to 8-Line Decoder/Demultiplexer (Cont'd)			
	74F548	National	
	74F547	Philips	65
	74F548	Philips	
1-of-8 Decoder/Demultiplexer			
TTL-ALS	74ALS138	Philips	
1-of-10 Decoder			
TTL-LS	T54LS42	† SGS-Thomson	
3-Line to 8-Line Decoder/Demultiplexer			
TTL-ALS	M74ALS131	Mitsubishi	
	54ALS138	Motorola	70
	DM74ALS138	National	
	54ALS138	† Rochester	
	SN54ALS138	°† TI	
	SN74ALS138	° TI	
TTL-AS	SN54AS138	°† TI	75
	SN74AS138	° TI	
TTL-F	MC54F138	† Motorola	
	MC74F138	Motorola	
	54F138	°† National	
	74F138	° National	80
	74F138	° Philips	
	SN54F138	°† TI	
	SN74F138	° TI	
TTL-LS	GD54LS138	† GoldStar	
	GD74LS138	GoldStar	85
	SL74LS138	**Lansdale (3674)**	
	SN54LS138	† Motorola	
	SN74LS138	Motorola	
	DM54LS138	† National	
	DM74LS138	National	90
	54LS138	† National	
	74LS138	National	
	T54LS138	† SGS-Thomson	
	T74LS138	SGS-Thomson	
	54LS138	† SGS-Thomson	95
	74LS138	SGS-Thomson	
	SN54LS138	°† TI	
	SN74LS138	° TI	
TTL-S	GD54S138	GoldStar	
	GD74S138	GoldStar	100
	SL54S138	**Lansdale (3674)**	
	SL74S138	**Lansdale (3675)**	
	DM54S138	† National	
	DM74S138	National	
	74S138	National	105
	54S138	† Rochester	
	SN54S138	† TI	
	SN74S138	° TI	
3-Line to 8-Line Decoder/Demultiplexer, Inverting/Non-Inverting, Three-State			
TTL-F	MC54F538	† Motorola	
	MC74F538	Motorola	110
	54F538	† National	
	74F538	National	
	74F538	Philips	
3-Line to 8-Line Decoder/Demultiplexer with Input Latches			
TTL-ALS	DM74ALS137	National	
	SN74ALS137	° TI	115
TTL-AS	SN74AS137	° TI	
TTL-LS	SN54LS137	Motorola	
	SN74LS137	Motorola	
	SN54LS137	† TI	
	SN74LS137	TI	120
TTL-S	54S137	† Rochester	
3-Line to 8-Line Decoders/Demultiplexer with Address Registers			
TTL-ALS	DM74ALS131	National	
	SN74ALS131	° TI	
TTL-AS	SN74AS131A	° TI	
4-Line to 16-Line Decoder/Demultiplexer			
TTL	**ML54154**	† **Lansdale (3668)**	125
	ML74154	**Lansdale (3669)**	
	SL54154	Lansdale	
	SL74154	Lansdale	
	DM54154	† National	
	DM74154	National	130
	DM8311	National	
	54154	† National	
	9311C	National	
	9311M	† National	
	54154	† Rochester	135
	SN54154	† TI	
	SN74154	TI	
TTL-ALS	SN74ALS154	TI	
TTL-L	54L154	† Rochester	
TTL-LS	GD54LS154	† GoldStar	140
	GD74LS154	GoldStar	
	SL54LS154	† Lansdale	
	SL74LS153	**Lansdale (3674)**	
	DM54LS154	† National	
	DM74LS154	National	145
4-Line to 16-Line Decoder/Demultiplexer, Open Collector Output			
TTL	SN74159	TI	

Delay Lines

Function	Device	Source	Line
Delay Line, Adjustable (2 to 100 ns)			
	DDU37F-120	Data Delay	
	DDU37F-120M	† Data Delay	
Delay Line, Adjustable (2 to 130 ns)			
	DDU37F-150	Data Delay	
	DDU37F-150M	† Data Delay	150
Delay Line, Adjustable (2 to 15 ns)			
	DDU37F-25	Data Delay	
	DDU37F-25M	† Data Delay	
Delay Line, Adjustable (2 to 180 ns)			
	DDU37F-200	Data Delay	
	DDU37F-200M	† Data Delay	
Delay Line, Adjustable (2 to 20 ns)			
	DDU37F-30	Data Delay	155
	DDU37F-30M	† Data Delay	
Delay Line, Adjustable (2 to 30 ns)			
	DDU37F-40	Data Delay	
	DDU37F-40M	† Data Delay	
Delay Line, Adjustable (2 to 40 ns)			
	DDU37F-50	Data Delay	
	DDU37F-50M	† Data Delay	160
Delay Line, Adjustable (2 to 50 ns)			
	DDU37F-60	Data Delay	
	DDU37F-60M	† Data Delay	
Delay Line, Adjustable (2 to 60 ns)			
	DDU37F-70	Data Delay	
	DDU37F-70M	† Data Delay	
Delay Line, Adjustable (2 to 70 ns)			
	DDU37F-80	Data Delay	165
	DDU37F-80M	† Data Delay	
Delay Line, Adjustable (2 to 90 ns)			
	DDU37F-100	Data Delay	
	DDU37F-100M	† Data Delay	
Delay Line, Adjustable (5 to 25 ns)			
	DDU47F	Data Delay	
Delay Line, Adjustable (7 to 25 ns)			
	DDU39F	Data Delay	170
Delay Line Module, 10 -Tap (12.5 to 125 ns)			
	TTLDD125	Technitrol	
Delay Line Module, 10-Tap (10 to 100 ns)			
	LTTLDD100	Technitrol	
	TTLDD100	Technitrol	
Delay Line Module, 10-Tap (12.5 to 125 ns)			
	LTTLDD125	Technitrol	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source
Delay Lines (Cont'd)		
Delay Line Module, 10-Tap (15 to 150 ns)	LTTLDD150	Technitrol
	TTLDD150	Technitrol
Delay Line Module, 10-Tap (20 to 200 ns)	LTTLDD200	Technitrol
	TTLDD200	Technitrol
Delay Line Module, 10-Tap (25 to 250 ns)	TTLDD250	Technitrol
Delay Line Module, 10-Tap (5 to 50 ns)	TTLDD050	Technitrol
Delay Line Module, 10-Tap (50 to 500 ns)	LTTLDD500	Technitrol
Delay Line Module, 10-tap (7.5 to 75 ns)	LTTLDD075	Technitrol
	TTLDD075	Technitrol
Delay Line Module, 3-Tap (120,160,200 ns)	STTLDL200	Technitrol
Delay Line Module, 3-Tap (150,200,250 ns)	STTLDL250	Technitrol
Delay Line Module, 3-Tap (15,20,25 ns)	STTLDL025	Technitrol
Delay Line Module, 3-Tap (300,400,500 ns)	STTLDL500	Technitrol
Delay Line Module, 3-Tap (30,40,50 ns)	STTLDL050	Technitrol
Delay Line Module, 3-Tap (45,60,75 ns)	STTLDL075	Technitrol
Delay Line Module, 3-Tap (60,80,100 ns)	STTLDL100	Technitrol
Delay Line Module, 3-Tap (75,100,125 ns)	STTLDL125	Technitrol
Delay Line Module, 3-Tap (90,120,150,ns)	STTLDL150	Technitrol
Delay Line Module, 5-Tap (10 to 50 ns)	HTTLDL050	Technitrol
	LTTLDL050	Technitrol
Delay Line Module, 5-Tap (100 to 500 ns)	HTTLDL500	Technitrol
Delay Line Module, 5-Tap (100,200,300,400,500 ns)	TTLDL500	Technitrol
Delay Line Module, 5-Tap (10,20,30,40,50 ns)	BTTLDL050	Technitrol
	TTLDL050	Technitrol
Delay Line Module, 5-Tap (15 to 75 ns)	HTTLDL075	Technitrol
	LTTLDL075	Technitrol
Delay Line Module, 5-Tap (15,30,45,60,75 ns)	BTTLDL075	Technitrol
	TTLDL075	Technitrol
Delay Line Module, 5-Tap (20 to 100 ns)	HTTLDL100	Technitrol
	LTTLDL100	Technitrol
Delay Line Module, 5-Tap (20,40,60,80,100 ns)	BTTLDL100	Technitrol
	TTLDL100	Technitrol
Delay Line Module, 5-Tap (25 to 125 ns)	HTTLDL125	Technitrol
	LTTLDL125	Technitrol
Delay Line Module, 5-Tap (25,50,75,100,125 ns)	BTTLDL125	Technitrol
	TTLDL125	Technitrol
Delay Line Module, 5-tap (30 to 150 ns)	HTTLDL150	Technitrol
	LTTLDL150	Technitrol
Delay, Line Module, 5-Tap (30, 60, 90, 120, 150 ns)	TTLDL150	Technitrol
Delay Line Module, 5-Tap (30,60,90,120,150 ns)	BTTLDL150	Technitrol
Delay Line Module, 5-Tap (40 to 200 ns)	HTTLDL200	Technitrol
	LTTLDL200	Technitrol
Delay Line Module, 5-Tap (40,80,120,160,200 ns)	BTTLDL200	Technitrol
	TTLDL200	Technitrol
Delay Line Module, 5-Tap (5 to 25 ns)	HTTLDL025	Technitrol
	LTTLDL025	Technitrol
Delay Line Module, 5-Tap (50 to 250 ns)	HTTLDL250	Technitrol
	LTTLDL250	Technitrol
Delay Line Module, 5-Tap (50 to 500 ns)	TTLDD500	Technitrol
Delay Line Module, 5-Tap (50,100,150,200,250 ns)	TTLDL250	Technitrol
Delay Line Module, 5-Tap (5,10,15,20,25, ns)	BTTLDL025	Technitrol
	TTLDL025	Technitrol
Delay Line Module,10-Tap (25 to 250 ns)	LTTLDD250	Technitrol
Delay Line, Programmable (0.5 ns steps)	PDU13256F-0.5	Data Delay
Delay Line, Programmable (1 ns steps)	PDU13256F-1	Data Delay
Delay Line, Programmable (2 ns steps)	PDU13256F-2	Data Delay
Delay Line, Programmable (3 ns steps)	PDU13256F-3	Data Delay
Delay Line, Programmable 3-Bit (0.5 ns steps)	PDU13F-0.5	Data Delay
Delay Line, Programmable 3-Bit (1 ns steps)	PDU13F-1	Data Delay
Delay Line, Programmable 3-Bit (10 ns steps)	PDU13F-10	Data Delay
Delay Line, Programmable 3-Bit (12 ns steps)	PDU13F-12	Data Delay
Delay Line, Programmable 3-Bit (15 ns steps)	PDU13F-15	Data Delay
Delay Line, Programmable 3-Bit (2 ns steps)	PDU13F-2	Data Delay
Delay Line, Programmable 3-Bit (20 ns steps)	PDU13F-20	Data Delay
Delay Line, Programmable 3-Bit (25 ns steps)	PDU13F-25	Data Delay
Delay Line, Programmable 3-Bit (3 ns steps)	PDU13F-3	Data Delay
Delay Line, Programmable 3-Bit (30 ns steps)	PDU13F-30	Data Delay
Delay Line, Programmable 3-Bit (35 ns steps)	PDU13F-35	Data Delay
Delay Line, Programmable 3-Bit (4 ns steps)	PDU13F-4	Data Delay
Delay Line, Programmable 3-Bit (40 ns steps)	PDU13F-40	Data Delay
Delay Line, Programmable 3-Bit (45 ns steps)	PDU13F-45	Data Delay
Delay Line, Programmable 3-Bit (5 ns steps)	PDU13F-5	Data Delay
Delay Line, Programmable 3-Bit (50 ns steps)	PDU13F-50	Data Delay
Delay Line, Programmable 3-Bit (6 ns steps)	PDU13F-6	Data Delay
Delay Line, Programmable 3-Bit (7 ns steps)	PDU13F-7	Data Delay
Delay Line, Programmable 3-Bit (8 ns steps)	PDU13F-8	Data Delay
Delay Line, Programmable 3-Bit (9 ns steps)	PDU13F-9	Data Delay
Delay Line, Programmable (4 ns steps)	PDU13256F-4	Data Delay
Delay Line, Programmable 4-Bit (0.5 ns steps)	PDU1316F-0.5	Data Delay
	PDU14F-0.5	Data Delay
Delay Line, Programmable 4-Bit (1 ns steps)	PDU14F-1	Data Delay
Delay Line, Programmable 4-Bit (10 ns steps)	PDU14F-10	Data Delay
Delay Line, Programmable 4-Bit (100 ns steps)	PDU14F-100	Data Delay
Delay Line, Programmable 4-Bit (12 ns steps)	PDU14F-12	Data Delay
Delay Line, Programmable 4-Bit (15 ns steps)	PDU14F-15	Data Delay
Delay Line, Programmable 4-Bit (2 ns steps)	PDU14F-2	Data Delay
Delay Line, Programmable 4-Bit (20 ns steps)	PDU14F-20	Data Delay
Delay Line, Programmable 4-Bit (25 ns steps)	PDU14F-25	Data Delay
Delay Line, Programmable 4-Bit (3 ns steps)	PDU14F-3	Data Delay
Delay Line, Programmable 4-Bit (30 ns steps)	PDU14F-30	Data Delay
Delay Line, Programmable 4-Bit (35 ns steps)	PDU14F-35	Data Delay
Delay Line, Programmable 4-Bit (4 ns steps)	PDU14F-4	Data Delay
Delay Line, Programmable 4-Bit (40 ns steps)	PDU14F-40	Data Delay
Delay Line, Programmable 4-Bit (45 ns steps)	PDU14F-45	Data Delay
Delay Line, Programmable 4-Bit (5 ns steps)	PDU14F-5	Data Delay
Delay Line, Programmable 4-Bit (50 ns steps)	PDU14F-50	Data Delay
Delay Line, Programmable 4-Bit (6 ns steps)	PDU14F-6	Data Delay
Delay Line, Programmable 4-Bit (60 ns steps)	PDU14F-60	Data Delay
Delay Line, Programmable 4-Bit (7 ns steps)	PDU14F-7	Data Delay
	PDU14F-7	Data Delay
Delay Line, Programmable 4-Bit (8 ns steps)	PDU14F-8	Data Delay
Delay Line, Programmable 4-Bit (80 ns steps)	PDU14F-80	Data Delay
Delay Line, Programmable 4-Bit (9 ns steps)	PDU14F-9	Data Delay
Delay Line, Programmable (5 ns steps)	PDU13256F-5	Data Delay
Delay Line, Programmable 5-Bit (0.5 ns steps)	PDU1332F-0.5	Data Delay
	PDU15F-0.5	Data Delay
Delay Line, Programmable 5-Bit (1 ns steps)	PDU1332F-1	Data Delay
	PDU15F-1	Data Delay
Delay Line, Programmable 5-Bit (10 ns steps)	PDU1332F-10	Data Delay
	PDU15F-10	Data Delay
Delay Line, Programmable 5-Bit (12 ns steps)	PDU1332F-12	Data Delay
	PDU15F-12	Data Delay
Delay Line, Programmable 5-Bit (15 ns steps)	PDU1332F-15	Data Delay
	PDU15F-15	Data Delay
Delay Line, Programmable 5-Bit (2 ns steps)	PDU1332F-2	Data Delay
	PDU15F-2	Data Delay

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Delay Lines (Cont'd)			
Delay Line, Programmable 5-Bit (20 ns steps)			
	PDU1332F-20	Data Delay	
	PDU15F-20	Data Delay	
Delay Line, Programmable 5-Bit (3 ns steps)			
	PDU1332F-3	Data Delay	
	PDU15F-3	Data Delay	
Delay Line, Programmable 5-Bit (4 ns steps)			
	PDU1332F-4	Data Delay	5
	PDU15F-4	Data Delay	
Delay Line, Programmable 5-Bit (5 ns steps)			
	PDU1332F-5	Data Delay	
	PDU15F-5	Data Delay	
Delay Line, Programmable 5-Bit (6 ns steps)			
	PDU1332F-6	Data Delay	
	PDU15F-6	Data Delay	10
Delay Line, Programmable 5-Bit (7 ns steps)			
	PDU15F-7	Data Delay	
Delay Line, Programmable 5-Bit (8 ns steps)			
	PDU1332F-8	Data Delay	
	PDU15F-8	Data Delay	
Delay Line, Programmable 5-Bit (9 ns steps)			
	PDU15F-9	Data Delay	
Delay Line, Programmable (6 ns steps)			
	PDU13256F-6	Data Delay	15
Delay Line, Programmable 6-Bit (0.5 ns steps)			
	PDU1364F-0.5	Data Delay	
	PDU16F-0.5	Data Delay	
Delay Line, Programmable 6-Bit (1 ns steps)			
	PDU1364F-1	Data Delay	
	PDU16F-1	Data Delay	
Delay Line, Programmable 6-Bit (10 ns steps)			
	PDU1364F-10	Data Delay	20
	PDU16F-10	Data Delay	
Delay Line, Programmable 6-Bit (2 ns steps)			
	PDU1364F-2	Data Delay	
	PDU16F-2	Data Delay	
Delay Line, Programmable 6-Bit (3 ns steps)			
	PDU1364F-3	Data Delay	
	PDU16F-3	Data Delay	25
Delay Line, Programmable 6-Bit (4 ns steps)			
	PDU1364F-4	Data Delay	
	PDU16F-4	Data Delay	
Delay Line, Programmable 6-Bit (5 ns steps)			
	PDU1364F-5	Data Delay	
	PDU16F-5	Data Delay	
Delay Line, Programmable 6-Bit (6 ns steps)			
	PDU1364F-6	Data Delay	30
	PDU16F-6	Data Delay	
Delay Line, Programmable 6-Bit (7 ns steps)			
	PDU16F-7	Data Delay	
Delay Line, Programmable 6-Bit (8 ns steps)			
	PDU1364F-8	Data Delay	
	PDU16F-8	Data Delay	
Delay Line, Programmable 6-Bit (9 ns steps)			
	PDU16F-9	Data Delay	35
Delay Line, Programmable (7 ns steps)			
	PDU13256F-7	Data Delay	
Delay Line, Programmable 7-Bit (0.5 ns steps)			
	PDU17F-0.5	Data Delay	
	PDU18F-0.5	Data Delay	
Delay Line, Programmable 7-Bit (1 ns steps)			
	PDU17F-1	Data Delay	
	PDU18F-1	Data Delay	40
Delay Line, Programmable 7-Bit (10 ns steps)			
	PDU17F-10	Data Delay	
	PDU18F-10	Data Delay	
Delay Line, Programmable 7-Bit (2 ns steps)			
	PDU17F-2	Data Delay	
	PDU18F-2	Data Delay	
Delay Line, Programmable 7-Bit (3 ns steps)			
	PDU17F-3	Data Delay	45
	PDU18F-3	Data Delay	
Delay Line, Programmable 7-Bit (4 ns steps)			
	PDU17F-4	Data Delay	
	PDU18F-4	Data Delay	
Delay Line, Programmable 7-Bit (5 ns steps)			
	PDU17F-5	Data Delay	
	PDU18F-5	Data Delay	50
Delay Line, Programmable 7-Bit (6 ns steps)			
	PDU17F-6	Data Delay	
	PDU18F-6	Data Delay	
Delay Line, Programmable 7-Bit (7 ns steps)			
	PDU17F-7	Data Delay	
	PDU18F-7	Data Delay	
Delay Line, Programmable 7-Bit (8 ns steps)			
	PDU17F-8	Data Delay	55
	PDU18F-8	Data Delay	
Delay Line, Programmable 7-Bit (9 ns steps)			
	PDU17F-9	Data Delay	
	PDU18F-9	Data Delay	
Delay Line, Programmable (8 ns steps)			
	PDU13256F-8	Data Delay	
Delay Line, Programmable (9 ns steps)			
	PDU13256F-9	Data Delay	60
Delay Line, Programmable (10 ns steps)			
	PDU13256F-10	Data Delay	
Delay Line (1 tap: 10 ns)			
	DDU4F1010	Data Delay	
Delay Line (1 tap: 100 ns)			
	DDU4F1100	Data Delay	
Delay Line (1 tap: 150 ns)			
	DDU4F1150	Data Delay	
Delay Line (1 tap: 20 ns)			
	DDU4F1020	Data Delay	65
Delay Line (1 tap: 200 ns)			
	DDU4F1200	Data Delay	
Delay Line (1 tap: 30 ns)			
	DDU4F1030	Data Delay	
Delay Line (1 tap: 300 ns)			
	DDU4F1300	Data Delay	
Delay Line (1 tap: 40 ns)			
	DDU4F1040	Data Delay	
Delay Line (1 tap: 400 ns)			
	DDU4F1400	Data Delay	70
Delay Line (1 tap: 50 ns)			
	DDU4F1050	Data Delay	
Delay Line (1 tap: 500 ns)			
	DDU4F1500	Data Delay	
Delay Line (1 tap: 60 ns)			
	DDU4F1060	Data Delay	
Delay Line (1 tap: 80 ns)			
	DDU4F1080	Data Delay	
Delay Line (2 independent taps: 10 ns each)			
	MDU2F-10	Data Delay	75
	MDU28F-10	Data Delay	
Delay Line (2 independent taps: 100 ns each)			
	MDU2F-100	Data Delay	
	MDU28F-100	Data Delay	
Delay Line (2 independent taps: 12 ns each)			
	MDU2F-12	Data Delay	
	MDU28F-12	Data Delay	80
Delay Line (2 independent taps: 125 ns each)			
	MDU2F-125	Data Delay	
	MDU28F-125	Data Delay	
Delay Line (2 independent taps: 15 ns each)			
	MDU2F-15	Data Delay	
	MDU28F-15	Data Delay	
Delay Line (2 independent taps: 150 ns each)			
	MDU2F-150	Data Delay	85
	MDU28F-150	Data Delay	
Delay Line (2 independent taps: 16 ns each)			
	MDU2F-16	Data Delay	
	MDU28F-16	Data Delay	
Delay Line (2 independent taps: 175 ns each)			
	MDU2F-175	Data Delay	
	MDU28F-175	Data Delay	90
Delay Line (2 independent taps: 20 ns each)			
	MDU2F-20	Data Delay	
	MDU28F-20	Data Delay	
Delay Line (2 independent taps: 200 ns each)			
	MDU2F-200	Data Delay	
	MDU28F-200	Data Delay	
Delay Line (2 independent taps: 25 ns each)			
	MDU2F-25	Data Delay	95
	MDU28F-25	Data Delay	
Delay Line (2 independent taps: 250 ns each)			
	MDU2F-250	Data Delay	
	MDU28F-250	Data Delay	
Delay Line (2 independent taps: 30 ns each)			
	MDU2F-30	Data Delay	
	MDU28F-30	Data Delay	100
Delay Line (2 independent taps: 35 ns each)			
	MDU2F-35	Data Delay	
	MDU28F-35	Data Delay	
Delay Line (2 independent taps: 40 ns each)			
	MDU2F-40	Data Delay	
	MDU28F-40	Data Delay	
Delay Line (2 independent taps: 45 ns each)			
	MDU2F-45	Data Delay	105
	MDU28F-45	Data Delay	
Delay Line (2 independent taps: 5 ns each)			
	MDU2F-5	Data Delay	
	MDU28F-5	Data Delay	
Delay Line (2 independent taps: 50 ns each)			
	MDU2F-50	Data Delay	
	MDU28F-50	Data Delay	110
Delay Line (2 independent taps: 6 ns each)			
	MDU2F-6	Data Delay	
	MDU28F-6	Data Delay	
Delay Line (2 independent taps: 60 ns each)			
	MDU2F-60	Data Delay	
	MDU28F-60	Data Delay	
Delay Line (2 independent taps: 75 ns each)			
	MDU2F-75	Data Delay	115
	MDU28F-75	Data Delay	
Delay Line (2 independent taps: 8 ns each)			
	MDU2F-8	Data Delay	
	MDU28F-8	Data Delay	
Delay Line (2 taps: 10, 20 ns)			
	DDU4F2020	Data Delay	
Delay Line (2 taps: 100, 200 ns)			
	DDU4F2200	Data Delay	120
Delay Line (2 taps: 150, 300 ns)			
	DDU4F2300	Data Delay	
Delay Line (2 taps: 20, 40 ns)			
	DDU4F2040	Data Delay	
Delay Line (2 taps: 200, 400 ns)			
	DDU4F2400	Data Delay	
Delay Line (2 taps: 25, 50 ns)			
	DDU4F2050	Data Delay	
Delay Line (2 taps: 250, 500 ns)			
	DDU4F2500	Data Delay	125
Delay Line (2 taps: 30, 60 ns)			
	DDU4F2060	Data Delay	
Delay Line (2 taps: 40, 80 ns)			
	DDU4F2080	Data Delay	
Delay Line (2 taps: 50, 100 ns)			
	DDU4F2100	Data Delay	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Delay Lines (Cont'd)			
Delay Line (2 taps: 65, 110 ns)	DDU4F7690A	Data Delay	
Delay Line (2 taps: 75, 150 ns)	DDU4F2150	Data Delay	
Delay Line (3 independent taps: 10 ns each)	MDU3F-10	Data Delay	
	MDU38F-10	Data Delay	
Delay Line (3 independent taps: 100 ns each)	MDU3F-100	Data Delay	5
	MDU38F-100	Data Delay	
Delay Line (3 independent taps: 12 ns each)	MDU3F-12	Data Delay	
Delay Line (3 independent taps: 15 ns each)	MDU3F-15	Data Delay	
	MDU38F-15	Data Delay	
Delay Line (3 independent taps: 16 ns each)	MDU3F-16	Data Delay	10
Delay Line (3 independent taps: 20 ns each)	MDU3F-20	Data Delay	
	MDU38F-20	Data Delay	
Delay Line (3 independent taps: 25 ns each)	MDU3F-25	Data Delay	
	MDU38F-25	Data Delay	
Delay Line (3 independent taps: 30 ns each)	MDU3F-30	Data Delay	15
	MDU38F-30	Data Delay	
Delay Line (3 independent taps: 35 ns each)	MDU3F-35	Data Delay	
	MDU38F-35	Data Delay	
Delay Line (3 independent taps: 40 ns each)	MDU3F-40	Data Delay	
	MDU38F-40	Data Delay	20
Delay Line (3 independent taps: 45 ns each)	MDU3F-45	Data Delay	
	MDU38F-45	Data Delay	
Delay Line (3 independent taps: 5 ns each)	MDU3F-5	Data Delay	
	MDU38F-5	Data Delay	
Delay Line (3 independent taps: 50 ns each)	MDU3F-50	Data Delay	25
	MDU38F-50	Data Delay	
Delay Line (3 independent taps: 6 ns each)	MDU3F-6	Data Delay	
Delay Line (3 independent taps: 60 ns each)	MDU3F-60	Data Delay	
	MDU38F-60	Data Delay	
Delay Line (3 independent taps: 75 ns each)	MDU3F-75	Data Delay	30
	MDU38F-75	Data Delay	
Delay Line (3 independent taps: 8 ns each)	MDU3F-8	Data Delay	
Delay Line (4 independent taps: 10 ns each)	MDU4F-10	Data Delay	
Delay Line (4 independent taps: 100 ns each)	MDU4F-100	Data Delay	
Delay Line (4 independent taps: 12 ns each)	MDU4F-12	Data Delay	35
Delay Line (4 independent taps: 15 ns each)	MDU4F-15	Data Delay	
Delay Line (4 independent taps: 16 ns each)	MDU4F-16	Data Delay	
Delay Line (4 independent taps: 20 ns each)	MDU4F-20	Data Delay	
Delay Line (4 independent taps: 25 ns each)	MDU4F-25	Data Delay	
Delay Line (4 independent taps: 30 ns each)	MDU4F-30	Data Delay	40
Delay Line (4 independent taps: 35 ns each)	MDU4F-35	Data Delay	
Delay Line (4 independent taps: 40 ns each)	MDU4F-40	Data Delay	
Delay Line (4 independent taps: 45 ns each)	MDU4F-45	Data Delay	
Delay Line (4 independent taps: 5 ns each)	MDU4F-5	Data Delay	
Delay Line (4 independent taps: 50 ns each)	MDU4F-50	Data Delay	45
Delay Line (4 independent taps: 6 ns each)	MDU4F-6	Data Delay	
Delay Line (4 independent taps: 60 ns each)	MDU4F-60	Data Delay	
Delay Line (4 independent taps: 75 ns each)	MDU4F-75	Data Delay	
Delay Line (4 independent taps: 8 ns each)	MDU4F-8	Data Delay	
Delay Line (5 taps: 0.8 ns)	DDU4F5004	Data Delay	50
Delay Line (5 taps: 1 ns each)	DDU222F-4	Data Delay	
	DDU66F-4	Data Delay	
	DDU8F5004	Data Delay	
	SMD99F5004	Data Delay	
	SMD99F5004M	† Data Delay	55
	1505-5	Data Delay	
Delay Line (5 taps: 1.2 ns)	DDU4F5006	Data Delay	
Delay Line (5 taps: 1.5 ns each)	DDU222F-6	Data Delay	
	DDU66F-6	Data Delay	
	DDU8F5006	Data Delay	60
	SMD99F5006	Data Delay	
	SMD99F5006M	† Data Delay	
Delay Line (5 taps: 1.6 ns)	DDU4F5008	Data Delay	
Delay Line (5 taps: 10 ns each)	DDU222F-50	Data Delay	
	DDU66F-50	Data Delay	65
	DDU8F5050	Data Delay	
	SMD99F5050	Data Delay	
	SMD99F5050M	† Data Delay	
	1505-50	Data Delay	
	1517-10A	Data Delay	70
	1517-10B	Data Delay	
	1517-10C	Data Delay	
Delay Line (5 taps: 100 ns each)	1517-100D	Data Delay	
	1517-100F	Data Delay	
	1517-100G	Data Delay	75
Delay Line (5 taps: 100,200,300,400 and 500 ns)	DDU4F5500	Data Delay	
Delay Line (5 taps: 10,20,30,40 and 50 ns)	DDU4F5050	Data Delay	
Delay Line (5 taps: 12 ns)	DDU4F5060	Data Delay	
Delay Line (5 taps: 12 ns each)	DDU222F-60	Data Delay	
	DDU66F-60	Data Delay	80
	DDU8F5060	Data Delay	
	SMD99F5060	Data Delay	
	SMD99F5060M	† Data Delay	
	1505-60	Data Delay	
Delay Line (5 taps: 120 ns each)	1517-120C	Data Delay	85
	1517-120E	Data Delay	
	1517-120F	Data Delay	
Delay Line (5 taps: 125 ns each)	1517-125G	Data Delay	
Delay Line (5 taps: 130 ns each)	1517-130E	Data Delay	
Delay Line (5 taps: 14 ns each)	1505-70	Data Delay	90
Delay Line (5 taps: 15 ns each)	DDU222F-75	Data Delay	
	DDU66F-75	Data Delay	
	DDU8F5075	Data Delay	
	SMD99F5075	Data Delay	
	SMD99F5075M	† Data Delay	95
	1517-15A	Data Delay	
	1517-15B	Data Delay	
	1517-15E	Data Delay	
Delay Line (5 taps: 150 ns each)	1517-150C	Data Delay	
	1517-150D	Data Delay	100
	1517-150G	Data Delay	
Delay Line (5 taps: 15,30,45,60 and 75 ns)	DDU4F5075	Data Delay	
Delay Line (5 taps: 16 ns each)	1505-80	Data Delay	
Delay Line (5 taps: 160 ns each)	1517-160F	Data Delay	
Delay Line (5 taps: 18 ns each)	1505-90	Data Delay	105
Delay Line (5 taps: 180 ns each)	1517-180E	Data Delay	
	1517-180F	Data Delay	
Delay Line (5 taps: 2 ns)	DDU4F5010	Data Delay	
Delay Line (5 taps: 2 ns each)	DDU222F-8	Data Delay	
	DDU66F-8	Data Delay	110
	DDU8F5008	Data Delay	
	SMD99F5008	Data Delay	
	SMD99F5008M	† Data Delay	
	1505-10	Data Delay	
Delay Line (5 taps: 2.4 ns)	DDU4F5012	Data Delay	115
Delay Line (5 taps: 2.5 ns each)	DDU222F-10	Data Delay	
	DDU66F-10	Data Delay	
	DDU8F5010	Data Delay	
	SMD99F5010	Data Delay	
	SMD99F5010M	† Data Delay	120
Delay Line (5 taps: 20 ns each)	DDU222F-100	Data Delay	
	DDU66F-100	Data Delay	
	DDU8F5100	Data Delay	
	SMD99F5100	Data Delay	
	SMD99F5100M	† Data Delay	125
	1505-100	Data Delay	
	1517-20A	Data Delay	
	1517-20B	Data Delay	
	1517-20C	Data Delay	
	1517-20F	Data Delay	130
Delay Line (5 taps: 200 ns each)	1517-200G	Data Delay	
Delay Line (5 taps: 20,40,60,80 and 100 ns)	DDU4F5100	Data Delay	
Delay Line (5 taps: 220 ns each)	1517-220E	Data Delay	
Delay Line (5 taps: 225 ns each)	1517-225G	Data Delay	
Delay Line (5 taps: 240 ns each)	1517-240F	Data Delay	135
Delay Line (5 taps: 25 ns each)	DDU222F-125	Data Delay	
	DDU66F-125	Data Delay	
	DDU8F5125	Data Delay	
	SMD99F5125	Data Delay	
	SMD99F5125M	† Data Delay	140
	1517-25B	Data Delay	
	1517-25D	Data Delay	
	1517-25G	Data Delay	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Delay Lines (Cont'd)

Function	Device	Source	Line
Delay Line (5 taps: 25,50,75,100 and 125 ns)	DDU4F5125	Data Delay	
Delay Line (5 taps: 3 ns each)	DDU222F-12	Data Delay	
	DDU66F-12	Data Delay	
	DDU8F5012	Data Delay	
	SMD99F5012	Data Delay	5
	SMD99F5012M	† Data Delay	
Delay Line (5 taps: 3.2 ns)	DDU4F5016	Data Delay	
Delay Line (5 taps: 30 ns each)	DDU222F-150	Data Delay	
	DDU66F-150	Data Delay	
	DDU8F5150	Data Delay	10
	SMD99F5150	Data Delay	
	SMD99F5150M	† Data Delay	
	1517-30A	Data Delay	
	1517-30B	Data Delay	
	1517-30C	Data Delay	15
	1517-30E	Data Delay	
Delay Line (5 taps: 300 ns each)	1517-300F	Data Delay	
	1517-300G	Data Delay	
Delay Line (5 taps: 30,60,90,120 and 150 ns)	DDU4F5150	Data Delay	
Delay Line (5 taps: 35 ns)	DDU4F5175	Data Delay	20
Delay Line (5 taps: 35 ns each)	DDU222F-175	Data Delay	
	DDU66F-175	Data Delay	
	DDU8F5175	Data Delay	
	SMD99F5175	Data Delay	
	SMD99F5175M	† Data Delay	25
Delay Line (5 taps: 37 ns each)	1517-37D	Data Delay	
Delay Line (5 taps: 4 ns)	DDU4F5020	Data Delay	
Delay Line (5 taps: 4 ns each)	DDU222F-16	Data Delay	
	DDU222F-20	Data Delay	
	DDU66F-16	Data Delay	30
	DDU8F5016	Data Delay	
	SMD99F5016	Data Delay	
	SMD99F5016M	† Data Delay	
	1505-20	Data Delay	
Delay Line (5 taps: 40 ns each)	DDU222F-200	Data Delay	35
	DDU66F-200	Data Delay	
	DDU8F5200	Data Delay	
	SMD99F5200	Data Delay	
	SMD99F5200M	† Data Delay	
	1505-200G	Data Delay	40
	1517-40A	Data Delay	
	1517-40B	Data Delay	
	1517-40C	Data Delay	
	1517-40F	Data Delay	
Delay Line (5 taps: 40,80,120,160 and 200 ns)	DDU4F5200	Data Delay	45
Delay Line (5 taps: 5 ns each)	DDU222F-25	Data Delay	
	DDU66F-20	Data Delay	
	DDU66F-25	Data Delay	
	DDU8F5020	Data Delay	
	DDU8F5025	Data Delay	50
	SMD99F5020	Data Delay	
	SMD99F5020M	† Data Delay	
	SMD99F5025	Data Delay	
	SMD99F5025M	† Data Delay	
	1517-5B	Data Delay	55
Delay Line (5 taps: 50 ns each)	DDU222F-250	Data Delay	
	DDU66F-250	Data Delay	
Delay Line (5 taps: 50 ns each) (Cont'd)	DDU8F5250	Data Delay	
	SMD99F5250	Data Delay	
	SMD99F5250M	† Data Delay	60
	1517-50B	Data Delay	
	1517-50C	Data Delay	
	1517-50D	Data Delay	
	1517-50E	Data Delay	
	1517-50G	Data Delay	65
Delay Line (5 taps: 50,100,150,200 and 250 ns)	DDU4F5250	Data Delay	
Delay Line (5 taps: 5,10,15,20 and 25 ns)	DDU4F5025	Data Delay	
Delay Line (5 taps: 6 ns)	DDU4F5030	Data Delay	
Delay Line (5 taps: 6 ns each)	DDU222F-30	Data Delay	
	DDU66F-30	Data Delay	70
	DDU8F5030	Data Delay	
	SMD99F5030	Data Delay	
	SMD99F5030M	† Data Delay	
	1505-30	Data Delay	
Delay Line (5 taps: 60 ns each)	1505-300G	Data Delay	75
	1517-60B	Data Delay	
	1517-60C	Data Delay	
	1517-60D	Data Delay	
	1517-60E	Data Delay	
	1517-60F	Data Delay	80
Delay Line (5 taps: 60,120,180,240 and 300 ns)	DDU4F5300	Data Delay	
Delay Line (5 taps: 7 ns)	DDU4F5035	Data Delay	
Delay Line (5 taps: 7 ns each)	DDU222F-35	Data Delay	
	DDU66F-35	Data Delay	
	DDU8F5035	Data Delay	85
	SMD99F5035	Data Delay	
	SMD99F5035M	† Data Delay	
Delay Line (5 taps: 75 ns each)	1517-75B	Data Delay	
	1517-75D	Data Delay	
	1517-75E	Data Delay	90
	1517-75G	Data Delay	
Delay Line (5 taps: 8 ns)	DDU4F5040	Data Delay	
Delay Line (5 taps: 8 ns each)	DDU222F-40	Data Delay	
	DDU66F-40	Data Delay	
	DDU8F5040	Data Delay	95
	SMD99F5040	Data Delay	
	SMD99F5040M	† Data Delay	
	1505-40	Data Delay	
Delay Line (5 taps: 80 ns each)	1517-80C	Data Delay	
	1517-80F	Data Delay	100
Delay Line (5 taps: 80,160,240,320 and 400 ns)	DDU4F5400	Data Delay	
Delay Line (5 taps: 9 ns)	DDU4F5045	Data Delay	
Delay Line (5 taps: 9 ns each)	DDU222F-45	Data Delay	
	DDU66F-45	Data Delay	
	DDU8F5045	Data Delay	105
	SMD99F5045	Data Delay	
	SMD99F5045M	† Data Delay	
Delay Line (5 taps: 90 ns each)	1517-90C	Data Delay	
	1517-90E	Data Delay	
Delay Line (10 taps: 1 ns each)	DDU224F-10	Data Delay	110
	DDU7F10	Data Delay	
	DDU7F10M	† Data Delay	
Delay Line (10 taps: 10 ns each)	DDU224F-100	Data Delay	
	DDU5J10100	Data Delay	
	DDU5J10100M	† Data Delay	115
	DDU7F100	Data Delay	
	1507-100	Data Delay	
	1519-10B	Data Delay	
Delay Line (10 taps: 10.0 ns each)	DDU7F100M	† Data Delay	
Delay Line (10 taps: 100 ns each)	DDU5J101000	Data Delay	120
	DDU5J101000M	† Data Delay	
	1519-100A	Data Delay	
	1519-100B	Data Delay	
	1519-100C	Data Delay	
	1519-100D	Data Delay	125
	1519-100G	Data Delay	
Delay Line (10 taps: 1000 ns each)	1519-1000G	Data Delay	
Delay Line (10 taps: 120 ns each)	1519-120B	Data Delay	
	1519-120C	Data Delay	
	1519-120E	Data Delay	130
	1519-120F	Data Delay	
Delay Line (10 taps: 125 ns each)	1519-125D	Data Delay	
Delay Line (10 taps: 15 ns each)	DDU224F-150	Data Delay	
	DDU5J10150	Data Delay	
	DDU5J10150M	† Data Delay	135
	DDU7F150	Data Delay	
	DDU7F150M	† Data Delay	
	1507-150	Data Delay	
Delay Line (10 taps: 150 ns each)	DDU5J101500	Data Delay	
	DDU5J101500M	† Data Delay	140
	1519-150B	Data Delay	
	1519-150D	Data Delay	
	1519-150E	Data Delay	
	1519-150G	Data Delay	
Delay Line (10 taps: 160 ns each)	1519-160C	Data Delay	145
	1519-160F	Data Delay	
Delay Line (10 taps: 180 ns each)	1519-180C	Data Delay	
	1519-180E	Data Delay	
Delay Line (10 taps: 2 ns each)	DDU224F-20	Data Delay	
	DDU7F20	Data Delay	150
	DDU7F20M	Data Delay	
	1507-20	Data Delay	
Delay Line (10 taps: 2.5 ns each)	DDU224F-25	Data Delay	
	DDU7F25	Data Delay	
	DDU7F25M	† Data Delay	155
Delay Line (10 taps: 20 ns each)	DDU224F-200	Data Delay	
	DDU5J10200	Data Delay	
	DDU5J10200M	† Data Delay	
	DDU7F200	Data Delay	
	DDU7F200M	† Data Delay	160
	1507-200	Data Delay	
	1519-20A	Data Delay	
	1519-20B	Data Delay	
	1519-20C	Data Delay	
Delay Line (10 taps: 200 ns each)	DDU5J102000	Data Delay	165
	DDU5J102000M	† Data Delay	
	1519-200B	Data Delay	
	1519-200C	Data Delay	
	1519-200D	Data Delay	
	1519-200F	Data Delay	170
	1519-200G	Data Delay	
Delay Line (10 taps: 225 ns each)	1519-225D	Data Delay	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Delay Lines (Cont'd)			
Delay Line (10 taps: 240 ns each)			
	1519-240C	Data Delay	
	1519-240E	Data Delay	
	1519-240F	Data Delay	
Delay Line (10 taps: 25 ns each)			
	DDU224F-250	Data Delay	
	DDU5J10250	Data Delay	5
	DDU5J10250M	† Data Delay	
	DDU7F250	Data Delay	
	DDU7F250M	† Data Delay	
	1507-250	Data Delay	
	1519-25A	Data Delay	10
Delay Line (10 taps: 250 ns each)			
	1519-250B	Data Delay	
	1519-250G	Data Delay	
Delay Line (10 taps: 270 ns each)			
	1519-270E	Data Delay	
Delay Line (10 taps: 30 ns each)			
	DDU224F-300	Data Delay	
	DDU5J10300	Data Delay	15
	DDU5J10300M	† Data Delay	
	DDU7F300	Data Delay	
	DDU7F300M	† Data Delay	
	1507-300	Data Delay	
	1519-30A	Data Delay	20
	1519-30B	Data Delay	
	1519-30E	Data Delay	
Delay Line (10 taps: 300 ns each)			
	1519-300C	Data Delay	
	1519-300D	Data Delay	
	1519-300G	Data Delay	25
Delay Line (10 taps: 320 ns each)			
	1519-320F	Data Delay	
Delay Line (10 taps: 360 ns each)			
	1519-360E	Data Delay	
	1519-360F	Data Delay	
Delay Line (10 taps: 375 ns each)			
	1519-375D	Data Delay	
Delay Line (10 taps: 4 ns each)			
	1507-40	Data Delay	30
Delay Line (10 taps: 40 ns each)			
	DDU224F-400	Data Delay	
	DDU5J10400	Data Delay	
	DDU5J10400M	† Data Delay	
	DDU7F400	Data Delay	
	DDU7F400M	† Data Delay	35
	1519-40A	Data Delay	
	1519-40B	Data Delay	
	1519-40C	Data Delay	
	1519-40F	Data Delay	
Delay Line (10 taps: 400 ns each)			
	1519-400C	Data Delay	40
	1519-400G	Data Delay	
Delay Line (10 taps: 45 ns each)			
	1519-45A	Data Delay	
Delay Line (10 taps: 450 ns each)			
	1519-450E	Data Delay	
	1519-450G	Data Delay	
Delay Line (10 taps: 480 ns each)			
	1519-480F	Data Delay	45
Delay Line (10 taps: 5 ns each)			
	DDU224F-50	Data Delay	
	DDU5J10050	Data Delay	
	DDU5J10050M	† Data Delay	
	DDU7F50	Data Delay	
	DDU7F50M	† Data Delay	50
	1507-50	Data Delay	
Delay Line (10 taps: 50 ns each)			
	DDU224F-500	Data Delay	
	DDU5J10500	Data Delay	
	DDU5J10500M	† Data Delay	
	DDU7F500	Data Delay	55
(Continued)			
Delay Line (10 taps: 50 ns each) (Cont'd)			
	DDU7F500M	† Data Delay	
	1507-500	Data Delay	
	1519-50A	Data Delay	
	1519-50B	Data Delay	
	1519-50D	Data Delay	60
	1519-50G	Data Delay	
Delay Line (10 taps: 500 ns each)			
	1519-500D	Data Delay	
	1519-500G	Data Delay	
Delay Line (10 taps: 60 ns each)			
	1519-60A	Data Delay	
	1519-60B	Data Delay	65
	1519-60C	Data Delay	
	1519-60E	Data Delay	
Delay Line (10 taps: 600 ns each)			
	1519-600E	Data Delay	
	1519-600F	Data Delay	
	1519-600G	Data Delay	70
Delay Line (10 taps: 75 ns each)			
	1519-75A	Data Delay	
	1519-75D	Data Delay	
Delay Line (10 taps: 750 ns each)			
	1519-750G	Data Delay	
Delay Line (10 taps: 80 ns each)			
	1519-80B	Data Delay	
	1519-80C	Data Delay	75
	1519-80F	Data Delay	
Delay Line (10 taps: 800 ns each)			
	1519-800F	Data Delay	
Delay Line (10 taps: 90 ns each)			
	1519-90B	Data Delay	
	1519-90E	Data Delay	
Delay Line (20 taps: 10 ns each)			
	2214-200A	Data Delay	80
	2214-200B	Data Delay	
	2214-200C	Data Delay	
	2214-200D	Data Delay	
	2214-200G	Data Delay	
Delay Line (20 taps: 100 ns each)			
	2214-2000G	Data Delay	85
Delay Line (20 taps: 12.5 ns each)			
	2214-250D	Data Delay	
Delay Line (20 taps: 15 ns each)			
	2214-300B	Data Delay	
	2214-300C	Data Delay	
	2214-300D	Data Delay	
	2214-300G	Data Delay	90
Delay Line (20 taps: 2 ns each)			
	2214-40C	Data Delay	
Delay Line (20 taps: 2.5 ns each)			
	2214-50A	Data Delay	
	2214-50B	Data Delay	
	2214-50D	Data Delay	
Delay Line (20 taps: 20 ns each)			
	2214-400B	Data Delay	95
	2214-400C	Data Delay	
	2214-400D	Data Delay	
	2214-400G	Data Delay	
Delay Line (20 taps: 25 ns each)			
	2214-500C	Data Delay	
	2214-500D	Data Delay	100
	2214-500G	Data Delay	
Delay Line (20 taps: 3 ns each)			
	2214-60A	Data Delay	
Delay Line (20 taps: 3.0 ns each)			
	2214-60B	Data Delay	
Delay Line (20 taps: 30 ns each)			
	2214-600C	Data Delay	
	2214-600D	Data Delay	105
	2214-600G	Data Delay	
Delay Line (20 taps: 4 ns each)			
	2214-80A	Data Delay	
	2214-80B	Data Delay	
	2214-80C	Data Delay	
Delay Line (20 taps: 40 ns each)			
	2214-800C	Data Delay	110
	2214-800D	Data Delay	
	2214-800G	Data Delay	
Delay Line (20 taps: 5 ns each)			
	2214-100A	Data Delay	
	2214-100B	Data Delay	
	2214-100D	Data Delay	115
Delay Line (20 taps: 50 ns each)			
	2214-1000D	Data Delay	
	2214-1000G	Data Delay	
Delay Line (20 taps: 6 ns each)			
	2214-120C	Data Delay	
Delay Line (20 taps: 60 ns each)			
	2214-1200G	Data Delay	
Delay Line (20 taps: 7.5 ns each)			
	2214-150A	Data Delay	120
	2214-150B	Data Delay	
	2214-150D	Data Delay	
Delay Line (20 taps: 75 ns each)			
	2214-1500G	Data Delay	
Digitally Programmable Pulse Edge Delay Vernier			
	AD9505	° AD	
	AD9505K	AD	125
Programmable Delay Module (up to 13 ns)			
	TTLPG301	Technitrol	
Programmable Delay Module (up to 20 ns)			
	TTLPG302	Technitrol	
Programmable Delay Module (up to 27 ns)			
	TTLPG303	Technitrol	
Programmable Delay Module (up to 34 ns)			
	TTLPG304	Technitrol	
Programmable Delay Module (up to 41 ns)			
	TTLPG305	Technitrol	130
Programmable Delay Module (up to 48 ns)			
	TTLPG306	Technitrol	
Programmable Delay Module (up to 55 ns)			
	LM307	Rochester	
	TTLPG307	Technitrol	
Programmable Delay Module (up to 62 ns)			
	TTLPG308	Technitrol	
Programmable Delay Module (up to 69 ns)			
	TTLPG309	Technitrol	135
Programmable Delay Module (up to 76 ns)			
	TTLPG310	Technitrol	
Programmable Delay Module (up to 111 ns)			
	TTLPG315	Technitrol	
Programmable Delay Module (up to 146 ns)			
	TTLPG320	Technitrol	
Programmable Delay Module (up to 181 ns)			
	TTLPG325	Technitrol	
Programmable Delay Module (up to 216 ns)			
	TTLPG330	Technitrol	140
Programmable Delay Module (up to 286 ns)			
	TTLPG340	Technitrol	
Programmable Delay Module (up to 321 ns)			
	TTLPG345	Technitrol	
Programmable Delay Module (up to 356 ns)			
	TTLPG350	Technitrol	
Programmable Delay Module (up to 454 ns)			
	TTLPG364	Technitrol	
Drivers			
Differential Line Driver, RS–422A			
TTL-ALS	SN55ALS192	°† TI	145
	SN55ALS193	°† TI	
(Continued)			

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Drivers (Cont'd)

Function	Device	Source	Line
Differential Line Driver, RS–422A			
TTL-ALS		(Cont'd)	
	SN55ALS194	°† TI	
	SN55ALS195	°† TI	
Fiber Optic LED Driver			
TTL-F	N74F5300	Philips	
Fiber Optic LED Driver (dual)			
TTL-F	N74F5302	Philips	
Line Driver, Quad			
TTL-ALS	SN55ALS126	† TI	5
	SN55ALS130	† TI	
Dual 3-Input, 3-Output AND			
TTL-H	**ML3028**	**Lansdale (3667)**	
	ML3128	**† Lansdale (3667)**	
Dual 3-Input, 3-Output NAND			
TTL-H	**ML3029**	**Lansdale (3667)**	
	ML3129	**† Lansdale (3667)**	10
Dual 4-Input Positive NAND 50 Ohm Line Driver			
TTL-S	**SL54S140**	**Lansdale (3674)**	
	SL74S140	**Lansdale (3675)**	
	DM54S140	† National	
	DM74S140	National	
	54S138	† Rochester	15
	54S140	† Rochester	
	SN54S140	† TI	
	SN74S140	TI	
Quad Bus Driver, Three-State			
TTL	**SL8T09**	**Lansdale (3675)**	
	S8T09	† Philips	20
Quad NAND Driver			
TTL	SG508	† Linfinity Micro	
Quad NAND Power Driver (to 60 V, sinks 1.5 A)			
	UDN2540B	Allegro Micro	
Quad Predriver, Open Collector			
TTL	**ML4042**	**Lansdale (3667)**	
Quad 2-Input AND Power Driver (to 80 V, sinks 600ma)			
TTL	UDN5706A	Allegro Micro	
Quad 2-Input NAND Buffer, Open Collector, to 15 V Output			
TTL	SL5426	† Lansdale	25
	SL7426	Lansdale	
	DM7426	National	
	7426	Rochester	
	SN5426	† TI	
	SN7426	TI	30
Quad 2-Input NAND Bus Driver, Open Collector, 80ma			
TTL	96101	National	
Quad 2-Input NOR Driver			
TTL-AS	DM74AS1036	National	
	SN74AS1036A	TI	
Quad 2-Input NOR 74-Ohm/50-Ohm Line Driver			
TTL	SN54128	† TI	
	SN74128	TI	35
Hex Buffer/Driver, Open Collector High Voltage Output, to 30 V			
TTL	SL5407	† Lansdale	
	SL5417	† Lansdale	
	SL7407	Lansdale	
	SL7417	Lansdale	
	DM5407	† National	40
	DM5417	† National	
	DM7407	National	
	DM7417	National	
	7407	National	
	7417	National	45
	5417	† Rochester	
	7407	Rochester	
	7417	Rochester	
	SN5407	† TI	
	SN5417	† TI	50
	SN7407	TI	
	SN7417	TI	
Hex Inverter Buffer/Driver Open Collector High Voltage Output, to 30 V			
TTL	SL5406	† Lansdale	
	SL5416	† Lansdale	
	SL7406	Lansdale	55
	SL7416	Lansdale	
	DM5406	°† National	
	DM5416	°† National	
	DM7406	° National	
	DM7416	° National	60
	7406	° National	
	7416	° National	
	7406	Rochester	
	7416	Rochester	
	SN5406	°† TI	65
	SN5416	°† TI	
	SN7406	° TI	
	SN7416	° TI	
Hex Inverter/MOS Memory Driver			
TTL	DS16149	† National	
	DS16179	† National	70
	DS36149	National	
	DS36179	National	
Hex, Three-State			
TTL-F	54F366	† National	
	74F366	National	
	54F366	† Philips	75
	74F366	Philips	
Hex, Three-State Driver			
TTL	DM54367	† National	
	DM74367	National	
	SN54366A	† TI	
	SN54367A	† TI	80
	SN74367A	TI	
Hex 2-Input AND Driver			
TTL-ALS	DM74ALS808	National	
	SN54ALS808A	† TI	
	SN74ALS1808A	TI	
TTL-AS	DM74AS808A	National	85
	SN54AS808B	† TI	
	SN74AS1808	TI	
	SN74AS808B	TI	
Hex 2-Input NAND Driver			
TTL-ALS	DM74ALS804	National	
	54ALS804	† Rochester	90
	SN54ALS804A	† TI	
	SN74ALS1804A	TI	
	SN74ALS804A	TI	
TTL-AS	DM74AS804A	National	
	SN54AS804B	† TI	95
	SN74AS1804	TI	
	SN74AS804B	TI	
Hex 2-Input NOR Driver			
TTL-ALS	DM74ALS805	National	
	SN54ALS805A	† TI	
	SN74ALS1805A	TI	100
TTL-AS	DM74AS805A	National	
	SN54AS805B	°† TI	
	SN74AS1805	TI	
	SN74AS805B	° TI	
Hex 2-Input OR Driver			
TTL-ALS	DM74ALS832	National	105
	SN54ALS832A	† TI	
	SN74ALS1832A	TI	
TTL-AS	DM74AS832A	National	
	SN54AS832B	† TI	
	SN74AS1832	TI	110
	SN74AS832B	TI	
Octal Trapezoidal Driver			
TTL	DS3890	National	
10-Bit Buffer/Driver, Three-State, Inverting			
TTL-ALS	SN74ALS29828	TI	
10-Bit Buffer/Driver, Three-State, True			
TTL-ALS	SN74ALS29827	TI	

Flip-Flops, D-Type

Function	Device	Source	Line
Flip-Flop, Clock Driver			
	74F50729	Philips	115
Monostable Multivibrator			
TTL	**ML54121**	**† Lansdale (3668)**	
	ML74121	**Lansdale (3669)**	
	54121	† Rochester	
Monostable Multivibrator, Retriggerable with Clear			
TTL	**ML54122**	**† Lansdale (3668)**	
	ML74122	**Lansdale (3669)**	120
Monostable Multivibrator, Retriggerable, Dual			
TTL	**ML54123**	**† Lansdale (3668)**	
	ML74123	**Lansdale (3669)**	
Nonvolatile Octal D-Type with Recall (ferroelectric memory cells for nonvolatile store)			
TTL-LS	K74C372	National	
Dual			
TTL-F	M74F74	Mitsubishi	
TTL-H	**ML3060**	**Lansdale (3667)**	125
	ML3160	**† Lansdale (3667)**	
	RC3160	Rochester	
Dual			
TTL-LS	T54LS74A	† SGS-Thomson	
Dual			
TTL-LS	T74LS74A	SGS-Thomson	
Dual D-Type			
TTL-ALS	74ALS74A	Philips	130
Dual D-Type Edge-Triggered			
TTL	**ML5474**	**† Lansdale (3668)**	
	ML5479	**† Lansdale (3668)**	
	ML7474	**Lansdale (3668)**	
	ML7479	**Lansdale (3668)**	
	5474	Rochester	135
Dual D-Type, Synchronizing Cascaded			
TTL-F	74F50728	Philips	
Dual Edge-Triggered			
TTL-ALS	DM74ALS874	National	
	DM74ALS876	National	
	SN54ALS874B	† TI	
	SN74ALS874B	TI	140
	SN74ALS876A	TI	
	SN74ALS878A	TI	
	SN74ALS879A	TI	
TTL-AS	DM74AS874	National	
	DM74AS876	National	145
	DM74AS878	National	
	DM74AS879	National	
	SN54AS874	† TI	
	SN74AS874	TI	
	SN74AS876	TI	150
	SN74AS878	TI	
	SN74AS879	TI	
Dual Edge-Triggered, Inverting, Three-State			
TTL-ALS	M74ALS876A	Mitsubishi	
Dual Edge-Triggered, True, Three-State			
TTL-ALS	M74ALS874B	Mitsubishi	
Dual Edge-Triggered, Three-State and Synchronous Reset, True			
TTL-ALS	M74ALS878A	Mitsubishi	155
	M74ALS879A	Mitsubishi	
Dual Master-Slave with Clear			
TTL-LS	SN54LS73A	Motorola	
Dual, Metastable Resistant			
TTL-AS	SN74AS3074	TI	
Dual Negative Edge-Triggered with Preset and Clear			
TTL-F	74FR1074	National	
Dual Positive Edge-Triggered (w/set and reset)			
TTL-ALS	M74ALS74A	Mitsubishi	160
Dual Positive Edge-Triggered with Preset			
TTL-F	MC54F74	Motorola	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Flip-Flops, D-Type (Cont'd)

Function	Device	Source	Line
Dual Positive Edge-Triggered with Preset and Clear			
TTL	SL5474	† Lansdale	
	SL7474	Lansdale	
	DM5474	† National	
	DM7474	National	
	5474	† National	5
	7474	National	
	7474	Rochester	
	SN5474	† TI	
	SN7474	TI	
TTL-ALS	DM74ALS74	National	10
	54ALS74	† Rochester	
	SN54ALS74A	°† TI	
	SN74ALS74A	° TI	
TTL-AS	DM74AS74	National	
	SN54AS74	°† TI	15
	SN74AS74	° TI	
TTL-F	MC74F74	Motorola	
	54F74	°† National	
	74FR74	National	
	74F74	° National	20
	74F74	° Philips	
	SN54F74	°† TI	
	SN74F74	° TI	
TTL-H	**ML54H74**	**Lansdale (3669)**	
	ML74H74	**Lansdale (3669)**	25
	54H74	† Rochester	
	74H74	Rochester	
TTL-L	54L74	† Rochester	
TTL-LS	GD54LS74A	† GoldStar	
	GD74LS74A	† GoldStar	30
	SL54LS74A	Lansdale	
	SL74LS74A	**Lansdale (3674)**	
	SN54LS74A	† Motorola	
	SN74LS74A	Motorola	
	DM54LS74	† National	35
	DM74LS74	National	
	54LS74	† National	
	74LS74	National	
	74LS74	Rochester	
	54LS74	† SGS-Thomson	40
	74LS74	SGS-Thomson	
	SN54LS74A	°† TI	
	SN74LS74A	° TI	
TTL-S	GD54S74	† GoldStar	
	GD74S74	GoldStar	45
	SL54S74	**Lansdale (3674)**	
	SL74S74	**Lansdale (3675)**	
	DM74S74	National	
	74S74	National	
	54S74	† Rochester	50
	74S74	Rochester	
	SN54S74	† TI	
	SN74S74	TI	
Dual-D-Type, Metastable Transparent			
TTL-F	74F5074	Philips	
Quad			
TTL-AS	SN54AS175A	°† TI	55
TTL-F	M74F175	Mitsubishi	
TTL-LS	T54LS175	† SGS-Thomson	
	T74LS175	SGS-Thomson	
Quad, Common Clock			
TTL	**ML4015**	**Lansdale (3667)**	
Quad D-Type			
TTL-ALS	74ALS175	Philips	60
Quad D-Type (clock driver)			
	MC54F803	Motorola	
TTL-F	MC74F803	° Motorola	
Quad D-Type with Clear			
TTL	**ML54175**	**† Lansdale (3668)**	
	ML74175	**Lansdale (3669)**	
Quad D-Type, Three-State			
TTL-F	74F173	Philips	65
Quad Edge-Triggered with Clear, Complementary Output			
TTL	SL54175	† Lansdale	
	SL74175	Lansdale	
	DM54175	† National	
	DM74175	National	
	54175	† National	70
	74175	National	
	74175	Rochester	
	SN54175	† TI	
	SN74175	TI	
TTL-ALS	M74ALS175	Mitsubishi	75
	DM74ALS175	National	
	SN54ALS175	°† TI	
	SN74ALS175	° TI	
TTL-AS	DM74AS175	National	
	SN74AS175A	° TI	80
TTL-F	MC54F175	† Motorola	
	MC74F175	Motorola	
	54F175	°† National	
	74F175	° National	
	74F175	° Philips	85
	74F175A	° Philips	
	54F175	† Rochester	
	SN54F175	°† TI	
	SN74F175	° TI	
TTL-LS	GD54LS175	† GoldStar	90
	GD74LS175	GoldStar	
	SL54LS175	† Lansdale	
	SL74LS175	**Lansdale (3674)**	
	SN54LS175	† Motorola	
	SN74LS175	Motorola	95
	DM54LS175	† National	
	DM74LS175	National	
	54LS175	† National	
	74LS175	National	
	54LS175	† SGS-Thomson	100
	74LS175	SGS-Thomson	
	SN54LS175	°† TI	
	SN74LS175	° TI	
TTL-S	GD54S175	† GoldStar	
	GD74S175	GoldStar	105
	SL54S175	**Lansdale (3674)**	
	SL74S175	**Lansdale (3675)**	
	DM54S175	† National	
	DM74S175	National	
	74S175	National	110
	54S175	† Rochester	
	SN54S175	† TI	
	SN74S175	TI	
Quad Register with Dual Three-State Outputs			
TTL	TS2919	Thomson Comp	
Quad, Standard TTL and Three-State Outputs			
TTL	SFC2918	SGS-Thomson	115
	TS2918	Thomson Comp	
Quad with Common Clock Enable			
TTL-F	MC54F379	† Motorola	
	MC74F379	Motorola	
	54F379	°† National	
	74F379	° National	120
	74F379	° Philips	
	SN74F379	° TI	
TTL-LS	SN54LS379	† Motorola	
	SN74LS379	Motorola	
	54LS379	† National	125
	74LS379	National	
	T54LS379	† SGS-Thomson	
	T74LS379	SGS-Thomson	
	SN54LS379	°† TI	
	SN74LS379	° TI	130
Quad Three-State			
TTL	DM54173	† National	
	DM74173	National	
	DM8551	National	
		(Continued)	
Quad Three-State			
TTL		(Cont'd)	
	54173	† National	
	74173	National	135
	74173	Rochester	
	SN54173	† TI	
	SN74173	TI	
TTL-LS	SL54LS173	† Lansdale	
	SL74LS173	**Lansdale (3674)**	140
	SN54LS173A	† Motorola	
	SN74LS173A	Motorola	
	54LS173A	† National	
	74LS173A	National	
	SN54LS173A	† TI	145
	SN74LS173A	TI	
Hex			
TTL-F	M74F174	Mitsubishi	
TTL-LS	T54LS174	† SGS-Thomson	
	T74LS174	SGS-Thomson	
Hex, D-Type			
TTL-ALS	74ALS174	Philips	150
Hex D-Type with Clear			
TTL	**ML54174**	**† Lansdale (3668)**	
	ML74174	**Lansdale (3669)**	
	54174	† Rochester	
Hex Edge-Triggered with Clear			
TTL	SL54174	† Lansdale	
	SL74174	Lansdale	155
	DM54174	† National	
	DM74174	National	
	54174	† National	
	74174	National	
	74174	Rochester	160
	SN54174	† TI	
	SN74174	TI	
TTL-ALS	M74ALS174	Mitsubishi	
	DM54ALS174	† National	
	DM74ALS174	National	165
	54ALS174	† Rochester	
	SN54ALS174	°† TI	
	SN74ALS174	° TI	
TTL-AS	DM74AS174	National	
	SN54AS174	°† TI	170
	SN74AS174	° TI	
TTL-F	MC54F174	† Motorola	
	MC74F174	Motorola	
	54F174	°† National	
	74F174	° National	175
	74F174	° Philips	
	SN54F174	°† TI	
	SN74F174	° TI	
TTL-LS	GD54LS174	† GoldStar	
	GD74LS174	GoldStar	180
	SL54LS174	† Lansdale	
	SL74LS174	**Lansdale (3674)**	
	SN54LS174	† Motorola	
	SN74LS174	Motorola	
	DM54LS174	† National	185
	DM74LS174	National	
	54LS174	† National	
	74LS174	National	
	54LS174	† SGS-Thomson	
	74LS174	SGS-Thomson	190
	SN54LS174	°† TI	
	SN74LS174	° TI	
TTL-S	GD54S174	† GoldStar	
	GD74S174	GoldStar	
	SL54S174	**Lansdale (3674)**	195
	SL74S174	**Lansdale (3675)**	
	DM54S174	† National	
	DM74S174	National	
	74S174	National	
	54S174	Rochester	200
	74S174	Rochester	
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Flip-Flops, D-Type		**(Cont'd)**	
Hex Edge-Triggered with Clear			
TTL-S		(Cont'd)	
	SN54S174	† TI	
	SN74S174	TI	
Hex, Metastable-Resistant			
AS	SN74AS4174	TI	
Hex with Common Enable			
TTL-F	MC54F378	† Motorola	
	MC74F378	Motorola	5
	54F378	°† National	
	74F378	° National	
	74F378	° Philips	
	SN74F378	° TI	
TTL-LS	SL54LS378	Lansdale	10
	SL74LS378	**Lansdale (3674)**	
	SN54LS378	† Motorola	
	SN74LS378	Motorola	
	54LS378	† National	
	74LS378	National	15
	T54LS378	† SGS-Thomson	
	T74LS378	SGS-Thomson	
	SN54LS378	°† TI	
	SN74LS378	° TI	
Octal	MC54F273	Motorola	20
TTL-ALS	SN74ALS374A	° TI	
	SN74ALS534A	° TI	
	SN74ALS573	° TI	
	SN74ALS574	° TI	
	SN74ALS576	TI	25
TTL-F	M74F374	Mitsubishi	
	MC74F273	Motorola	
TTL-LS	T54LS374	† SGS-Thomson	
	T54LS377	† SGS-Thomson	
	54LS374	† SGS-Thomson	30
	54LS377	† SGS-Thomson	
	74LS374	SGS-Thomson	
	74LS377	SGS-Thomson	
Octal (clock driver)			
TTL-F	MC74F1803	Motorola	
Octal D-Type			
TTL-ALS	M74ALS564A	Mitsubishi	35
	74ALS273	Philips	
TTL-F	N74F574	° Philips	
Octal D-Type Flip-Flop			
TTL-F	SN54F574	°† TI	
Octal D-Type with Enable			
TTL-ALS	74ALS377	Philips	
Octal D-Type, Three-State			
TTL-ALS	74ALS374	Philips	40
	74ALS564A	Philips	
	74ALS574A	Philips	
Octal, Edge-Triggered			
TTL-ALS	SN74ALS564	° TI	
Octal Edge-Triggered, Inverting, Three-State			
TTL-ALS	M74ALS534	Mitsubishi	
	DM74ALS534	National	45
	DM74ALS564	National	
	DM74AS534	National	
	54ALS534	Rochester	
	SN54ALS534	°† TI	
	SN54ALS564A	°† TI	50
	SN54ALS576A	† TI	
	SN74ALS534	° TI	
	SN74ALS564A	° TI	
	SN74ALS576A	TI	
	SN74AS534	° TI	55
TTL-AS	DM74AS576	National	
	SN54AS576	°† TI	
	SN74AS576	° TI	
TTL-F	MC54F534	† Motorola	
	MC74F534	Motorola	60
		(Continued)	
Octal Edge-Triggered, Inverting, Three-State			
TTL-F		(Cont'd)	
	54F534	°‡ National	
	54F564	°† National	
	74F534	° National	
	74F564	° National	
	74F534	° Philips	65
	74F564	° Philips	
	SN54F534	°† TI	
	SN74F534	° TI	
	SN74F564	° TI	
TTL-LS	**SL74LS534**	**Lansdale (3674)**	70
	74LS534	National	
	T74LS534	SGS-Thomson	
TTL-S	**SL54S534**	**Lansdale (3674)**	
	SL74S534	**Lansdale (3675)**	
Octal Edge-Triggered, with Clear			
TTL	74273	Rochester	75
	SN74273	TI	
TTL-ALS	M74ALS273	Mitsubishi	
	DM74ALS273	National	
	SN54ALS273	°† TI	
	SN74ALS273	° TI	80
TTL-F	54F273	° National	
	74F273	° National	
	74F273	° Philips	
	74F273A	Philips	
	SN54F273	† TI	85
	SN74F273	TI	
TTL-LS	GD54LS273	† GoldStar	
	GD74LS273	GoldStar	
	SL74LS273	**Lansdale (3674)**	
	SN54LS273	† Motorola	90
	SN74LS273	Motorola	
	54LS273	† National	
	74LS273	National	
	54LS273	† Philips	
	T74LS273	SGS-Thomson	95
	SN54LS273	°† TI	
	SN74LS273	° TI	
TTL-S	**SL54S273**	**Lansdale (3674)**	
	SL74S273	**Lansdale (3675)**	
Octal Edge-Triggered with Clear (dual)			
TTL-ALS	DPLALS273X	Dense-Pac	100
TTL-F	DPLF273X	Dense-Pac	
TTL-LS	DPLLS273X	Dense-Pac	
Octal Edge-Triggered, Three-State			
	MC54F574	Motorola	
TTL-ALS	M74ALS374	Mitsubishi	
	M74ALS575A	Mitsubishi	105
	M74ALS577A	Mitsubishi	
	54ALS574	Motorola	
	DM64ALS374A	National	
	DM74ALS374	National	
	DM74ALS374A	National	110
	DM74ALS574	National	
	54ALS574	† Rochester	
	SN54ALS374	°† TI	
	SN54ALS574A	°† TI	
	SN74ALS374	° TI	115
	SN74ALS574A	° TI	
	SN74ALS575A	TI	
	SN74ALS577A	TI	
TTL-AS	DM74AS374	National	
	DM74AS574	National	120
	DM74AS575	National	
	DM74AS577	National	
	SN54AS374	°† TI	
	SN54AS574	°† TI	
	SN54AS575	† TI	125
	SN74AS374	° TI	
	SN74AS574	° TI	
	SN74AS575	TI	
	SN74AS577	TI	
		(Continued)	
Octal Edge-Triggered, Three-State		(Cont'd)	
TTL-F	MC54F374	† Motorola	130
	MC74F374	Motorola	
	MC74F574	Motorola	
	54F374	°† National	
	54F574	° National	
	74F374	° National	135
	74F574	° National	
	54F374	°† Philips	
	74F374	° Philips	
	SN54F374	°† TI	
	SN54F379	°† TI	140
	SN74F374	° TI	
	SN74F574	° TI	
TTL-LS	GD54LS374	† GoldStar	
	GD74LS374	GoldStar	
	SL54LS374	Lansdale	145
	SL74LS374	**Lansdale (3674)**	
	SN54LS374	† Motorola	
	SN74LS374	Motorola	
	DM54LS374	† National	
	DM74LS374	National	150
	54LS374	† National	
	74LS374	National	
	74LS574	National	
	T74LS374	SGS-Thomson	
	SN54LS374	°† TI	155
	SN74LS374	° TI	
TTL-S	GD54S374	† GoldStar	
	GD74S374	GoldStar	
	SL54S374	**Lansdale (3674)**	
	SL74S374	**Lansdale (3675)**	160
	DM74S374	National	
	54S374	† Rochester	
	SN54S374	† TI	
	SN74S374	TI	
Octal Edge-Triggered, Three-State (dual)			
TTL-ALS	DPLALS574X	Dense-Pac	165
TTL-AS	DPLAS574X	Dense-Pac	
TTL-F	DPLF574X	Dense-Pac	
TTL-LS	DPLLS574X	Dense-Pac	
Octal Edge-Triggered, Three-State, Inverting			
TTL-ALS	M74ALS576A	Mitsubishi	
Octal, Edge-Triggered, Three-State, True			
TTL-ALS	M74ALS574A	Mitsubishi	170
TTL-F	M74F574	Mitsubishi	
Octal, Metastable-Resistant			
AS	SN74AS4374	TI	
TTL-AS	SN74AS3374	° TI	
Octal with Enable			
	MC54F377	Motorola	
TTL-F	MC74F377	Motorola	175
	54F377	° National	
	74F377	° National	
	54F377	† Philips	
	74F377	Philips	
	74F377A	Philips	180
	SN74F377	TI	
TTL-LS	GD54LS377	† GoldStar	
	GD74LS377	GoldStar	
	SL54LS377	Lansdale	
	SL74LS377	**Lansdale (3674)**	185
	SN54LS377	† Motorola	
	SN74LS377	Motorola	
	54LS377	† National	
	74LS377	National	
	T74LS377	SGS-Thomson	190
	SN54LS377	°† TI	
	SN74LS377	° TI	
8-Bit D-Type, Edge-Triggered, Three-State, Non-Inverting			
TTL-F	M74F825	Mitsubishi	
8-Bit Parallel, Inverting			
TTL-AS	SN54AS826	† TI	
	SN74AS826	TI	195
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Flip-Flops, D-Type (Cont'd)

Function	Device	Source	Line
8-Bit Parallel, Inverting (Cont'd)			
TTL-F	74F826	Philips	
8-Bit Parallel, Non-inverting			
TTL-F	54F825	† National	
	74F825	National	
	74F825	Philips	
8-Bit Parallel, True			
TTL-AS	SN54AS825	† TI	5
	SN74AS825	TI	
9-Bit D-Type, Edge-Triggered, Three-State, True			
TTL-F	M74F823	Mitsubishi	
9-Bit Parallel, Inverting			
TTL-AS	SN74AS824	TI	
TTL-F	74F824	Philips	
9-Bit Parallel, Non-inverting			
TTL-F	54F823	°† National	10
	74F823	° National	
	74F823	° Philips	
9-Bit Parallel, True			
TTL-AS	SN54AS823	°† TI	
	SN74AS823	° TI	
10-Bit D-Type Edge-Triggered, Three-State, True			
TTL-F	M74F821	Mitsubishi	15
10-Bit Parallel, Inverting			
F	74F822	Philips	
TTL-AS	SN54AS822	† TI	
	SN74AS822	TI	
10-Bit Parallel, Non-inverting			
TTL-F	54F821	°† National	
	74F821	° National	20
	74F821	° Philips	
10-Bit Parallel, True			
TTL-AS	SN54AS821	°‡ TI	
	SN74AS821	° TI	
20-Bit D-Type Edge-Triggered, Three-State, True			
TTL-LX	MC20LX374	Motorola	

Flip-Flops, J-K Type

Function	Device	Source	Line
AND Gated, Edge-Triggered with Preset and Clear			
TTL	5470	† Rochester	25
	7470	Rochester	
	SN5470	† TI	
	SN7470	TI	
AND Gated Master-Slave with Preset and Clear			
TTL	7472	Rochester	
	SN5472	† TI	30
TTL-H	**ML54H72**	**Lansdale (3669)**	
	ML74H72	**Lansdale (3669)**	
	54H72	† Rochester	
	74H72	Rochester	
AND Input, Single			
TTL-H	**ML3051**	**Lansdale (3667)**	35
	ML3052	**Lansdale (3667)**	
	ML3151	† **Lansdale (3667)**	
	ML3152	† **Lansdale (3667)**	
J-K Flip-Flop, Positive Edge-Triggered			
TTL	**ML5470**	† **Lansdale (3668)**	
	ML7470	**Lansdale (3668)**	40
J-K Master-Slave Flip-Flop			
TTL	**ML5472**	† **Lansdale (3668)**	
	ML7472	**Lansdale (3668)**	
	5472	† Rochester	
Master-Slave			
TTL	54105	Rochester	
	9000	Rochester	45
	9001	Rochester	
Master-Slave, AND-OR Input			
TTL-H	**ML54H71**	**Lansdale (3669)**	
	54H71	† Rochester	
Negative Edge-Triggered, AND Input			
TTL-H	**ML54H102**	**Lansdale (3669)**	
	54H102	Rochester	50
Negative Edge-Triggered, AND-OR Input			
TTL-H	**ML54H101**	**Lansdale (3669)**	
	ML74H101	**Lansdale (3669)**	
	54H101	Rochester	
	74H101	Rochester	
Dual			
TTL-H	**ML3061**	**Lansdale (3667)**	55
	ML3062	**Lansdale (3667)**	
	ML3161	† **Lansdale (3667)**	
	ML3162	† **Lansdale (3667)**	
TTL-LS	SN54LS114A	°† TI	
Dual J-K Master-Slave			
TTL	**ML74107**	**Lansdale (3669)**	60
Dual J-K Master-Slave Flip-Flop			
TTL	**ML5473**	† **Lansdale (3668)**	
	ML7473	**Lansdale (3668)**	
Dual J-K Master-Slave with Preset and Clear			
TTL	**ML5476**	† **Lansdale (3668)**	
	ML7476	**Lansdale (3668)**	
	5476	† Rochester	65
Dual J-K, Metastable Transparent			
TTL-F	74F50109	Philips	
Dual J-K Positive Edge-Triggered			
TTL-ALS	74ALS109A	Philips	
	74ALS112A	Philips	
Dual J-K Positive Edge-Triggered, Preset and Clear			
TTL	DM54109	† National	
	DM74109	National	70
	9024	Rochester	
	SN54109	† TI	
	SN74109	TI	
TTL-ALS	DM74ALS109	National	
	SN54ALS109A	°† TI	75
	SN74ALS109	° TI	
TTL-AS	DM74AS109	National	
	SN54AS109	°† TI	
	SN74AS109	° TI	
TTL-F	MC54F109	† Motorola	80
	MC74F109	Motorola	
	54F109	°† National	
	74F109	° National	
	74F109	° Philips	
	SN54F109	°† TI	85
	SN74F109	° TI	
TTL-LS	GD54LS109A	† GoldStar	
	GD74LS109A	GoldStar	
	SL54LS109	† Lansdale	
	SL74LS109	**Lansdale (3674)**	90
	SN54LS109A	† Motorola	
	SN74LS109A	Motorola	
	DM54LS109	† National	
	DM74LS109	National	
	54LS109	† National	95
	74LS109	National	
	T74LS109A	SGS-Thomson	
	SN54LS109A	°† TI	
	SN74LS109A	° TI	
TTL-S	74S109	National	100
Dual J-K, Positive Trigger			
TTL-F	M74F109	Mitsubishi	
Dual J-K with Preset, Common Clock and Common Clear			
TTL-H	54H78	† Rochester	
TTL-L	54L78	† Rochester	
TTL-LS	SN54LS78A	† TI	
	SN74LS78A	TI	105
Dual Master-Slave			
TTL	**ML54107**	† **Lansdale (3668)**	
Dual Master-Slave with Clear			
TTL	DM54107	† National	
	DM5473	† National	
Dual Master-Slave with Clear			
TTL (Cont'd)			
	DM74107	National	
	DM7473	National	110
	5473	† National	
	7473	National	
	7473	Rochester	
	SN54107	† TI	
	SN5473	† TI	115
	SN74107	TI	
	SN7473	TI	
TTL-H	**ML54H73**	**Lansdale (3669)**	
	ML74H73	**Lansdale (3669)**	
	54H73	† Rochester	120
	74H73	Rochester	
TTL-L	54L73	† Rochester	
TTL-LS	GD54LS107A	† GoldStar	
	GD54LS73A	† GoldStar	
	GD74LS107A	GoldStar	125
	GD74LS73A	GoldStar	
	SL54LS107	† Lansdale	
	SL54LS73	Lansdale	
	SL74LS107	**Lansdale (3674)**	
	SL74LS73	**Lansdale (3674)**	130
	SN54LS107A	† Motorola	
	SN74LS107A	Motorola	
	SN74LS73A	Motorola	
	DM54LS107A	† National	
	DM54LS73A	† National	135
	DM74LS107A	National	
	DM74LS73A	National	
	SN54LS107A	† TI	
	SN54LS73A	† TI	
	SN74LS107A	TI	140
	SN74LS73A	TI	
Dual Master-Slave with Data Lockout			
TTL	SN54111	† TI	
Dual Master-Slave with Preset and Clear			
TTL	DM5476	† National	
	DM7476	National	
	5476	† National	145
	7476	National	
	7476	Rochester	
	SN5476	† TI	
	SN7476	TI	
	TC7476B	**Toshiba (3838)**	150
TTL-H	54H76	Rochester	
TTL-LS	SL54LS76	Lansdale	
	SL74LS76	**Lansdale (3674)**	
	SN54LS76A	† Motorola	
	SN74LS76A	Motorola	155
	SN54LS76A	† TI	
	SN74LS76A	TI	
Dual, Negative Edge-Triggered			
TTL-ALS	M74ALS112A	Mitsubishi	
	M74ALS113A	Mitsubishi	
	M74ALS114A	Mitsubishi	160
TTL-F	M74F112	Mitsubishi	
Dual Negative Edge-Triggered, Preset, Common Clear, Common Clock			
TTL-H	**ML54H108**	**Lansdale (3669)**	
	ML74H108	**Lansdale (3669)**	
	54H108	† Rochester	
	74H108	Rochester	165
Dual Negative Edge-Triggered, Separate Preset and Clock, (no clear)			
TTL-ALS	SN54ALS113A	°† TI	
	SN74ALS113A	° TI	
TTL-F	54F113	°† National	
	74F113	° National	
	74F113	° Philips	170
	SN54F113	°† TI	
	SN74F113	° TI	
TTL-LS	SL54LS113	† Lansdale	
	SL74LS113	**Lansdale (3674)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–TTL (Cont'd)

Flip-Flops, J-K Type (Cont'd)

Function	Device	Source	Line
Dual Negative Edge-Triggered, Separate Preset and Clock, (no clear)			
TTL-LS		(Cont'd)	
	SN54LS113A	† Motorola	
	SN74LS113A	Motorola	
	54LS113	† National	
	74LS113	Rochester	
	T74LS113A	SGS-Thomson	5
	SN74LS113A	° TI	
TTL-S	DM54S113	† National	
	DM74S113	National	
	54S113	Rochester	
	74S113	Rochester	10
	SN54S113	† TI	
	SN74S113	TI	
Dual Negative Edge-Triggered, with Clear			
TTL-H	**ML54H103**	**Lansdale (3669)**	
	ML74H103	**Lansdale (3669)**	
	54H103	Rochester	15
	74H103	Rochester	
Dual Negative Edge-Triggered with Preset and Clear			
TTL-ALS	SN54ALS112A	°† TI	
	SN74ALS112A	° TI	
TTL-F	MC54F112	† Motorola	
	MC74F112	Motorola	20
	54F112	°† National	
	74F112	° National	
	74F112	° Philips	
	SN54F112	°† TI	
	SN74F112	° TI	25
TTL-H	54H106	Rochester	
	74H106	Rochester	
TTL-LS	GD54LS112	† GoldStar	
	GD74LS112	GoldStar	
	SL54LS112	† Lansdale	30
	SL74LS112	**Lansdale (3674)**	
	SN54LS112A	† Motorola	
	SN74LS112A	Motorola	
	DM74LS112	National	
	54LS112	† National	35
	74LS112	National	
	T74LS112A	SGS-Thomson	
	SN54LS112A	° TI	
	SN74LS112A	° TI	
TTL-S	GD54S112	† GoldStar	40
	GD74S112	GoldStar	
	SL54S112	**Lansdale (3674)**	
	SL74S112	**Lansdale (3675)**	
	DM54S112	† National	
	DM74S112	National	45
	74S112	National	
	54S112	† Rochester	
	74S112	Rochester	
	SN54S112	† TI	
	SN74S112	TI	50
Dual Negative Edge-Triggered with Preset, Common Clock and Common Clear			
TTL-ALS	SN54ALS114A	°† TI	
	SN74ALS114A	° TI	
TTL-F	54F114	°† National	
	74F114	° National	
	74F114	° Philips	55
	SN54F114	°† TI	
	SN74F114	° TI	
TTL-LS	SN54LS114A	† Motorola	
	SN74LS114A	Motorola	
	54LS114	† National	60
	74LS114	Rochester	
	T54LS114	† SGS-Thomson	
	T74LS114A	SGS-Thomson	
	SN74LS114A	° TI	
TTL-S	54S114	† Rochester	65
	74S114	Rochester	
		(Continued)	
Dual Negative Edge-Triggered with Preset, Common Clock and Common Clear			
TTL-S		(Cont'd)	
	SN54S114	† TI	
	SN74S114	TI	
Dual, Positive Edge-Triggered			
TTL-ALS	M74ALS109A	Mitsubishi	
Quad J-K Edge-Triggered with Clear			
TTL	SN54376	† TI	70
	SN74376	TI	
Quad J-K Edge-Triggered with Preset and Clear			
TTL	74276	Rochester	
	SN74276	TI	

Gates, AND

Function	Device	Source	Line
Dual 4-Input			
TTL	5421	Rochester	
	7421	Rochester	75
TTL-ALS	DM74ALS21	National	
	DM74ALS22	National	
	54ALS21	† Rochester	
	SN54ALS21A	°† TI	
	SN74ALS21A	° TI	80
TTL-AS	DM74AS21	National	
	SN54AS21	°† TI	
	SN74AS21	° TI	
TTL-F	MC54F21	°† Motorola	
	MC74F21	° Motorola	85
	MV74F21	Motorola	
TTL-H	**ML3011**	**Lansdale (3667)**	
	ML3026	**Lansdale (3667)**	
	ML3111	**† Lansdale (3667)**	
	ML3126	**† Lansdale (3667)**	90
	ML54H21	**Lansdale (3669)**	
	ML74H21	**Lansdale (3669)**	
	RC3011	Rochester	
	RC3111	Rochester	
	54H21	† Rochester	95
	74H21	Rochester	
TTL-LS	GD54LS21	† GoldStar	
	GD74LS21	GoldStar	
	SL54LS21	† Lansdale	
	SL74LS21	**Lansdale (3674)**	100
	SN54LS21	† Motorola	
	SN74LS21	Motorola	
	DM54LS21	† National	
	DM74LS21	National	
	54LS21	† National	105
	74LS21	National	
	74LS21	Rochester	
	T74LS21	SGS-Thomson	
	74LS21	SGS-Thomson	
	SN54LS21	°† TI	110
	SN74LS21	° TI	
Dual 4-Input (positive)			
TTL-ALS	M74ALS21A	Mitsubishi	
Triple 3-Input			
TTL	7411	National	
	5411	Rochester	
	7411	Rochester	115
TTL-ALS	M74ALS1011A	Mitsubishi	
	DM54ALS11	† National	
	DM74ALS1011	National	
	DM74ALS11	National	
	74ALS11A	Philips	120
	SN54ALS11A	°† TI	
	SN74ALS1011A	TI	
	SN74ALS11A	° TI	
TTL-AS	DM74AS11	National	
	SN54AS11	°† TI	125
	SN74AS11	° TI	
TTL-F	M74F11	Mitsubishi	
	MC54F11	† Motorola	
	MC74F11	Motorola	
		(Continued)	
Triple 3-Input			
TTL-F		(Cont'd)	
	54F11	°† National	130
	74F11	° National	
	74F11	Philips	
	SN54F11	°† TI	
	SN74F11	° TI	
TTL-H	**ML3006**	**Lansdale (3667)**	135
	ML3106	**† Lansdale (3667)**	
	ML54H11	**Lansdale (3669)**	
	ML74H11	**Lansdale (3669)**	
	RC3006	Lansdale	
	RC3106	Rochester	140
	54H11	† Rochester	
	74H11	Rochester	
TTL-LS	GD54LS11	† GoldStar	
	GD74LS11	GoldStar	
	SL54LS11	† Lansdale	145
	SL74LS11	**Lansdale (3674)**	
	SN54LS11	† Motorola	
	SN74LS11	Motorola	
	DM54LS11	† National	
	DM74LS11	National	150
	54LS11	† National	
	74LS11	National	
	74LS11	Rochester	
	T54LS11	† SGS-Thomson	
	T74LS11	SGS-Thomson	155
	T74LS15	SGS-Thomson	
	54LS11	† SGS-Thomson	
	74LS11	SGS-Thomson	
	SN54LS11	°† TI	
	SN74LS11	° TI	160
TTL-S	**SL54S11**	**Lansdale (3674)**	
	SL74S11	**Lansdale (3675)**	
	DM54S11	† National	
	DM74S11	National	
	74S11	National	165
	54S11	† Rochester	
	74S11	Rochester	
	SN54S11	† TI	
	SN74S11	° TI	
Triple 3-Input, Open Collector			
TTL-ALS	DM74ALS15	National	170
	SN54ALS15A	† TI	
	SN74ALS15A	TI	
TTL-LS	GD54LS15	† GoldStar	
	GD74LS15	GoldStar	
	SN54LS15	† Motorola	175
	SN74LS15	Motorola	
	54LS15	† National	
	74LS15	National	
	54LS15	† SGS-Thomson	
	74LS15	SGS-Thomson	180
	SN54LS15	† TI	
	SN74LS15	TI	
TTL-S	54S15	† Rochester	
	SN54S15	† TI	
	SN74S15	TI	185
Triple 3-Input (positive)			
TTL-ALS	M74ALS11A	Mitsubishi	
Triple 3-Input (positive, open collector)			
TTL-ALS	M74ALS15A	Mitsubishi	
Quad 2-Input			
LVQ	**TC74LVQ08**	**ℓ Toshiba (3837)**	
LVX	**TC74LVX08**	**ℓ Toshiba (3837)**	
TTL	**ML5408**	**† Lansdale (3668)**	190
	ML7408	**Lansdale (3668)**	
	SL5408	† Lansdale	
	SL7408	Lansdale	
	DM5408	† National	
	DM7408	National	195
	5408	† National	
	7408	National	
	5408	† Rochester	
	7408	Rochester	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Gates, AND (Cont'd)

Function	Device	Source	Line
Quad 2-Input			
TTL		(Cont'd)	
	SN5408	† TI	
	SN7408	TI	
TTL-ALS	M74ALS08	Mitsubishi	
	M74ALS09	Mitsubishi	
	M74ALS1008A	Mitsubishi	5
	54ALS08	Motorola	
	DM64ALS08	National	
	DM74ALS08	National	
	DM74ALS1008	National	
	DM74ALS576	National	10
	74ALS08	Philips	
	SN54ALS08	°† TI	
	SN74ALS08	° TI	
	SN74ALS1008A	TI	
TTL-AS	DM74AS08	National	15
	DM74AS1008	National	
	SN54AS08	°† TI	
	SN74AS08	° TI	
	SN74AS1008A	TI	
TTL-F	M74F08	Mitsubishi	20
	MC54F08	† Motorola	
	MC74F08	Motorola	
	54F08	°† National	
	74F08	° National	
	74F08	° Philips	25
	SN54F09	°† TI	
	SN74F09	° TI	
TTL-H	**ML3001**	**Lansdale (3667)**	
	ML3101	† **Lansdale (3667)**	
	ML54H08	**Lansdale (3669)**	30
	ML74H08	**Lansdale (3669)**	
	RC3001	Rochester	
	54H08	† Rochester	
	74H08	Rochester	
TTL-LS	GD54LS08	† GoldStar	35
	GD74LS08	GoldStar	
	SL54LS08	† Lansdale	
	SL74LS08	**Lansdale (3674)**	
	SN54LS08	† Motorola	
	SN74LS08	Motorola	40
	DM54LS08	† National	
	DM74LS08	National	
	54LS08	† National	
	74LS08	National	
	74LS08	Rochester	45
	T54LS09	† SGS-Thomson	
	T74LS08	SGS-Thomson	
	T74LS09	SGS-Thomson	
	74LS08	SGS-Thomson	
	SN54LS08	°† TI	50
	SN74LS08	° TI	
TTL-S	GD54S08	† GoldStar	
	GD74S08	GoldStar	
	SL54S08	**Lansdale (3674)**	
	SL74S08	**Lansdale (3675)**	55
	DM54S08	† National	
	DM74S08	National	
	74S08	National	
	54S08	† Rochester	
	SN54S08	† TI	60
	SN74S08	TI	
Quad 2-Input, Open Collector			
TTL	**ML5409**	† **Lansdale (3668)**	
	ML7409	**Lansdale (3668)**	
	DM5409	† National	
	DM7409	National	65
	5409	† National	
	7409	National	
	5409	† Rochester	
	7409	Rochester	
	SN5409	† TI	70
	SN7409	TI	
Quad 2-Input, Open Collector		(Cont'd)	
TTL-ALS	DM74ALS09	National	
	SN54ALS09	°† TI	
	SN74ALS09A	° TI	
TTL-LS	GD54LS09	† GoldStar	75
	GD74LS09	GoldStar	
	SL54LS09	† Lansdale	
	SL74LS09	**Lansdale (3674)**	
	SN54LS09	† Motorola	
	SN74LS09	Motorola	80
	DM54LS09	† National	
	DM74LS09	National	
	DM74S09	National	
	54LS09	† National	
	74LS09	National	85
	74LS09	Rochester	
	74S09	Rochester	
	54LS09	† SGS-Thomson	
	74LS09	SGS-Thomson	
	SN54LS09	°† TI	90
	SN74LS09	° TI	
TTL-S	54S09	† Rochester	
	SN54S09	† TI	
	SN74S09	TI	
Quad 2-Input			
TTL-F	SN74F08	° TI	95
Hex 2-Input			
TTL-AS	DM74AS1808	National	
Hex 2-Input AND Driver			
TTL-ALS	SN74ALS808A	TI	

Gates, NAND

Function	Device	Source	Line
Single 8-Input			
TTL-F	M74F30	Mitsubishi	
Dual 2-Input			
TTL-ALS	SN74ALS8003A	TI	
Dual 4-Input	MC74ACT20	Motorola	100
TTL	**ML5420**	† **Lansdale (3668)**	
	ML7420	**Lansdale (3668)**	
	SL5420	† Lansdale	
	SL7420	Lansdale	
	DM5420	† National	105
	DM7420	National	
	5420	† National	
	7420	National	
	5420	† Rochester	
	7420	Rochester	110
	SN5420	† TI	
	SN7420	TI	
TTL-ALS	M74ALS1020A	Mitsubishi	
	M74ALS20A	Mitsubishi	
	DM74ALS1020	National	115
	DM74ALS20	National	
	74ALS20A	Philips	
	SN54ALS20A	°† TI	
	SN54ALS22A	† TI	
	SN74ALS1020A	TI	120
	SN74ALS20A	° TI	
TTL-AS	DM74AS20	National	
	SN54AS20	°† TI	
	SN74AS20	° TI	
TTL-F	M74F20	Mitsubishi	125
	MC54F20	† Motorola	
	MC74F20	Motorola	
	MC74F40	Motorola	
	54F20	°† National	
	74F20	° National	130
	54F20	† Philips	
	74F20	° Philips	
	SN54F20	°† TI	
	SN54F21	°† TI	
	SN74F20	° TI	135
	SN74F21	° TI	
Dual 4-Input		(Cont'd)	
TTL-H	**ML3010**	**Lansdale (3667)**	
	ML3025	**Lansdale (3667)**	
	ML3110	† **Lansdale (3667)**	
	ML3125	† **Lansdale (3667)**	140
	ML54H20	**Lansdale (3669)**	
	ML74H20	**Lansdale (3669)**	
	RC3010	Rochester	
	RC3110	Rochester	
	54H20	† Rochester	145
	74H20	Rochester	
TTL-L	54L20	† Rochester	
TTL-LS	GD54LS20	† GoldStar	
	GD74LS20	GoldStar	
	SL54LS20	† Lansdale	150
	SL74LS20	**Lansdale (3674)**	
	SN54LS20	† Motorola	
	SN74LS20	Motorola	
	DM54LS20	† National	
	DM74LS20	National	155
	54LS20	† National	
	74LS20	National	
	74LS20	Rochester	
	T54LS20	† SGS-Thomson	
	T54LS22	† SGS-Thomson	160
	T74LS20	SGS-Thomson	
	T74LS22	SGS-Thomson	
	T74LS40	SGS-Thomson	
	54LS20	† SGS-Thomson	
	74LS20	SGS-Thomson	165
	SN54LS20	°† TI	
	SN74LS20	° TI	
TTL-S	GD54S20	† GoldStar	
	GD74S20	GoldStar	
	SL54S20	**Lansdale (3674)**	170
	SL74S20	**Lansdale (3675)**	
	DM54S20	† National	
	DM74S20	National	
	74S20	National	
	54S20	† Rochester	175
	74S20	Rochester	
	SN54S20	† TI	
	SN74S20	TI	
Dual 4-Input Buffer			
TTL	**ML5440**	† **Lansdale (3668)**	
	ML7440	**Lansdale (3668)**	180
	SL5440	† Lansdale	
	SL7440	Lansdale	
	5440	† National	
	7440	National	
	5440	† Rochester	185
	7440	Rochester	
	SN5440	† TI	
	SN7440	TI	
TTL-ALS	DM74ALS40	National	
	SN74ALS40A	° TI	190
TTL-F	54F40	° National	
	74F40	° National	
	74F40	° Philips	
	SN74F40	TI	
TTL-H	**ML54H40**	**Lansdale (3669)**	195
	ML74H40	**Lansdale (3669)**	
	54H40	† Rochester	
	74H40	Rochester	
TTL-LS	SL54LS40	† Lansdale	
	SN54LS40	† Motorola	200
	SN74LS40	Motorola	
	54LS40	† National	
	74LS40	National	
	54LS40	† SGS-Thomson	
	74LS40	SGS-Thomson	205
	SN54LS40	°† TI	
	SN74LS40	° TI	
TTL-S	**SL54S40**	**Lansdale (3674)**	
	SL74S40	**Lansdale (3675)**	
	DM54S40	† National	210

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Gates, NAND (Cont'd)

Function	Device	Source	Line
Dual 4-Input Buffer			
TTL-S		(Cont'd)	
	DM74S40	National	
	74S40	National	
	54S40	† Rochester	
	SN54S40	† TI	
	SN74S40	TI	5
Dual 4-Input NAND Buffer			
TTL-F	SN54F40	† TI	
Dual 4-Input, Open Collector			
TTL	5422	† Rochester	
	7422	Rochester	
	SN5422	† TI	
	SN7422	TI	10
TTL-ALS	SN74ALS22B	TI	
TTL-H	**ML3012**	**Lansdale (3667)**	
	ML3112	† **Lansdale (3667)**	
	ML54H22	**Lansdale (3669)**	
	ML74H22	**Lansdale (3669)**	15
	RC3012	Rochester	
	RC3112	Rochester	
	54H22	† Rochester	
	74H22	Rochester	
TTL-LS	SN54LS22	† Motorola	20
	SN74LS22	Motorola	
	54LS22	† National	
	74LS22	Rochester	
	54LS22	† SGS-Thomson	
	74LS22	SGS-Thomson	25
	SN54LS22	† TI	
TTL-S	54S22	† Rochester	
	SN54S22	† TI	
	SN74S22	TI	
Dual 4-Input (positive, open collector)			
TTL-ALS	M74ALS22B	Mitsubishi	30
Triple 3-Input			
TTL	**ML5410**	† **Lansdale (3668)**	
	ML7410	**Lansdale (3668)**	
	SL5410	Lansdale	
	SL7410	Lansdale	
	MC54F10	† Motorola	35
	DM5410	† National	
	DM7410	National	
	5410	† National	
	7410	National	
	7410	Rochester	40
	SN5410	† TI	
	SN7410	TI	
TTL-ALS	M74ALS1010A	Mitsubishi	
	DM74ALS10	National	
	DM74ALS1010	National	45
	74ALS10A	Philips	
	54ALS10	† Rochester	
	SN54ALS10A	°† TI	
	SN54ALS1010A	† TI	
	SN74ALS10A	° TI	50
	SN74ALS1010A	TI	
TTL-AS	DM74AS10	National	
	SN54AS10	°† TI	
	SN74AS10	° TI	
TTL-F	M74F10	Mitsubishi	55
	MC74F10	Motorola	
	54F10	°† National	
	74F10	° National	
	74F10	° Philips	
	SN74F10	° TI	60
TTL-H	**ML3005**	**Lansdale (3667)**	
	ML3105	† **Lansdale (3667)**	
	ML54H10	**Lansdale (3669)**	
	ML74H10	**Lansdale (3669)**	
	RC3005	Rochester	65
	RC3105	Rochester	
		(Continued)	
Triple 3-Input			
TTL-H		(Cont'd)	
	54H10	Rochester	
	74H10	Rochester	
TTL-L	54L10	† Rochester	
TTL-LS	GD54LS10	† GoldStar	70
	GD74LS10	GoldStar	
	SL54LS10	† Lansdale	
	SL74LS10	**Lansdale (3674)**	
	SN54LS10	† Motorola	
	SN74LS10	Motorola	75
	DM54LS10	† National	
	DM74LS10	National	
	54LS10	† National	
	74LS10	National	
	74LS10	Rochester	80
	T54LS10	† SGS-Thomson	
	T74LS10	SGS-Thomson	
	T74LS12	SGS-Thomson	
	54LS10	† SGS-Thomson	
	74LS10	SGS-Thomson	85
	74LS12	SGS-Thomson	
	SN54LS10	°† TI	
	SN74LS10	° TI	
TTL-S	GD54S10	† GoldStar	
	GD74S10	GoldStar	90
	SL54S10	**Lansdale (3674)**	
	SL74S10	**Lansdale (3675)**	
	DM54S10	† National	
	DM74S10	National	
	74S10	National	95
	54S10	† Rochester	
	SN54S10	† TI	
	SN74S10	° TI	
Triple 3-Input, Open Collector			
TTL	5412	Rochester	
	7412	Rochester	100
	SN5412	† TI	
	SN7412	TI	
TTL-ALS	DM74ALS12	National	
	54ALS12	† Rochester	
	SN54ALS12A	°† TI	105
	SN74ALS12A	° TI	
TTL-H	**ML3007**	**Lansdale (3667)**	
	ML3107	† **Lansdale (3667)**	
TTL-LS	SN54LS12	† Motorola	
	SN74LS12	Motorola	110
	DM54LS12	† National	
	DM74LS12	National	
	74LS12	National	
	74LS12	Rochester	
	SN54LS12	°† TI	115
	SN74LS12	° TI	
Triple 3-Input (positive)			
TTL-ALS	M74ALS10A	Mitsubishi	
Triple 3-Input (positive, open collector)			
TTL-ALS	M74ALS12A	Mitsubishi	
Triple 3-Input			
TTL-F	SN54F10	°† TI	
Quad 2-Input			
TTL	**ML5400**	† **Lansdale (3668)**	120
	ML5426	† **Lansdale (3668)**	
	ML7400	**Lansdale (3668)**	
	ML7426	**Lansdale (3668)**	
	SL7400	Lansdale	
	5400	Lansdale	125
	DM5400	† National	
	DM7400	National	
	5400	† National	
	7400	National	
	5400	† Rochester	130
	7400	Rochester	
	9002	Rochester	
	SN5400	† TI	
	SN7400	TI	
	TC7400B	**Toshiba (3838)**	135
		(Continued)	
Quad 2-Input		(Cont'd)	
TTL-ALS	M74ALS1000A	Mitsubishi	
	54ALS00	Motorola	
	DM74ALS00	National	
	DM74ALS1000	National	
	74ALS00A	Philips	140
	54ALS00	† Rochester	
	SN54ALS00A	°† TI	
	SN74ALS00A	° TI	
	SN74ALS1000A	TI	
TTL-AS	DM74AS00	National	145
	DM74AS1000	National	
	SN54AS00	°† TI	
	SN54AS1000A	† TI	
	SN74AS00	° TI	
	SN74AS1000A	TI	150
TTL-F	M74F00	Mitsubishi	
	MC54F00	† Motorola	
	MC74F00	Motorola	
	MC74F37	Motorola	
	MC74F38	Motorola	155
	54F00	°† National	
	74F00	° National	
	54F00	° Philips	
	74F00	° Philips	
	SN54F37	† TI	160
	SN54F38	† TI	
	SN74F00	° TI	
TTL-H	**ML3000**	**Lansdale (3667)**	
	ML3100	† **Lansdale (3667)**	
	ML74H00	**Lansdale (3669)**	165
	RC3000	Rochester	
	74H00	Rochester	
TTL-L	54L00	† Rochester	
TTL-LS	GD54LS00	† GoldStar	
	GD74LS00	GoldStar	170
	SL54LS00	† Lansdale	
	SL74LS00	**Lansdale (3674)**	
	SN54LS00	† Motorola	
	SN74LS00	Motorola	
	DM54LS00	† National	175
	DM74LS00	National	
	54LS00	† National	
	74LS00	National	
	74LS00	Rochester	
	T54LS00	† SGS-Thomson	180
	T74LS00	SGS-Thomson	
	T74LS01	SGS-Thomson	
	T74LS03A	SGS-Thomson	
	T74LS26	SGS-Thomson	
	T74LS37	SGS-Thomson	185
	T74LS38	SGS-Thomson	
	54LS00	† SGS-Thomson	
	74LS00	SGS-Thomson	
	74LS01	† SGS-Thomson	
	74LS26	SGS-Thomson	190
	SN54LS00	°† TI	
	SN74LS00	° TI	
TTL-S	GD54S00	† GoldStar	
	GD74S00	GoldStar	
	SL54S00	**Lansdale (3674)**	195
	SL74S00	**Lansdale (3675)**	
	DM54S00	† National	
	DM74S00	National	
	74S00	National	
	54S00	† Rochester	200
	SN54S00	† TI	
	SN74S00	TI	
Quad 2-Input Buffer			
TTL	**ML5437**	† **Lansdale (3668)**	
	ML5438	† **Lansdale (3668)**	
	ML7437	**Lansdale (3668)**	205
	ML7438	**Lansdale (3668)**	
	SL5437	† Lansdale	
	SL7437	Lansdale	
	DM5437	† National	
	DM7437	National	210
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–TTL (Cont'd)

Function	Device	Source	Line
Gates, NAND (Cont'd)			
Quad 2-Input Buffer			
TTL		(Cont'd)	
	5437	† National	
	7437	National	
	5437	† Rochester	
	7437	Rochester	
	SN5437	† TI	5
	SN7437	TI	
TTL-ALS	DM74ALS37	National	
	74ALS38A	Philips	
	SN54ALS37A	°† TI	
	SN74ALS37A	° TI	10
TTL-F	54F37	° National	
	74F37	° National	
	74F37	° Philips	
	SN74F37	TI	
TTL-LS	SL54LS37	Lansdale	15
	SL74LS37	**Lansdale (3674)**	
	SN54LS37	† Motorola	
	SN74LS37	Motorola	
	DM54LS37	† National	
	DM74LS37	National	20
	54LS37	† National	
	74LS37	National	
	74LS37	Rochester	
	54LS37	† SGS-Thomson	
	74LS37	SGS-Thomson	25
	SN54LS37	°† TI	
	SN74LS37	° TI	
TTL-S	**SL54S37**	**Lansdale (3674)**	
	SL74S37	**Lansdale (3675)**	
	SN54S37	† TI	30
	SN74S37	TI	
Quad 2-Input Buffer, Open Collector			
LVC	74LVC38	ℓ Philips	
TTL	SL5438	† Lansdale	
	SL5439	† Lansdale	
	SL7438	Lansdale	35
	SL7439	Lansdale	
	DM5438	† National	
	DM7438	National	
	7438	National	
	7439	National	40
	5439	† Philips	
	5438	† Rochester	
	7438	Rochester	
	SN5438	† TI	
	SN7438	TI	45
	SN7439	TI	
TTL-ALS	DM74ALS38	National	
	54ALS38	† Rochester	
	SN54ALS38A	°† TI	
	SN74ALS38A	° TI	50
TTL-F	54F38	° National	
	74F38	° National	
	74F38	° Philips	
	SN74F38	TI	
TTL-LS	GD54LS38	† GoldStar	55
	GD74LS38	GoldStar	
	SL54LS38	Lansdale	
	SL74LS38	**Lansdale (3674)**	
	SN54LS38	† Motorola	
	SN74LS38	Motorola	60
	DM54LS38	† National	
	DM74LS38	National	
	54LS38	† National	
	74LS38	National	
	74LS38	Rochester	65
	SN54LS38	°† TI	
	SN74LS38	° TI	
TTL-S	**SL54S38**	**Lansdale (3674)**	
	SL74S38	**Lansdale (3675)**	
	SN54S38	† TI	70
	SN74S38	TI	
Quad 2-Input Buffer, Open Collector, to 15 V			
TTL-LS	GD54LS26	† GoldStar	
	GD74LS26	GoldStar	
	SL54LS26	† Lansdale	
	SL74LS26	**Lansdale (3674)**	75
	SN54LS26	† Motorola	
	SN74LS26	Motorola	
	DM54LS26	† National	
	DM74LS26	National	
	54LS26	† National	80
	74LS26	National	
	74LS26	Rochester	
	T74LS26A	SGS-Thomson	
	SN54LS26	† TI	
	SN74LS26	TI	85
Quad 2-Input, Open Collector			
TTL	**ML5401**	**† Lansdale (3668)**	
	ML5403	**† Lansdale (3668)**	
	ML7401	**Lansdale (3668)**	
	ML7403	**Lansdale (3668)**	
	SL7403	Lansdale	90
	5403	Lansdale	
	DM5401	† National	
	DM5403	† National	
	DM7401	National	
	DM7403	National	95
	7401	National	
	7403	National	
	5401	† Rochester	
	7401	Rochester	
	7403	Rochester	100
	SN5401	† TI	
	SN5403	† TI	
	SN7401	TI	
	SN7403	TI	
TTL-ALS	M74ALS03B	Mitsubishi	105
	M74ALS1003A	Mitsubishi	
	DM74ALS01	National	
	DM74ALS03	National	
	DM74ALS1003	National	
	SN54ALS01	°† TI	110
	SN54ALS03B	°† TI	
	SN74ALS01	° TI	
	SN74ALS03B	° TI	
	SN74ALS1003A	TI	
TTL-H	**ML3004**	**Lansdale (3667)**	115
	ML3104	**† Lansdale (3667)**	
	ML54H01	**Lansdale (3669)**	
	ML74H01	**Lansdale (3669)**	
	RC3004	Rochester	
	RC3104	Rochester	120
	74H01	Rochester	
TTL-L	54L01	† Rochester	
	54L03	† Rochester	
TTL-LS	SL54LS01	† Lansdale	
	SL74LS01	**Lansdale (3674)**	125
	SN54LS01	† Motorola	
	SN54LS03	† Motorola	
	SN74LS01	Motorola	
	SN74LS03	Motorola	
	DM54LS03	† National	130
	DM74LS03	National	
	54LS03	† National	
	74LS03	National	
	74LS03	Rochester	
	54LS03	† SGS-Thomson	135
	74LS03	SGS-Thomson	
	SN54LS01	°† TI	
	SN54LS03	°† TI	
	SN74LS01	° TI	
	SN74LS03	° TI	140
TTL-S	**SL54S03**	**Lansdale (3674)**	
	SL74S03	**Lansdale (3675)**	
	DM54S03	† National	
	DM74S03	National	
	74S03	National	145
	74S03	Rochester	
		(Continued)	
Quad 2-Input, Open Collector			
TTL-S		(Cont'd)	
	54LS38	† SGS-Thomson	
	74LS38	SGS-Thomson	
	SN54S03	† TI	
	SN74S03	TI	150
Quad 2-Input (Schmitt)			
TTL	**ML54132**	**† Lansdale (3668)**	
	ML74132	**Lansdale (3669)**	
	54132	† Rochester	
Quad 2-Input			
TTL-F	SN54F00	°† TI	
Hex 2-Input			
TTL-AS	DM74AS1804	National	155
8-Input			
TTL	**ML5430**	**† Lansdale (3668)**	
	ML7430	**Lansdale (3668)**	
	DM5430	† National	
	5430	† National	
	7430	National	160
	5430	† Rochester	
	7430	Rochester	
	SN5430	† TI	
	SN7430	TI	
TTL-ALS	DM74ALS30	National	165
	74ALS30A	Philips	
	54ALS30	† Rochester	
	SN54ALS30A	°† TI	
	SN74ALS30A	° TI	
TTL-AS	DM74AS30	National	170
	SN54AS30	°† TI	
	SN74AS30	° TI	
TTL-F	54F30	† National	
	74F30	Philips	
	SN54F30	°‡ TI	175
	SN74F30	° TI	
TTL-H	**ML3015**	**Lansdale (3667)**	
	ML3016	**Lansdale (3667)**	
	ML3115	**† Lansdale (3667)**	
	ML3116	**† Lansdale (3667)**	180
	ML54H30	**Lansdale (3669)**	
	ML74H30	**Lansdale (3669)**	
	RC3015	Rochester	
	RC3016	Rochester	
	RC3115	Rochester	185
	RC3116	Rochester	
	54H30	† Rochester	
	74H30	Rochester	
TTL-L	54L30	† Rochester	
TTL-LS	GD54LS30	† GoldStar	190
	GD74LS30	GoldStar	
	SL54LS30	Lansdale	
	SL74LS30	**Lansdale (3674)**	
	SN54LS30	† Motorola	
	SN74LS30	Motorola	195
	DM54LS30	† National	
	DM74LS30	National	
	54LS30	† National	
	74LS30	National	
	74LS30	Rochester	200
	T54LS30	† SGS-Thomson	
	T74LS30	SGS-Thomson	
	54LS30	† SGS-Thomson	
	74LS30	SGS-Thomson	
	SN54LS30	°† TI	205
	SN74LS30	° TI	
TTL-S	GD54S30	† GoldStar	
	GD74S30	GoldStar	
	DM54S30	† National	
	DM74S30	National	210
	74S30	National	
	54S30	† Rochester	
	74S30	Rochester	
	SN54S30	† TI	
	SN74S30	TI	215

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Gates, NAND (Cont'd)

Function	Device	Source	Line
8-Input (positive)			
TTL-ALS	M74ALS30A	Mitsubishi	
12-Input, Three-State			
TTL-S	**SL74S134**	**Lansdale (3675)**	
	54S134	† Rochester	
	74S134	Rochester	
	SN54S134	† TI	5
	SN74S134	TI	
13 Input			
TTL-F	74F133	Philips	
13-Input			
TTL-ALS	M74ALS133	Mitsubishi	
	DM74ALS133	National	
	SN54ALS133	°† TI	10
	SN74ALS133	° TI	
TTL-LS	SN54LS133	† Motorola	
	SN74LS133	Motorola	
	54LS133	† National	
	74LS133	National	15
	T74LS133	SGS-Thomson	
	74LS133	SGS-Thomson	
TTL-S	GD54S133	† GoldStar	
	GD74S133	GoldStar	
	SL54S133	**Lansdale (3674)**	20
	SL74S133	**Lansdale (3675)**	
	DM54S133	† National	
	DM74S133	National	
	74S133	National	
	54S133	† Rochester	25
	74S133	Rochester	
	SN54S133	† TI	
	SN74S133	TI	
8-Input			
TTL-F	74F30	° National	

Gates, AND-OR

Function	Device	Source	Line
Expandable 4-Wide 2–2–2–3 Input			
TTL-H	**ML3031**	**Lansdale (3667)**	30
	ML3131	† **Lansdale (3667)**	
	RC3031	Rochester	
	RC3131	Rochester	
Triple 3-Input AND/Or			
TTL-LS	T54LS15	† SGS-Thomson	
2–2–2–3-Input, Expandable			
TTL-H	**ML54H52**	**Lansdale (3669)**	35
	ML74H52	**Lansdale (3669)**	
	54H52	† Rochester	
	74H52	Rochester	

Gates, AND-OR-Invert

Function	Device	Source	Line
AND-OR-Invert Gate			
TTL-F	SN54F51	°† TI	
Expandable 4-Wide 2–2–2–3 Input			
TTL-H	**ML3032**	**Lansdale (3667)**	40
	ML3132	† **Lansdale (3667)**	
Dual 2-Wide 2-Input			
TTL	**ML5450**	† **Lansdale (3668)**	
	ML5451	† **Lansdale (3668)**	
	ML7450	**Lansdale (3668)**	
	ML7451	**Lansdale (3668)**	45
	SL7451	Lansdale	
	7451	National	
	SN5451	† TI	
	SN7451	TI	
TTL-F	74F51	Philips	50
	SN74F51	° TI	
TTL-H	**ML3020**	**Lansdale (3667)**	
	ML3023	**Lansdale (3667)**	
	ML3120	† **Lansdale (3667)**	
	ML3123	† **Lansdale (3667)**	55
	ML54H51	**Lansdale (3669)**	
		(Continued)	
Dual 2-Wide 2-Input			
TTL-H		(Cont'd)	
	ML74H51	**Lansdale (3669)**	
	RC3020	Rochester	
	RC3120	Rochester	
	RC3123	Rochester	60
	54H51	Rochester	
	74H51	Rochester	
TTL-L	54L51	† Rochester	
TTL-LS	GD54LS51	† GoldStar	
	GD74LS51	GoldStar	65
	SL54LS51	Lansdale	
	SL74LS51	**Lansdale (3674)**	
	SN54LS51	† Motorola	
	SN74LS51	Motorola	
	DM74LS51	National	70
	54LS51	† National	
	74LS51	National	
	74LS51	Rochester	
	LS5451	† SGS-Thomson	
	LS7451	SGS-Thomson	75
	T74LS51	SGS-Thomson	
	SN54LS51	°† TI	
	SN74LS51	° TI	
TTL-S	GD54S51	† GoldStar	
	GD74S51	GoldStar	80
	SL54S51	**Lansdale (3674)**	
	SL74S51	**Lansdale (3675)**	
	DM74S51	National	
	74S51	National	
	54S51	† Rochester	85
	SN54S51	† TI	
	SN74S51	TI	
Dual 2-Wide 2-Input (one gate is expandable)			
TTL	7450	National	
	5450	Rochester	
	7450	Rochester	90
	SN5450	† TI	
	SN7450	TI	
TTL-H	**ML54H50**	**Lansdale (3669)**	
	ML74H50	**Lansdale (3669)**	
	54H50	† Rochester	95
	74H50	Rochester	
Dual 2-Wide, 2-Input/3-Input			
TTL-LS	74LS51	SGS-Thomson	
Dual 4-Input Expander (for 54/7423, 54/7450, 54/7453)			
TTL	5460	Rochester	
	7460	Rochester	
2-Wide 2-Input, 2-Wide 3-Input, Dual			
TTL-F	MC54F51	† Motorola	100
	MC74F51	Motorola	
2-Wide, 4-Input			
TTL-L	54L55	† Rochester	
TTL-LS	GD54LS55	† GoldStar	
	GD74LS55	GoldStar	
	SN54LS55	† Motorola	105
	SN74LS55	Motorola	
	54LS55	† National	
	74LS55	National	
	74LS55	Rochester	
	T54LS55	† SGS-Thomson	110
	T74LS55	SGS-Thomson	
	54LS55	† SGS-Thomson	
	74LS55	SGS-Thomson	
	SN74LS55	TI	
2-Wide, 4-Input, Expandable			
TTL-H	**ML54H55**	**Lansdale (3669)**	115
	ML74H55	**Lansdale (3669)**	
	54H55	National	
	54H55	† Rochester	
	74H55	Rochester	
2–2–2–3 Input			
FAST	54F51	† National	120
	74F51	° National	
2–2–2–3-Input			
TTL-H	**ML54H54**	**Lansdale (3669)**	
	ML74H54	**Lansdale (3669)**	
	54H54	† Rochester	
	74H54	Rochester	125
2–2–2–3-Input, Expandable			
TTL-H	**ML54H53**	**Lansdale (3669)**	
	ML74H53	**Lansdale (3669)**	
	54H53	† Rochester	
	74H53	Rochester	
2–3–3–2 Input			
TTL-LS	T54LS54	† SGS-Thomson	130
3–2–2–3 Input			
TTL-LS	T74LS54	SGS-Thomson	
4-Wide 2-Input			
TTL	**ML5453**	† **Lansdale (3668)**	
	ML5454	† **Lansdale (3668)**	
	ML7453	**Lansdale (3668)**	
	ML7454	**Lansdale (3668)**	135
	5453	† Rochester	
	5454	Rochester	
	7454	Rochester	
	SN5454	† TI	
	SN7454	TI	140
4-Wide 2-Input, Expandable			
TTL	7453	Rochester	
	SN5453	† TI	
4-Wide 2–2–3–3-Input			
TTL-L	54L54	† Rochester	
TTL-LS	SL54LS54	Lansdale	
	SL74LS54	**Lansdale (3674)**	145
	SN54LS54	† Motorola	
	SN74LS54	Motorola	
	54LS54	† National	
	74LS54	National	
	54LS54	† SGS-Thomson	150
	74LS54	SGS-Thomson	
	SN54LS54	°† TI	
	SN74LS54	° TI	
4–2–3–2 Input			
TTL-F	MC54F64	Motorola	
4–2–3–2 Input AND-OR-Invert Gate			
TTL-F	SN54F64	°† TI	155
4–2–3–2-Input			
TTL-F	MC74F64	Motorola	
	54F64	°† National	
	74F64	° National	
	74F64	° Philips	
	SN74F64	° TI	160
TTL-S	GD54S64	† GoldStar	
	GD74S64	GoldStar	
	SL54S64	**Lansdale (3674)**	
	SL74S64	**Lansdale (3675)**	
	DM54S64	† National	165
	DM74S64	National	
	74S64	National	
	74S64	Rochester	
	SN54S64	TI	
	SN74S64	TI	170
4–2–3–2-Input, Open Collector			
TTL-S	54S65	† Rochester	
	SN54S65	† TI	
	SN74S65	TI	

Gates, OR

Function	Device	Source	Line
Quad 2-Input			
TTL	SL5432	† Lansdale	
	SL7432	Lansdale	175
	DM5432	† National	
	DM7432	National	
	5432	† National	
	7432	National	
	5432	† Rochester	180
	7432	Rochester	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Gates, OR (Cont'd)

Function	Device	Source	Line
Quad 2-Input		(Cont'd)	
TTL	SN5432	† TI	
	SN7432	TI	
TTL-ALS	M74ALS1032A	Mitsubishi	
	54ALS32	Motorola	
	DM64ALS32	National	5
	DM74ALS1032	National	
	DM74ALS32	National	
	74ALS32	Philips	
	54ALS32	† Rochester	
	SN54ALS32	°† TI	10
	SN74ALS1032A	TI	
	SN74ALS32	° TI	
TTL-AS	DM74AS1032	National	
	DM74AS32	National	
	SN54AS1032A	† TI	15
	SN54AS32	°† TI	
	SN74AS1032A	TI	
	SN74AS32	° TI	
TTL-F	M74F32	Mitsubishi	
	MC54F32	† Motorola	20
	MC74F32	Motorola	
	54F32	°† National	
	74F32	° National	
	74F32	° Philips	
	SN54F32	°† TI	25
	SN74F32	° TI	
TTL-H	ML3003	Lansdale	
	ML3103	† **Lansdale (3667)**	
	MC3003	Motorola	
TTL-LS	GD54LS32	† GoldStar	30
	GD74LS32	GoldStar	
	SL54LS32	Lansdale	
	SL74LS32	**Lansdale (3674)**	
	SN54LS32	† Motorola	
	SN74LS32	Motorola	35
	DM54LS32	† National	
	DM74LS32	National	
	54LS32	† National	
	74LS32	National	
	74LS32	Rochester	40
	T54LS32	† SGS-Thomson	
	T74LS32	SGS-Thomson	
	54LS32	† SGS-Thomson	
	74LS32	SGS-Thomson	
	SN54LS32	°† TI	45
	SN74LS32	° TI	
TTL-S	GD54S32	† GoldStar	
	GD74S32	GoldStar	
	SL54S32	**Lansdale (3674)**	
	SL74S32	**Lansdale (3675)**	50
	DM54S32	† National	
	DM74S32	National	
	74S32	National	
	SN54S32	† TI	
	SN74S32	TI	55
Hex 2-Input			
TTL-AS	DM74AS1832	National	
Hex 2-Input Line Driver/Buffer			
TTL-ALS	DM74ALS832	National	
	SN54ALS832A	† TI	
Hex 2-Input OR Driver			
TTL-ALS	SN74ALS832A	TI	

Gates, NOR

Function	Device	Source	Line
Dual 4-Input			
TTL	**ML5423**	† **Lansdale (3668)**	60
	ML5425	† **Lansdale (3668)**	
	ML7423	**Lansdale (3668)**	
	ML7425	**Lansdale (3668)**	
Dual 4-Input, with Strobe			
TTL	SL5425	† Lansdale	
	SL7425	Lansdale	65
	5425	† National	
	7425	National	
	7425	Rochester	
	SN5425	† TI	
	SN7425	TI	70
Dual 4-Input, with Strobe, Expandable (see 54/7460 expander)			
TTL	5423	† Rochester	
	7423	Rochester	
	SN5423	† TI	
	SN7423	TI	
Dual 5-Input			
TTL-F	74F260	° Philips	75
	SN74F260	TI	
TTL-LS	SL54LS260	† Lansdale	
	SN54LS260	† Motorola	
	SN74LS260	Motorola	
	54LS260	† National	80
	74LS260	National	
	T54LS260	† SGS-Thomson	
	T74LS260	SGS-Thomson	
	74LS260	SGS-Thomson	
TTL-S	**SL54S260**	**Lansdale (3674)**	85
	SL74S260	**Lansdale (3675)**	
	54S260	† Rochester	
	74S260	Rochester	
	SN54S260	°† TI	
	SN74S260	° TI	90
Triple 3-Input			
TTL	**ML5427**	† **Lansdale (3668)**	
	ML7427	**Lansdale (3668)**	
	DM7427	National	
	7427	National	
	5427	† Rochester	95
	7427	Rochester	
	SN5427	† TI	
	SN7427	TI	
TTL-ALS	DM74ALS27	National	
	74ALS27	Philips	100
	SN54ALS27	°† TI	
	SN74ALS27	° TI	
TTL-AS	DM74AS27	National	
	SN54AS27	°† TI	
	SN74AS27	° TI	105
TTL-F	74F27	Philips	
	SN54F27	°† TI	
	SN74F27	° TI	
TTL-LS	GD54LS27	† GoldStar	
	GD74LS27	GoldStar	110
	SL54LS273	† Lansdale	
	SL74LS27	**Lansdale (3674)**	
	SN54LS27	† Motorola	
	SN74LS27	Motorola	
	DM54LS27	† National	115
	DM74LS27	National	
	54LS27	† National	
	74LS27	National	
	74LS27	Rochester	
	T54LS27	† SGS-Thomson	120
	T74LS27	SGS-Thomson	
	54LS27	† SGS-Thomson	
	74LS27	SGS-Thomson	
	SN54LS27	°† TI	
	SN74LS27	° TI	125
Triple 3-Input			
TTL-F	54F27	† National	
	74F27	National	
Quad 2-Input			
TTL	**ML5402**	† **Lansdale (3668)**	
	ML7402	**Lansdale (3668)**	
	5402	† Rochester	130
		(Continued)	
Quad 2-Input		(Cont'd)	
TTL-ALS	M74ALS02	Mitsubishi	
	74ALS02	Philips	
TTL-AS	SN54AS02	°† TI	
TTL-F	M74F02	Mitsubishi	
	SN54F36	°† TI	135
	SN74F36	° TI	
TTL-H	**ML3002**	**Lansdale (3667)**	
	ML3102	† **Lansdale (3667)**	
	MC3002	Motorola	
TTL-LS	T54LS02	† SGS-Thomson	140
	T74LS02	SGS-Thomson	
Quad 2-Input Buffer, Open Collector			
TTL	SL5433	† Lansdale	
	SN5433	† TI	
	SN7433	TI	
TTL-ALS	DM74ALS33	National	145
	SN54ALS33A	°† TI	
	SN74ALS33A	° TI	
TTL-LS	SL54LS33	Lansdale	
	SN54LS33	† Motorola	
	SN74LS33	Motorola	150
	54LS33	† National	
	74LS33	National	
	T54LS33	† SGS-Thomson	
	T74LS33	SGS-Thomson	
	SN54LS33	°† TI	155
	SN74LS33	° TI	
Quad 2-Input (54/7428 devices are also buffers)			
	M74ALS1002A	Mitsubishi	
TTL	DM5402	† National	
	DM7402	National	
	5402	† National	160
	7402	National	
	7402	Rochester	
	SN5402	† TI	
	SN5428	† TI	
	SN7402	TI	165
	SN7428	TI	
TTL-ALS	DM74ALS02	National	
	DM74ALS1002	National	
	DM74ALS28	National	
	SN54ALS02	°† TI	170
	SN54ALS28A	† TI	
	SN74ALS02	° TI	
	SN74ALS1002A	TI	
	SN74ALS28A	TI	
TTL-AS	DM74AS02	National	175
	DM74AS1036	National	
	SN54AS1036A	† TI	
	SN74AS02	° TI	
	SN74AS1036A	TI	
TTL-F	MC54F02	† Motorola	180
	MC74F02	Motorola	
	54F02	°† National	
	74F02	° National	
	74F02	° Philips	
	SN74F02	° TI	185
TTL-L	54L02	† Rochester	
TTL-LS	GD54LS02	† GoldStar	
	GD74LS02	GoldStar	
	SL54LS02	† Lansdale	
	SL74LS02	**Lansdale (3674)**	190
	SN54LS02	† Motorola	
	SN54LS28	† Motorola	
	SN74LS02	Motorola	
	SN74LS28	Motorola	
	DM54LS02	† National	195
	DM74LS02	National	
	54LS02	† National	
	54LS28	† National	
	74LS02	National	
	74LS28	National	200
	T54LS28	† SGS-Thomson	
	T74LS28	SGS-Thomson	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Gates, NOR (Cont'd)

Function	Device	Source	Line
Quad 2-Input (54/7428 devices are also buffers)			
TTL-LS		(Cont'd)	
	54LS02	† SGS-Thomson	
	74LS02	SGS-Thomson	
	SN54LS02	°† TI	
	SN54LS28	† TI	
	SN74LS02	° TI	5
	SN74LS28	TI	
TTL-S	GD54S02	† GoldStar	
	GD74S02	GoldStar	
	SL54S02	**Lansdale (3674)**	
	SL74S02	**Lansdale (3675)**	10
	DM54S02	† National	
	DM74S02	National	
	74S02	National	
	54S02	Rochester	
	SN54S02	† TI	15
	SN74S02	TI	
Quad 2-Input (547/428 devices are also buffers)			
TTL-F	SN54F02	°† TI	
Hex 2-Input			
TTL-AS	DM74AS1805	National	
Hex 2-Input NOR Driver			
TTL-ALS	SN74ALS805A	TI	

Gates, OR/NOR

Function	Device	Source	Line
Quad 2-Input Exclusive OR/NOR			
TTL-S	74S135	National	20
	54S135	† Rochester	
	74S135	Rochester	
	SN54S135	† TI	
	SN74S135	TI	

Gates, Exclusive OR

Function	Device	Source	Line
Quad 2-Input			
TTL	**ML5486**	**† Lansdale (3668)**	25
	ML7486	**Lansdale (3669)**	
TTL-ALS	74ALS86	Philips	
TTL-AS	SN54AS86A	† TI	
TTL-F	M74F86	Mitsubishi	
TTL-H	**ML3021**	**Lansdale (3667)**	30
	ML3121	**Lansdale (3667)**	
TTL-LS	T54LS136	† SGS-Thomson	
	T74LS136	SGS-Thomson	
	T74LS86	SGS-Thomson	
Quad 2-Input, Open Collector			
TTL	**ML54136**	**† Lansdale (3668)**	35
	ML74136	**Lansdale (3669)**	
	SN54136	† TI	
	SN74136	TI	
TTL-ALS	DM74ALS136	National	
	SN74ALS136	TI	40
TTL-AS	SN74AS136	TI	
TTL-LS	SL54LS136	† Lansdale	
	SL74LS136	**Lansdale (3674)**	
	SN54LS136	† Motorola	
	SN74LS136	Motorola	45
	DM54LS136	† National	
	54LS136	National	
	74LS136	National	
	54LS136	† SGS-Thomson	
	74LS136	SGS-Thomson	50
	SN54LS136	† TI	
	SN74LS136	TI	
Quad 2-Input, Totem Pole Outputs			
TTL	SL5486	† Lansdale	
	SL7486	Lansdale	
	DM5486	National	55
	DM7486	National	
	5486	† National	
	7486	National	
	7486	Rochester	
		(Continued)	

Function	Device	Source	Line
Quad 2-Input, Totem Pole Outputs			
TTL		(Cont'd)	
	SN5486	† TI	60
	SN7486	TI	
TTL-ALS	DM74ALS86	National	
	SN54ALS86	°† TI	
	SN74ALS86	° TI	
TTL-AS	DM74AS86	National	65
	SN74AS86	TI	
TTL-F	MC54F86	Motorola	
	MC74F86	Motorola	
	54F86	°† National	
	74F86	° National	70
	74F86	° Philips	
	SN74F86	TI	
TTL-L	54L86	† Rochester	
TTL-LS	GD54LS86	† GoldStar	
	GD74LS86	GoldStar	75
	SL54LS86	Lansdale	
	SL74LS86	**Lansdale (3674)**	
	SN54LS386	† Motorola	
	SN54LS86	† Motorola	
	SN74LS386	Motorola	80
	SN74LS86	Motorola	
	DM54LS86	† National	
	DM74LS86	National	
	74LS386	National	
	74LS86	National	85
	74LS386	Rochester	
	74LS86	Rochester	
	74LS86	SGS-Thomson	
	SN54LS386A	† TI	
	SN54LS86A	† TI	90
	SN74LS86A	TI	
TTL-S	GD54S86	† GoldStar	
	GD74S86	GoldStar	
	SL54S86	**Lansdale (3674)**	
	SL74S86	**Lansdale (3675)**	95
	DM74S86	National	
	74S86	National	
	74S86	Rochester	
	SN54S86	† TI	
	SN74S86	TI	100

Gates, Exclusive NOR

Function	Device	Source	Line
Quad			
TTL-LS	T54LS266	† SGS-Thomson	
Quad 2-Input			
TTL-ALS	DM74ALS810	National	
	DM74AS810	National	
	SN74ALS810	TI	
TTL-H	**ML3022**	**Lansdale (3667)**	105
	ML3122	**† Lansdale (3667)**	
TTL-LS	T74LS266	SGS-Thomson	
Quad 2-Input, Open Collector			
TTL	9386C	National	
	9386M	† National	
	9386	Rochester	110
TTL-ALS	DM74ALS811	National	
	DM74AS811	National	
	SN74ALS811	TI	
TTL-LS	SL54LS266	† Lansdale	
	SL74LS266	**Lansdale (3674)**	115
	SN54LS266	† Motorola	
	SN74LS266	Motorola	
	54LS266	† National	
	74LS266	National	
	54LS266	† SGS-Thomson	120
	74LS266	SGS-Thomson	
	SN54LS266	† TI	
	SN74LS266	TI	

Latches

Function	Device	Source	Line
Data Latch, 10-Line, Inverting			
	M66211	Mitsubishi	
Data Latch, 10-Line, True			
	M66210	Mitsubishi	125
Dual Octal Latch			
TTL-F	74F1604	Philips	
Dual 4-Bit			
TTL-ALS	DM74ALS873	National	
	SN54ALS873B	† TI	
	SN74ALS873B	TI	
TTL-AS	DM74AS873	National	130
	SN54AS873	† TI	
	SN74AS873	TI	
Dual 4-Bit Addressable			
	MC54F256	Motorola	
TTL-F	MC74F256	Motorola	
	54F256	National	135
	74F256	National	
	74F256	Philips	
TTL-LS	SL54LS256	† Lansdale	
	SL74LS256	**Lansdale (3674)**	
	SN54LS256	† Motorola	140
	SN74LS256	Motorola	
	54LS256	† National	
	74LS256	National	
	T54LS256	† SGS-Thomson	
	T74LS256	SGS-Thomson	145
Dual 4-Bit Addressable Latch			
TTL-LS	74LS256	SGS-Thomson	
Dual 4-Bit D-Type Transparent Latch, Three-State, Inverting			
TTL-ALS	M74ALS880A	Mitsubishi	
Dual 4-Bit D-Type Transparent, Three-State, True			
TTL-ALS	M74ALS873B	Mitsubishi	
Dual 4-Bit with Clear			
TTL	9308C	National	
	9308M	† National	150
	SN54116	† TI	
	SN74116	TI	
Quad Bistable, Complementary Outputs			
TTL	DM5475	† National	
	DM7475	National	
	5475	† National	155
	7475	National	
	7475	Rochester	
	SN5475	† TI	
	SN7475	TI	
TTL-L	54L75	† Rochester	160
TTL-LS	SL54LS375	Lansdale	
	SL54LS75	Lansdale	
	SL74LS375	**Lansdale (3674)**	
	SL74LS75	**Lansdale (3674)**	
	SN54LS375	† Motorola	165
	SN54LS75	† Motorola	
	SN74LS375	Motorola	
	SN74LS75	Motorola	
	DM54LS75	† National	
	DM74LS75	National	170
	54LS375	† National	
	74LS375	National	
	74LS75	Rochester	
	T74LS75	SGS-Thomson	
	T74LS75B1	SGS-Thomson	175
	SN54LS375	† TI	
	SN54LS75	† TI	
	SN74LS375	TI	
	SN74LS75	TI	
Quad Bistable Latch			
TTL	**ML5475**	**† Lansdale (3668)**	180
	ML5477	**† Lansdale (3668)**	
	ML7475	**Lansdale (3668)**	
	ML7477	**Lansdale (3668)**	
		(Continued)	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Latches (Cont'd)

Function	Device	Source	Line
Quad Bistable Latch			
TTL		(Cont'd)	
	5477	† Rochester	
	7477	Rochester	
Quad Bistable, Single Output			
TTL-LS	SN54LS77	† Motorola	
	SN74LS77	Motorola	
Quad Multifunction			
TTL	9314C	National	5
	9314M	† National	
Quad R-S Type			
TTL-LS	T74LS279	SGS-Thomson	
Quad Set-Reset			
TTL	54279	† National	
	74279	National	
	74279	Rochester	10
	SN54279	† TI	
	SN74279	TI	
TTL-LS	SN54LS279	† Motorola	
	SN74LS279	Motorola	
	DM54LS279	† National	15
	DM74LS279	National	
	54LS279	† National	
	74LS279	National	
	74LS279	Rochester	
	54LS279	† SGS-Thomson	20
	74LS279	SGS-Thomson	
	SN54LS279A	°† TI	
	SN74LS279A	° TI	
Octal	**IL8282**	**Lansdale (3664)**	
	IL8283	**Lansdale (3664)**	25
Octal D-Type			
TTL-ALS	SN74ALS580	TI	
TTL-AS	SN74AS573A	° TI	
TTL-F	M74F373	Mitsubishi	
Octal D-Type, Transparent			
TTL-ALS	SN74ALS563	° TI	
TTL-AS	SN54AS573A	°† TI	30
Octal D-Type Transparent Latch			
TTL-F	SN54F563	°† TI	
Octal D-Type Transparent Latch, Three-State			
TTL-ALS	74ALS573B	Philips	
Octal D-Type Transparent, Three-State, Inverting			
TTL-ALS	M74ALS563A	Mitsubishi	
	M74ALS580A	Mitsubishi	
Octal D-Type Transparent, Three-State, True			
TTL-ALS	M74ALS573B	Mitsubishi	35
TTL-F	M74F573	Mitsubishi	
Octal D-Type with Readback, Inverting			
TTL-ALS	SN74ALS867A	TI	
Octal D-Type, Three-State			
	74FR573	National	
Octal, Transparent			
TTL-LS	74LS373	SGS-Thomson	
Octal Transparent Bidirectional			
TTL-F	M74F543	Mitsubishi	40
Octal Transparent Bidirectional Latch, Inverting, Three-State			
TTL-ALS	74ALS543	Philips	
	74ALS543-1	Philips	
Octal Transparent Bidirectional Latch, True, Three-State			
TTL-ALS	74ALS544	Philips	
	74ALS544-1	Philips	
Octal Transparent, Inverting			
TTL-ALS	DM74ALS880	National	45
	SN74ALS880A	TI	
TTL-AS	DM74AS880	National	
	SN74AS880	TI	
Octal Transparent Latch			
TTL-LS	54LS373	† SGS-Thomson	

Function	Device	Source	Line
Octal Transparent Latch, Three-State			
TTL-ALS	74ALS563A	Philips	50
Octal Transparent, Three-State			
TTL-ALS	74ALS373	Philips	
Octal 2-Input Multiplexed, Three-State Outputs			
TTL-F	74F604	Philips	
	74F605	Philips	
TTL-LS	54LS607	Rochester	
	SN74LS607	TI	55
8-Bit Addressable Latch			
TTL-LS	T74LS259	SGS-Thomson	
8-Bit, Addressable, with Clear			
	MC54F259	Motorola	
TTL	DM8334	National	
	DM9334	† National	
	9334C	National	60
	9334M	† National	
	SN54259	† TI	
	SN74259	TI	
TTL-ALS	SN54ALS259	°† TI	
	SN74ALS259	° TI	65
TTL-F	MC74F259	Motorola	
	54F259	National	
	74F259	National	
	74F259	Philips	
TTL-LS	GD54LS259	† GoldStar	70
	GD74LS259	GoldStar	
	SL54LS259	† Lansdale	
	SL74LS259	**Lansdale (3674)**	
	SN54LS259	† Motorola	
	SN74LS259	Motorola	75
	DM54LS259	† National	
	DM74LS259	National	
	54LS259	† National	
	74LS259	National	
	74LS259	Rochester	80
	54LS259	† SGS-Thomson	
	74LS259	SGS-Thomson	
	SN54LS259B	† TI	
	SN74LS259B	TI	
8-Bit Bistable			
TTL	**ML54100**	**† Lansdale (3668)**	85
	ML74100	**Lansdale (3669)**	
	54100	† Rochester	
8-Bit D-Type Read-Back Latch			
TTL-ALS	SN54ALS996	°† TI	
8-Bit D-Type Transparent, Three-State, True			
TTL-F	M74F845	Mitsubishi	
8-Bit, Edge-Triggered D-Type, Read-Back			
	SN74ALS996	° TI	90
	SN74ALS996-1	° TI	
8-Bit, Inverting, Three-State			
TTL-ALS	SN74ALS29846	° TI	
8-Bit Latch			
TTL-LS	T54LS259	† SGS-Thomson	
8-Bit, Transparent, D Type, Three-State			
TTL-ALS	54ALS573	Motorola	
	DM74ALS373	National	95
	DM74ALS573	National	
	54ALS373	† Rochester	
	54ALS573	† Rochester	
	SN54ALS373	°† TI	
	SN54ALS573B	°† TI	100
	SN74ALS373	° TI	
TTL-AS	DM74AS373	National	
	DM74AS573	National	
	SN54AS373	°† TI	
	SN54AS573	°† TI	105
	SN74AS373	° TI	
	SN74AS573	° TI	
TTL-F	MC54F373	† Motorola	
	MC74F373	Motorola	
	54F373	°† National	110
		(Continued)	

Function	Device	Source	Line
8-Bit, Transparent, D Type, Three-State			
TTL-F		(Cont'd)	
	54F412	† National	
	54F432	† National	
	54F573	°† National	
	74F373	° National	
	74F412	National	115
	74F432	National	
	74F573	° National	
	54F373	°† Philips	
	74F373	° Philips	
	74F412	Philips	120
	74F432	Philips	
	74F573	° Philips	
	SN54F373	°† TI	
	SN54F573	°† TI	
	SN74F373	° TI	125
	SN74F573	° TI	
TTL-LS	GD54LS373	† GoldStar	
	GD74LS373	GoldStar	
	SL54LS373	Lansdale	
	SL74LS373	**Lansdale (3674)**	130
	SN54LS373	† Motorola	
	SN74LS373	Motorola	
	DM54LS373	† National	
	DM74LS373	National	
	74LS373	National	135
	74LS573	National	
	T74LS373	SGS-Thomson	
	SN54LS373	°† TI	
	SN74LS373	° TI	
TTL-S	**SL54S373**	**Lansdale (3674)**	140
	SL74S373	**Lansdale (3675)**	
	DM54S373	† National	
	DM74S373	National	
	SN54S373	† TI	
	SN74S373	TI	145
8-Bit, Transparent, D-Type, Inverting			
TTL-AS	SN74AS846	TI	
TTL-F	74F846	Philips	
8-Bit, Transparent, D-Type, Inverting Three State			
TTL-ALS	SN74ALS580A	TI	
8-Bit, Transparent, D-Type, Inverting Three-State			
TTL-ALS	M74ALS533	Mitsubishi	
	DM74ALS533	National	150
	DM74ALS563	National	
	DM74ALS580	National	
	SN54ALS563A	°† TI	
	SN54ALS580A	† TI	
	SN74ALS533	° TI	155
	SN74ALS563A	° TI	
TTL-AS	DM74AS533	National	
	DM74AS580	National	
	SN74AS533	° TI	
	SN74AS580	TI	160
TTL-F	MC54F533	† Motorola	
	MC74F533	Motorola	
	54F533	°† National	
	54F563	°† National	
	74F533	° National	165
	74F563	° National	
	74F533	° Philips	
	74F563	° Philips	
	SN54F533	° TI	
	SN74F533	° TI	170
	SN74F563	° TI	
TTL-LS	**SL74LS533**	**Lansdale (3674)**	
	74LS533	National	
	74LS563	National	
	74LS564	National	175
	T74LS533	SGS-Thomson	
8-Bit, Transparent, D-Type, True			
TTL-AS	SN74AS845	TI	
TTL-F	54F845	† National	
	74F845	National	
	74F845	Philips	180

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Latches (Cont'd)

Function	Device	Source	Line
8-Bit, Transparent, D-Type, Three-State			
TTL-ALS	M74ALS373	Mitsubishi	
	SN74ALS573B	• TI	
	SN74ALS846	TI	
	SN74ALS846-1	TI	
TTL-LS	T54LS373	† SGS-Thomson	5
8-Bit, Transparent, D-Type, Three-State, True			
TTL-ALS	SN74ALS29845	• TI	
	SN74ALS845	TI	
	SN74ALS845-1	TI	
9-Bit to 8-Bit with Ready			
TTL-F	74F755	Philips	
9-Bit, Transparent, D-Type, Inverting			
TTL-ALS	SN74ALS844	TI	10
	SN74ALS844-1	TI	
	SN74ALS991	TI	
TTL-AS	SN74AS844	TI	
TTL-F	74F844	Philips	
9-Bit, Transparent D-Type Read-Back, Three-State, True			
TTL-ALS	SN74ALS992	TI	15
	SN74ALS993	TI	
9-Bit, Transparent, D-Type, True			
TTL-ALS	SN74ALS843	TI	
	SN74ALS843-1	TI	
	SN74ALS990	TI	
TTL-AS	SN74AS843	TI	20
TTL-F	74F843	National	
	74F843	Philips	
9-Bit, Transparent D-Type, Three-State (bus interface)			
TTL	AM29843C	AMD	
9-Bit, Transparent, D-Type, Three-State, Inverting			
TTL-ALS	SN74ALS29844	TI	
9-Bit, Transparent, D-Type, Three-State, True			
TTL-F	M74F843	Mitsubishi	25
9-Bit, True, Three-State			
TTL-ALS	SN74ALS29843	TI	
10-Bit D-Type Transparent, Three-State, True			
TTL-F	M74F841	Mitsubishi	
10-Bit, Inverting, Three-State			
TTL-ALS	SN74ALS29842	TI	
10-Bit Readback Latch, Inverting			
TTL-ALS	SN74ALS995	TI	
10-Bit Readback Latch, True			
TTL-ALS	SN74ALS994	TI	30
10-Bit, Transparent, D-Type, Inverting			
TTL-ALS	SN74ALS842	TI	
	SN74ALS842-1	TI	
TTL-AS	SN74AS842	TI	
TTL-F	74F842	Philips	
10-Bit, Transparent, D-Type, True			
TTL-AS	SN74AS841	• TI	35
TTL-F	54F841	† National	
	74F841	National	
	74F841	Philips	
10-Bit, Transparent, D-Type, True (bus interface)			
TTL-ALS	SN74ALS841	• TI	
10-Bit, Transparent D-Type, Three-State (bus interface)			
TTL	AM29841C	AMD	40
10-Bit, True			
TTL-ALS	SN74ALS29841	TI	
18-Bit, Transparent D-Type with Preset and Reset, Three-State, True			
LX	MC18LX843	Motorola	
20-Bit, Transparent, D-Type, Three-State, True			
TTL	MC20LX373	Motorola	

Memories

Function	Device	Source	Line
Asynchronous FIFO, 16x4			
TTL-ALS	SN74ALS232	° TI	
Asynchronous First-In, First-Out Memory (16x5)			
TTL-ALS	SN74ALS229A	TI	45
Data Access Register			
TTL-F	54F407	† National	
	74F407	National	
Dynamic RAM Controller			
FAST	29F68	National	
FIFO, 16x5			
TTL-ALS	SN54ALS229A	† TI	
FIFO, 64x4			
TTL-ALS	SN54ALS234	† TI	50
	SN74ALS236	° TI	
FIFO, 64x8 Asynchronous			
TTL-ALS	SN74ALS2232	° TI	
FIFO, 64x9 Asynchronous			
TTL-ALS	SN74ALS2233	° TI	
Memory Address Multiplexer			
TTL-F	74F1762	Philips	
RAM, 64-Bit Inverting Output			
TTL-S	AM27S02	AMD	55
	AM27S03	AMD	
RAM, 64-Bit True Output			
TTL-S	AM27S07	AMD	
RAM, 1024x4 (three-state)			
TTL	AM93425	• AMD	
Register File, Dual 16x4			
TTL-ALS	SN74ALS870	TI	
	SN74ALS871	TI	60
Register File, 10-Bit, True, Three-State			
TTL-ALS	SN74ALS29821	TI	
Register Stack, 16x4 RAM, Three-State			
TTL-F	N74F410	Philips	
SIPO Shift Register			
TTL-LS	T74LS164	SGS-Thomson	
Static-Column and Page-Mode Detector			
TTL-ALS	SN74ALS6311	TI	
Dual Rank 8-Bit Shift Register (8-Bit I/O buffer, "D" register, and serial "B" register)			
TTL-LS	DM86LS52	National	65
	DM86LS62	National	
Dual 16-Word x 4-Bit Register File			
TTL-AS	SN74AS870	• TI	
	SN74AS871	• TI	
Octal Storage Register (two stage, 4-Bit wide shift register)			
TTL-LS	SN54LS396	† TI	
4x4 Register File			
TTL-LS	T74LS170	SGS-Thomson	70
	T74LS670	SGS-Thomson	
8-Bit Feedback Register, Inverting			
TTL-ALS	SN74ALS667	TI	
8-Bit Feedback Register, True			
TTL-ALS	SN74ALS666	TI	
8-Bit Multiport Register (RAM with simultaneous read/write)			
TTL	9338C	National	
	9338M	† National	75
16-Bit Active Element Memory			
TTL	**ML4004**	**Lansdale (3667)**	
	ML4005	**Lansdale (3667)**	
	ML4304	**Lansdale (3667)**	
	ML4305	**Lansdale (3667)**	
16-Bit (4x4) Register File, Simultaneous Read/Write, Open Collector			
TTL	54170	† National	80
	74170	National	
		(Continued)	
16-Bit (4x4) Register File, Simultaneous Read/Write, Open Collector			
TTL		(Cont'd)	
	SN54170	† TI	
	SN74170	TI	
TTL-LS	GD54LS670	† GoldStar	
	GD74LS670	GoldStar	85
	SL54LS170	† Lansdale	
	SL54LS670	**Lansdale (3674)**	
	SL74LS670	**Lansdale (3674)**	
	SN54LS170	† Motorola	
	SN54LS670	† Motorola	90
	SN74LS170	Motorola	
	SN74LS670	Motorola	
	DM54LS670	† National	
	DM74LS670	National	
	54LS170	† National	95
	54LS670	† National	
	74LS170	National	
	74LS670	National	
	74LS670	Rochester	
	54LS170	† SGS-Thomson	100
	54LS670	† SGS-Thomson	
	74LS170	SGS-Thomson	
	74LS670	SGS-Thomson	
	SN54LS170	† TI	
	SN54LS670	°† TI	105
	SN74LS170	TI	
	SN74LS670	• TI	
16-Bit (8x2) Multiport Register File, Simultaneous Read/Write, Three-State			
TTL	SN74172	TI	
16x5 Asynchronous FIFO, Three-State			
TTL-F	74F225	Philips	
64-Bit TTL Bipolar RAM			
TTL-F	74F189A	Philips	110
64-Bit (16x4) FIFO Memory			
TTL-ALS	SN74ALS232A	• TI	
64-Bit (16x4) RAM, Open Collector			
TTL	DM7489B	National	
	DM7589	National	
	DM8589	National	
	7489	Rochester	115
TTL-S	DM74S289	National	
	74S289	Rochester	
64-Bit (16x4) RAM, Two Port, Three-State			
TTL-S	IDM29705AC	National	
	IDM29705C	National	
	IDM29705M	† National	120
64-Bit (16x4) RAM, Three-State			
TTL-F	54F189	† National	
	54F219	† National	
	74F189	National	
	74F219	National	
	74F219A	Philips	125
TTL-S	**SL74S189**	**Lansdale (3675)**	
	DM74S189	National	
64-Bit (16x4) Register File with Latch, Three-State			
TTL-S	DM85S68	National	
64-Bit (16x4) Simultaneous Read/Write RAM with Output Register			
TTL	54F410	† National	
	74F410	National	130
80-Bit (16x5) FIFO Memory			
TTL-ALS	SN74ALS233A	TI	
80-Bit (16x5) FIFO Memory, Asynchronous, Three-State			
TTL-S	**SL54S225**	**Lansdale (3674)**	
	SL74S225	**Lansdale (3675)**	
	SN74S225	TI	
256-Bit (64x5) FIFO Memory			
TTL-ALS	SN74ALS234	TI	135
320-Bit (64x5) FIFO Memory			
TTL-ALS	SN74ALS235	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Multiplexers (Digital)			
Data Selector, 5-Channel (2-to–1)			
	M66212	Mitsubishi	
	M66213	Mitsubishi	
Quint 2 to 1			
TTL-F	74F711A	Philips	
Quint 2 to 1 (with 30 ohm termination)			
TTL-F	74F711-1	Philips	
Quint 3 to 1			
TTL-F	74F712A	Philips	5
Quint 3 to 1 (with 30 ohm termination)			
TTL-F	74F712-1	Philips	
Synchronous Address			
	SN74LS785	Motorola	
TTL-LS	SN74LS783	Motorola	
Dual 1-of–4 Data Selector/Multiplexer			
TTL-ALS	74ALS153	Philips	
Dual 4:1 Data Selector/Multiplexer			
TTL	**ML54153**	† **Lansdale (3668)**	10
	ML74153	**Lansdale (3669)**	
Dual 4-Input			
LS	T74LS153	SGS-Thomson	
TTL	**ML4000**	**Lansdale (3667)**	
	ML4300	**Lansdale (3667)**	
	DM54153	† National	15
	DM74153	National	
	54153	† National	
	74153	National	
	SN54153	† TI	
	SN74153	TI	20
TTL-ALS	M74ALS153	Mitsubishi	
	DM74ALS153	National	
	SN54ALS153	† TI	
	SN74ALS153	TI	
TTL-AS	SN74AS153	° TI	25
TTL-F	MC54F153	† Motorola	
	MC74F153	Motorola	
	54F153	°† National	
	74F153	° National	
	74F153	° Philips	30
	SN54F153	°† TI	
	SN74F153	° TI	
TTL-L	54L153	† Rochester	
TTL-LS	GD54LS153	† GoldStar	
	GD74LS153	GoldStar	35
	SL54LS153	† Lansdale	
	SL74LS153	**Lansdale (3674)**	
	SN54LS153	† Motorola	
	SN74LS153	Motorola	
	DM54LS153	† National	40
	DM74LS153	National	
	54LS153	† National	
	74LS153	National	
	T74LS253	SGS-Thomson	
	74LS153	SGS-Thomson	45
	74LS352	SGS-Thomson	
	74LS353	SGS-Thomson	
	SN54LS153	°† TI	
	SN74LS153	° TI	
TTL-S	GD54S153	† GoldStar	50
	GD74S153	GoldStar	
	SL54S153	**Lansdale (3674)**	
	SL74S153	**Lansdale (3675)**	
	DM54S153	† National	
	DM74S153	National	55
	74S153	National	
	54S153	† Rochester	
	74S153	Rochester	
	SN54S153	† TI	
	SN74S153	TI	60
Dual 4-Input, Complementary Output			
TTL	9309C	National	
	9309M	† National	
Dual 4-Input, Inverting			
TTL-ALS	M74ALS352	Mitsubishi	
	DM74ALS352	National	
	SN54ALS352	°† TI	65
	SN74ALS352	° TI	
TTL-AS	SN74AS352	° TI	
TTL-F	MC54F352	† Motorola	
	MC74F352	Motorola	
	54F352	°‡ National	70
	74F352	° National	
	74F352	° Philips	
	SN54F352	°† TI	
	SN74F352	° TI	
TTL-LS	SL54LS352	Lansdale	75
	SL74LS352	**Lansdale (3674)**	
	SN54LS352	Motorola	
	SN74LS352	Motorola	
	DM54LS352	† National	
	DM74LS352	National	80
	54LS352	† National	
	74LS352	National	
	T54LS352	† SGS-Thomson	
	T74LS352	SGS-Thomson	
	SN54LS352	°† TI	85
	SN74LS352	° TI	
Dual 4-Input, Inverting, Three-State			
TTL-ALS	M74ALS353	Mitsubishi	
	DM74ALS353	National	
	SN54ALS353	°† TI	
	SN74ALS353	° TI	90
	SN74AS353	° TI	
TTL-F	MC54F353	† Motorola	
	MC74F353	Motorola	
	54F353	°† National	
	74F353	° National	95
	74F353	° Philips	
	SN54F353	°† TI	
	SN74F353	° TI	
TTL-LS	SL54LS353	Lansdale	
	SL74LS353	**Lansdale (3674)**	100
	SN54LS353	Motorola	
	SN74LS353	Motorola	
	54LS353	† National	
	74LS353	National	
	T54LS353	† SGS-Thomson	105
	T74LS353	SGS-Thomson	
	SN54LS353	°† TI	
	SN74LS353	° TI	
Dual 4-Input (three-state 54/75153)			
TTL	DM8214	National	
Dual 4-Input, Three-State			
TTL-ALS	M74ALS253	Mitsubishi	110
	DM74ALS253	National	
	74ALS253	Philips	
	SN54ALS253	† TI	
	SN74ALS253	TI	
TTL-F	MC54F253	† Motorola	115
	MC74F253	Motorola	
	54F253	°† National	
	74F253	° National	
	74F253	° Philips	
	SN54F253	°† TI	120
	SN74F253	° TI	
TTL-LS	SL54LS253	† Lansdale	
	SL74LS253	**Lansdale (3674)**	
	SN54LS253	† Motorola	
	SN74LS253	Motorola	125
	DM54LS253	† National	
	DM74LS253	National	
	54LS253	† National	
	74LS253	National	
	74LS253	Rochester	130
	74LS253	SGS-Thomson	
	SN54LS253	† TI	
	SN74LS253	TI	
		(Continued)	
Dual 4-Input, Three-State		(Cont'd)	
TTL-S	**SL54S253**	**Lansdale (3674)**	
	SL74S253	**Lansdale (3675)**	135
	DM54S253	† National	
	DM74S253	National	
	74S253	National	
	54S253	† Rochester	
	SN74S253	TI	140
Dual 4-Line to 1-Line Data Selector/Multiplexer with Strobe			
TTL-F	M74F153	Mitsubishi	
	M74F253	Mitsubishi	
	M74F352	Mitsubishi	
	M74F353	Mitsubishi	
Dual 8-Input (two 8-to–1 sections)			
TTL	DM74LS451	National	145
Quad Data Multiplexer, True			
TTL-F	74F732	Philips	
	74F733	Philips	
Quad 1-of–2 Data Selector/Multiplexer, Inverting, Three-State			
TTL-ALS	74ALS258	Philips	
Quad 1-of–2 Data Selector/Multiplexer, True, Three-State			
TTL-ALS	74ALS257	Philips	
Quad 2-Input			
TTL-F	M74F157A	Mitsubishi	150
	M74F158A	Mitsubishi	
	M74F257A	Mitsubishi	
	M74F258A	Mitsubishi	
	MC74F157A	Motorola	
	MC74F158A	Motorola	155
	74F157A	Philips	
TTL-LS	T54LS157	† SGS-Thomson	
	T54LS158	† SGS-Thomson	
	T54LS258A	† SGS-Thomson	
	T74LS157	SGS-Thomson	160
	T74LS158	SGS-Thomson	
	T74LS257A	SGS-Thomson	
	T74LS258A	SGS-Thomson	
Quad 2-Input Data Selector/Multiplexer, Inverting			
TTL-ALS	74ALS158	Philips	
Quad 2-Input Data Selector/Multiplexer, True			
TTL-ALS	74ALS157	Philips	165
Quad 2-Input Data Selector/Multiplexer (with LSTTL compatible inputs)			
HCT	MC54HCT157A	† Motorola	
	MC74HCT157A	Motorola	
Quad 2-Input, Inverting			
TTL	SL54158	† Lansdale	
TTL-ALS	M74ALS158	Mitsubishi	
	DM74ALS158	National	170
	SN54ALS158	°† TI	
	SN74ALS158	° TI	
TTL-AS	DM74AS158	National	
	SN74AS158	° TI	
TTL-F	MC54F158	† Motorola	175
	MC54F158A	Motorola	
	MC74F158	Motorola	
	54F158	°† National	
	54F158A	National	
	74F158	National	180
	74F158A	National	
	54F158	† Philips	
	74F158	° Philips	
	SN54F158A	°† TI	
	SN74F158A	° TI	185
TTL-LS	GD54LS158	† GoldStar	
	GD74LS158	GoldStar	
	SL54LS158	† Lansdale	
	SL74LS158	**Lansdale (3674)**	
	SN54LS158	† Motorola	190
	SN74LS158	Motorola	
	DM54LS158	† National	
	DM74LS158	National	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Multiplexers (Digital) (Cont'd)			
Quad 2-Input, Inverting			
TTL-LS		(Cont'd)	
	54LS158	† National	
	74LS158	National	
	74LS158	Rochester	
	54LS158	† SGS-Thomson	
	74LS158	SGS-Thomson	5
	SN54LS158	°† TI	
	SN74LS158	° TI	
TTL-S	GD54S158	† GoldStar	
	GD74S158	GoldStar	
	SL54S158	**Lansdale (3674)**	10
	SL74S158	**Lansdale (3675)**	
	DM54S158	† National	
	DM74S158	National	
	74S158	National	
	54S158	† Rochester	15
	74S158	Rochester	
	SN54S158	† TI	
	SN74S158	TI	
Quad 2-Input, Inverting, Three-State			
TTL-ALS	M74ALS258	Mitsubishi	
	DM74ALS258	National	20
	54ALS258	† Rochester	
	SN54ALS258	°† TI	
	SN74ALS258	° TI	
TTL-AS	DM74AS258	National	
	SN74AS258	° TI	25
TTL-F	MC54F258	† Motorola	
	MC74F258	Motorola	
	54F258	°† National	
	54F258A	National	
	74F258	° National	30
	74F258A	National	
	54F258	°† Philips	
	74F258	° Philips	
	SN54F258	°† TI	
	SN74F258	° TI	35
TTL-LS	GD54LS258B	† GoldStar	
	GD74LS258B	GoldStar	
	SL54LS258A	† Lansdale	
	SL74LS258A	**Lansdale (3674)**	
	SN54LS258A	† Motorola	40
	SN54LS258B	Motorola	
	SN74LS258A	Motorola	
	SN74LS258B	Motorola	
	DM54LS258B	† National	
	DM74LS258B	National	45
	54LS258A	† National	
	74LS258	National	
	74LS258	Rochester	
	54LS258	† SGS-Thomson	
	74LS258	SGS-Thomson	50
	SN54LS258B	°† TI	
	SN74LS258B	° TI	
TTL-S	**SL54S258**	**Lansdale (3674)**	
	SL74S258	**Lansdale (3675)**	
	DM54S258	† National	55
	DM74S258	National	
	74S258	National	
	54S258	† Rochester	
	74S258	Rochester	
	SN54S258	† TI	60
	SN74S258	TI	
Quad 2-Input Multiplexer			
TTL-F	N74F158A	° Philips	
Quad 2-Input, Non-Inverting			
TTL	SL74517	Lansdale	
Quad 2-Input, Non-Inverting, Three-State			
TTL-S	GD54S257	† GoldStar	
	GD74S257	GoldStar	65
	SN54S257	† TI	
Quad 2-Input, (three-state 54/74157)			
TTL	DM7123	National	
	DM8123	† National	
	7123	Rochester	
	8123	Rochester	70
Quad 2-Input, True			
TTL	SL54157	† Lansdale	
	DM54157	† National	
	DM74157	National	
	DM8322	National	
	DM9322	† National	75
	54157	† National	
	74157	National	
	9322C	National	
	9322M	† National	
	54157	† Rochester	80
	74157	Rochester	
	SN54157	† TI	
	SN74157	TI	
TTL-ALS	M74ALS157	Mitsubishi	
	DM74ALS157	National	85
	SN54ALS157	°† TI	
	SN74ALS157	° TI	
TTL-AS	SN74AS157	° TI	
TTL-F	MC54F157	† Motorola	
	MC54F157A	Motorola	90
	MC74F157	Motorola	
	54F157	°† National	
	54F157A	National	
	74F157	° National	
	74F157A	National	95
	54F157	°† Philips	
	74F157	° Philips	
	SN54F157A	°† TI	
	SN74F157A	° TI	
TTL-L	54L157	† Rochester	100
TTL-LS	GD54LS157	† GoldStar	
	GD74LS157	GoldStar	
	SL54LS157	† Lansdale	
	SL74LS157	**Lansdale (3674)**	
	SN54LS157	† Motorola	105
	SN74LS157	Motorola	
	DM54LS157	† National	
	DM74LS157	National	
	54LS157	† National	
	74LS157	National	110
	54LS157	† SGS-Thomson	
	74LS157	SGS-Thomson	
	SN54LS157	°† TI	
	SN74LS157	° TI	
TTL-S	GD54S157	† GoldStar	115
	GD74S157	GoldStar	
	SL54S157	**Lansdale (3674)**	
	SL74S157	**Lansdale (3675)**	
	DM54S157	† National	
	DM74S157	National	120
	74S157	National	
	54S157	† Rochester	
	74S157	Rochester	
	SN54S157	† TI	
	SN74S157	TI	125
Quad 2-Input, True, Three-State			
TTL-ALS	M74ALS257	Mitsubishi	
	DM74ALS257	National	
	DM74AS257	National	
	54ALS257	† Rochester	
	SN54ALS257	°† TI	130
	SN74ALS257	° TI	
TTL-AS	SN74AS257	° TI	
TTL-F	MC54F257	† Motorola	
	MC74F257	Motorola	
	54F257	°† National	135
	54F257A	National	
	74F257	° National	
	74F257A	National	
	54F257	°† Philips	
		(Continued)	
Quad 2-Input, True, Three-State			
TTL-F		(Cont'd)	
	74F257	° Philips	140
	SN54F257	°† TI	
	SN74F257	° TI	
TTL-LS	GD54LS257A	† GoldStar	
	GD74LS257A	GoldStar	
	SL54LS257A	† Lansdale	145
	SL74LS257A	**Lansdale (3674)**	
	SN54LS257A	† Motorola	
	SN54LS257B	Motorola	
	SN74LS257A	Motorola	
	SN74LS257B	Motorola	150
	DM54LS257B	† National	
	DM74LS257B	National	
	54LS257A	† National	
	74LS257	National	
	74LS257	Rochester	155
	74LS257	SGS-Thomson	
	SN54LS257B	°† TI	
	SN74LS257B	° TI	
TTL-S	**SL54S257**	**Lansdale (3674)**	
	SL74S257	**Lansdale (3675)**	160
	DM54S257	† National	
	DM74S257	National	
	74S257	National	
	54S257	† Rochester	
	74S257	Rochester	165
	SN74S257	TI	
Quad 2-Input with Output Register			
TTL	54298	† National	
	74298	Rochester	
	SN54298	† TI	
	SN74298	TI	170
TTL-AS	SN74AS298	° TI	
TTL-F	54F298	°† National	
	54F398	† National	
	54F399	°† National	
	74F298	° National	175
	74F398	National	
	74F399	° National	
	74F298	Philips	
	74F398	Philips	
	74F399	° Philips	180
TTL-LS	GD54LS298	† GoldStar	
	GD74LS298	GoldStar	
	SL54LS298	Lansdale	
	SL74LS298	**Lansdale (3674)**	
	SN54LS298	† Motorola	185
	SN54LS398	† Motorola	
	SN54LS399	† Motorola	
	SN74LS298	Motorola	
	SN74LS398	Motorola	
	SN74LS399	Motorola	190
	54LS298	† National	
	74LS298	National	
	54LS298	† SGS-Thomson	
	74LS298	SGS-Thomson	
	SN54LS298	°† TI	195
	SN54LS399	°† TI	
	SN74LS298	° TI	
	SN74LS399	° TI	
Quad 2-Input, Three-State			
TTL-F	MC74F257A	Motorola	
	MC74F258A	Motorola	200
Quad 2-Port			
TTL-F	MC54F398	† Motorola	
	MC54F399	† Motorola	
	MC74F398	Motorola	
	MC74F399	Motorola	
Quad 2-to-1 Multiplexer, Inverting			
TTL-F	N74F258A	° Philips	205
	74F258A	Philips	
Quad 2-to-1 Multiplexer, True			
TTL-F	N74F257A	° Philips	
	74F257A	Philips	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Multiplexers (Digital) (Cont'd)

Function	Device	Source	Line
Quad 3 to 1, Three State			
TTL-F	74F723A	Philips	
Quad 3 to 1, Three State (with 30 ohm termination)			
TTL-F	74F723-1	Philips	
Quad 4 to 1, Three State			
TTL-F	74F725A	Philips	
Quad 4 to 1, Three State (with 30 ohm termination)			
TTL-F	74F725-1	Philips	
Quad 4-Input			
TTL-LS	DM74LS453	National	5
Hex 2-Input, Three-State			
TTL-ALS	SN54ALS857	† TI	
	SN74ALS857	TI	
TTL-AS	SN74AS857	TI	
4-to–1 Data Selector/Multiplexer			
TTL-AS	SN74AS253	° TI	
8-Bit Data Selector/Multiplexer			
TTL	**ML54151**	† **Lansdale (3668)**	10
	ML54152	† **Lansdale (3668)**	
	ML74151	**Lansdale (3669)**	
	ML74152	**Lansdale (3669)**	
	54151	† Rochester	
	54152	Rochester	15
8-Input			
TTL-ALS	74ALS151	Philips	
TTL-F	M74F151A	Mitsubishi	
	M74F251A	Mitsubishi	
TTL-LS	T74LS151	SGS-Thomson	
	T74LS251	SGS-Thomson	20
8-Input, Complementary Output			
TTL	9312C	National	
	9312M	† National	
8-Input, Complementary Output, Open Collector			
TTL	9313	Rochester	
8-Input, Complementary Output, Strobe			
TTL	DM54151A	† National	
	DM74151A	National	25
	54151	† National	
	74151	National	
	74151	Rochester	
	SN54151A	† TI	
	SN74151A	TI	30
TTL-ALS	M74ALS151	Mitsubishi	
	DM74ALS151	National	
	SN54ALS151	† TI	
	SN74ALS151	TI	
TTL-AS	SN74AS151	° TI	35
TTL-F	MC54F151	† Motorola	
	MC74F151	Motorola	
	54F151	°† National	
	54F151A	National	
	74F151	° National	40
	74F151A	National	
	74F151	° Philips	
	SN54F151	° TI	
	SN74F151	° TI	
TTL-LS	GD54LS151	† GoldStar	45
	GD74LS151	GoldStar	
	SL54LS151	† Lansdale	
	SL74LS151	**Lansdale (3674)**	
	SN54LS151	† Motorola	
	SN74LS151	Motorola	50
	DM54LS151	† National	
	DM74LS151	National	
	54LS151	† National	
	74LS151	National	
	54LS151	† SGS-Thomson	55
	74LS151	SGS-Thomson	
	SN54LS151	°† TI	
	SN74LS151	° TI	
		(Continued)	
8-Input, Complementary Output, Strobe (Cont'd)			
TTL-S	**SL54S151**	**Lansdale (3674)**	
	SL74S151	**Lansdale (3675)**	60
	DM54S151	† National	
	DM74S151	National	
	74S151	National	
	54S151	† Rochester	
	74S151	Rochester	65
	93S12	Rochester	
	SN54S151	† TI	
	SN74S151	TI	
8-Input, Inverted Output			
TTL	74152	Rochester	
TTL-LS	54LS152	† National	70
	T74LS152	SGS-Thomson	
8-Input Multiplexer			
TTL-F	N74F151	° Philips	
	N74F151A	° Philips	
	N74F251A	° Philips	
	74F251A	Philips	75
TTL-LS	74LS152	Rochester	
	T54LS151	† SGS-Thomson	
	74LS152	SGS-Thomson	
8-Input Multiplexer/Data Selector/Register, Complementary Output, Three-State			
TTL-LS	SN54LS356	°† TI	
	SN74LS354	TI	80
	SN74LS356	° TI	
8-Input, Strobe, Complementary Output, Three-State			
TTL	54251	† Rochester	
	74251	Rochester	
	SN54251	† TI	
	SN74251	TI	85
TTL-ALS	M74ALS251	Mitsubishi	
	DM74ALS251	National	
	54ALS251	† Rochester	
	SN54ALS251	°† TI	
	SN74ALS251	° TI	90
TTL-AS	SN74AS251	° TI	
TTL-F	MC54F251	† Motorola	
	MC74F251	Motorola	
	54F251A	† National	
	74F251	° National	95
	74F251A	National	
	74F251	° Philips	
	SN54F251	°† TI	
	SN74F251	° TI	
TTL-LS	GD54LS251	† GoldStar	100
	GD74LS251	GoldStar	
	SL54LS251	† Lansdale	
	SL74LS251	**Lansdale (3674)**	
	SN54LS251	† Motorola	
	SN74LS251	Motorola	105
	DM54LS251	† National	
	DM74LS251	National	
	74LS251	National	
	74LS251	Rochester	
	74LS251	SGS-Thomson	110
	SN54LS251	°† TI	
	SN74LS251	° TI	
TTL-S	GD54S251	† GoldStar	
	GD74S251	GoldStar	
	SL54S251	**Lansdale (3674)**	115
	SL74S251	**Lansdale (3675)**	
	DM54S251	† National	
	DM74S251	National	
	54S251	† Rochester	
	SN54S251	† TI	120
	SN74S251	TI	
8-Input, Three-State			
TTL-ALS	74ALS251	Philips	
8-to–1 Multiplexer			
TTL-F	SN74F151A	° TI	
	SN74F251A	° TI	
9-Bit 3 Port Data Selector/Multiplexer			
TTL-F	74FR900	SMC	125
9-Bit, 3 Port Multiplexer, Latchable			
TTL	NCR74FR25900	NCR	
9-Bit, 3 Port Multiplexer, Latchable, TAP			
TTL	SCAN18373T	National	
16-Bit Data Selector/Multiplexer			
TTL	**ML54150**	† **Lansdale (3668)**	
	ML74150	**Lansdale (3669)**	
	54150	† Rochester	130
16-Input, Complementary Output, Three-State			
TTL-AS	SN74AS850	TI	
	SN74AS851	TI	
16-Input, Inverted Output, Strobe			
TTL	SL54150	† Lansdale	
	SL74150	Lansdale	
	DM54150	† National	135
	DM74150	National	
	54150	† National	
	74150	National	
	74150	Rochester	
	SN54150	† TI	140
	SN74150	TI	
TTL-LS	DM74LS450	National	
16-Input, Inverting Output, Three-State			
TTL-AS	SN74AS250	TI	
16-to–1 Multiplexer			
TTL-AS	SN54AS250A	† TI	

Multivibrators

Function	Device	Source	Line
Monostable, Schmitt Trigger Input			
TTL	SL54121	† Lansdale	145
	SL74121	Lansdale	
	DM54121	† National	
	54121	† National	
	74121	National	
	74121	Rochester	150
	SN54121	† TI	
	SN74121	TI	
Retriggerable Monostable			
TTL	DM8601	National	
	DM9601	† National	
	9601C	National	155
	9601M	† National	
Retriggerable Monostable with Clear			
TTL	54122	† National	
	74122	National	
	SN54122	† TI	
	SN74122	TI	160
TTL-L	54L122	† Rochester	
TTL-LS	SN54LS122	† Motorola	
	SN74LS122	Motorola	
	DM74LS122	National	
	SN54LS122	† TI	165
	SN74LS122	TI	
Retriggerable Monostable, with Reset			
TTL	9600	Rochester	
Dual Monostable, Schmitt-Trigger Input (dual 54/74121)			
TTL	54221	† Rochester	
	SN54221	† TI	
	SN74221	TI	170
TTL-LS	GD54LS221	† GoldStar	
	GD74LS221	GoldStar	
	SN54LS221	† Motorola	
	SN74LS221	Motorola	
	DM54LS221	† National	175
	DM74LS221	National	
	SN54LS221	TI	
	SN74LS221	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Multivibrators (Cont'd)			
Dual Retriggerable Monostable with Clear (AND triggered)			
TTL	SL54123	† Lansdale	
	SL74123	Lansdale	
	DM74123	National	
	54123	† National	
	74123	National	5
	74123	Rochester	
	SN54123	† TI	
	SN74123	TI	
TTL-L	54L123	Rochester	
TTL-LS	GD54LS123	† GoldStar	10
	GD74LS123	GoldStar	
	SN54LS123	† Motorola	
	SN74LS123	Motorola	
	DM74LS123	National	
	SN54LS123	°† TI	15
	SN74LS123	° TI	
Dual Retriggerable Monostable with Reset (OR triggered)			
TTL	SL9602	Lansdale	
	DM8602	National	
	DM9602	† National	
	96L02C	National	20
	96L02M	† National	
	9602C	National	
	9602M	† National	
	9602	Rochester	
TTL-LS	96LS02C	National	25
	96LS02M	† National	
TTL-S	96S02C	National	
	96S02M	† National	
Dual Voltage-Controlled			
TTL	MC4024	Motorola	
	MC4324	† Motorola	30
Shift Registers			
Latched Octal with 2:1 Multiplexer			
TTL-F	74F835	Philips	
Parallel 4-Bit D-Type with Enable			
TTL-F	MC54F379	Motorola	
Parallel 6-Bit D-Type with Enable			
TTL-F	MC54F378	Motorola	
Pipeline Register, Dual 8-Deep			
	AM29525	AMD	
Serial Data Polynomial Generator/Checker			
TTL-F	54F402	† National	35
	74F402	National	
Shift Register, Programmable 1–16 stages x 8, 40 MHz			
	TMC2111-1	TRWLSI	
Shift Register, Programmable 3–18 stages x 8, 30 MHz			
	TMC2011	† TRWLSI	
Shift Register, Programmable 3–18 stages x 8, 40 MHz			
	TMC2011-1	TRWLSI	
Shift/Storage with Synchronous Reset, 8-Bit			
TTL-F	MC54F323	Motorola	40
	MC74F323	Motorola	
TTL-ECL (400 MHz)			
FAST	54F710	† National	
	74F710	National	
Universal Shift/Storage, 8-Bit			
TTL-F	MC54F299	Motorola	
	MC74F299	Motorola	45
Dual Pipeline Register (7 deep)			
FAST	29F524	National	
Dual Pipeline Register (8 deep)			
FAST	29F525	National	
Quad Parallel Register			
TTL-F	SN74F379	° TI	
TTL-LS	74LS379	SGS-Thomson	

Function	Device	Source	Line
Quad 2-Input Multiplexer with Storage			
TTL	**ML54298**	**† Lansdale (3668)**	50
	ML74298	**Lansdale (3669)**	
Quad 2-Port Register			
TTL-LS	T74LS298	SGS-Thomson	
	T74LS399	SGS-Thomson	
	74LS399	SGS-Thomson	
Hex Parallel D Register			
TTL-LS	74LS378	SGS-Thomson	55
Decade Counter			
TTL	**ML5490A**	**† Lansdale (3668)**	
	ML7490A	**Lansdale (3669)**	
4-Bit			
TTL	**ML7494**	**Lansdale (3669)**	
TTL-LS	GD54LS195A	† GoldStar	
	GD74LS195A	GoldStar	60
	T74LS295A	SGS-Thomson	
	T74LS95B	SGS-Thomson	
	54LS195A	† SGS-Thomson	
	74LS195	SGS-Thomson	
	74LS395	SGS-Thomson	65
4-Bit Bidirectional			
TTL-LS	74LS194	SGS-Thomson	
4-Bit Parallel			
TTL	**ML5495A**	**† Lansdale (3668)**	
	ML7495A	**Lansdale (3669)**	
4-Bit Parallel In, Parallel Out, Right/Left, Three-State			
TTL-LS	SL54LS295B	Lansdale	
	SL74LS295B	**Lansdale (3674)**	70
	74LS295A	SGS-Thomson	
	SN54LS295B	† TI	
	SN74LS295B	TI	
4-Bit Parallel Input, Parallel Output			
	MC54F195	Motorola	
TTL	9300C	National	75
	9300M	† National	
	54195	† Rochester	
	74195	Rochester	
	SN54195	† TI	
	SN74195	TI	80
TTL-AS	SN74AS195	TI	
TTL-F	MC74F195	Motorola	
	74F195	Philips	
	74F195A	Philips	
TTL-LS	SN54LS195A	† Motorola	85
	SN74LS195A	Motorola	
	DM74LS195A	National	
	54LS195	† National	
	T74LS195A	SGS-Thomson	
	SN54LS195A	† TI	90
	SN74LS195A	TI	
TTL-S	**SL54S195**	**Lansdale (3674)**	
	SL74S195	**Lansdale (3675)**	
	DM54S195	† National	
	DM74S195	National	95
	54S195	† Rochester	
	93S00	Rochester	
	SN54S195	† TI	
	SN74S195	TI	
4-Bit Parallel-in/out			
TTL	**ML54195**	**† Lansdale (3668)**	100
	ML74195	**Lansdale (3669)**	
4-Bit Parallel-in/out, Bidirectional			
TTL	**ML54194**	**† Lansdale (3668)**	
	ML74194	**Lansdale (3669)**	
4-Bit Parallel-In, Parallel Out, Right/Left			
TTL	**ML4012**	**Lansdale (3667)**	
	ML4312	**Lansdale (3667)**	105
	DM5495	† National	
	DM7495	National	
	5495	† National	
	7495	National	
	5495	† Rochester	110
	7495	Rochester	
		(Continued)	

Function	Device	Source	Line
4-Bit Parallel-In, Parallel Out, Right/Left			
TTL		(Cont'd)	
	SN5495A	† TI	
	SN7495A	TI	
TTL-AS	SN74AS95	TI	
TTL-LS	GD54LS95B	† GoldStar	115
	GD74LS95B	GoldStar	
	SL54LS95B	Lansdale	
	SL74LS95B	**Lansdale (3674)**	
	SN54LS95B	† Motorola	
	SN74LS95B	Motorola	120
	54LS95B	† National	
	74LS95B	National	
	54L95	† Rochester	
	74LS95B	SGS-Thomson	
	SN54LS95B	† TI	125
	SN74LS95B	TI	
4-Bit Parallel-In, Parallel Out, (with load, shift, hold control)			
TTL	54178	† Rochester	
	SN54178	† TI	
4-Bit Parallel-In, Parallel Out, with Reset, Complementary Output for Last Bit			
TTL	54179	Rochester	
	74179	Rochester	130
4-Bit Parallel-In, Parallel-Out, Cascadable, Three-State			
TTL-F	54F395	°† National	
	74F395	° National	
	74F395	° Philips	
TTL-LS	GD54LS395	† GoldStar	
	GD74LS395	GoldStar	135
	SL54LS395A	**Lansdale (3674)**	
	SL74LS395A	**Lansdale (3674)**	
	SN74LS395	Motorola	
	74LS395	National	
	T54LS395	† SGS-Thomson	140
	T74LS395A	SGS-Thomson	
	SN54LS395A	°† TI	
	SN74LS395A	° TI	
4-Bit (Parallel-In, Serial-Out)			
TTL	**ML5494**	**† Lansdale (3668)**	
	5494	Rochester	145
	7494	Rochester	
	SN5494	† TI	
4-Bit Shift Register			
TTL-LS	T54LS194A	† SGS-Thomson	
	T54LS195A	† SGS-Thomson	
4-Bit Universal Bidirectional			
TTL	SL54194	† Lansdale	150
	SL74194	Lansdale	
	DM54194	† National	
	DM74194	National	
	74194	Rochester	
	SN74194	TI	155
TTL-AS	SN54AS194	°† TI	
	SN74AS194	° TI	
TTL-F	MC74F194	Motorola	
	54F194	°† National	
	74F194	° National	160
	74F194	° Philips	
TTL-LS	GD54LS194A	† GoldStar	
	GD74LS194A	GoldStar	
	SL54LS194A	† Lansdale	
	SL74LS194A	**Lansdale (3674)**	165
	SN54LS194A	† Motorola	
	SN74LS194A	Motorola	
	DM74LS194A	National	
	54LS194A	† National	
	74LS194	Rochester	170
	T74LS194A	SGS-Thomson	
	SN54LS194A	°† TI	
	SN74LS194A	° TI	
TTL-S	**SL54S194**	**Lansdale (3674)**	
	SL74S194	**Lansdale (3675)**	175
	DM54S194	† National	
		(Continued)	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Shift Registers		**(Cont'd)**	
4-Bit Universal Bidirectional			
TTL-S		(Cont'd)	
	DM74S194	National	
	74S194	National	
	54S194	† Rochester	
	74S194	Rochester	
	SN54S194	† TI	5
	SN74S194	TI	
5-Bit (Parallel-in, Parallel-out)			
TTL	**ML5496**	**† Lansdale (3668)**	
	ML7496	**Lansdale (3669)**	
	5496	Rochester	
	7496	Rochester	10
	SN5496	† TI	
	SN7496	TI	
TTL-L	54L96	† Rochester	
TTL-LS	SL54LS96	Lansdale	
	SL74LS96	**Lansdale (3674)**	15
	SN54LS96	† TI	
	SN74LS96	TI	
8-Bit			
TTL	**ML5491A**	**† Lansdale (3668)**	
	ML7491A	**Lansdale (3669)**	
	7491	Rochester	20
TTL-F	M74F164	Mitsubishi	
TTL-LS	GD74LS166	GoldStar	
	T54LS170	† SGS-Thomson	
	T54LS273	† SGS-Thomson	
	T74LS166	SGS-Thomson	25
	54LS273	† SGS-Thomson	
	74LS166	SGS-Thomson	
8-Bit Diagnostic/Pipeline			
TTL-ALS	SN74ALS29818	TI	
8-Bit Gated Serial-In, Parallel-Out			
TTL	SL54164	† Lansdale	
	SL74164	Lansdale	30
	7SL74164	Lansdale	
	DM74164	National	
	DM8570	National	
	54164	† National	
	74164	National	35
	54164	† Rochester	
	74164	Rochester	
	SN54164	°† TI	
	SN74164	° TI	
TTL-F	MC54F164	† Motorola	40
	MC74F164	Motorola	
	54F164	°† National	
	74F164	° National	
	74F164	° Philips	
	54F164	† Rochester	45
TTL-L	54L164	† Rochester	
TTL-LS	GD54LS164	† GoldStar	
	GD74LS164	GoldStar	
	SL54LS164	† Lansdale	
	SL74LS164	**Lansdale (3674)**	50
	SN54LS164	† Motorola	
	SN74LS164	Motorola	
	DM54LS164	† National	
	DM74LS164	National	
	54LS164	† National	55
	74LS164	National	
	74LS164	SGS-Thomson	
	SN54LS164	°† TI	
	SN74LS164	° TI	
8-Bit, Inverting, Three-State			
TTL-ALS	SN74ALS29826	TI	60
8-Bit, Parallel Load			
TTL	**ML54165**	**† Lansdale (3668)**	
	ML74165	**Lansdale (3669)**	
	54165	† Rochester	
TTL-ALS	DM54ALS166	† National	
	DM74ALS166	National	65
8-Bit Parallel-In, Parallel-Out			
TTL-F	54F794	† National	
	74F794	National	
8-Bit Parallel-In, Parallel-Out, Right/Left			
TTL	54198	† Rochester	
	74198	Rochester	
	SN54198	† TI	70
	SN74198	TI	
TTL-F	74F198	Philips	
8-Bit Parallel-In, Parallel-Out, Unidirectional			
TTL	SL54199	† Lansdale	
	SL74199	Lansdale	
	54199	† Rochester	75
	74199	Rochester	
	SN54199	† TI	
	SN74199	TI	
TTL-F	74F199	Philips	
8-Bit Parallel-In/Serial-Out			
TTL-ALS	DM54ALS165	† National	80
	DM74ALS165	National	
8-Bit Parallel-In, Serial-Out, Complementary Output			
TTL	54165	† National	
	74165	National	
	74165	Rochester	
	SN54165	† TI	85
	SN74165	TI	
TTL-ALS	SN54ALS165	† TI	
	SN74ALS165	TI	
TTL-L	54LS165	Rochester	
TTL-LS	GD54LS165	† GoldStar	90
	GD74LS165	GoldStar	
	SN54LS165	† Motorola	
	SN74LS165	Motorola	
	54LS165	† National	
	74LS165	National	95
	SN54LS165A	°† TI	
	SN74LS165A	° TI	
8-Bit Parallel-In, Serial-Out with Clear			
TTL	SL54166	† Lansdale	
	SL74166	Lansdale	
	DM74166	National	100
	54166	† Rochester	
	74166	Rochester	
	SN54166	† TI	
	SN74166	TI	
TTL-ALS	SN74ALS166	TI	105
TTL-F	74F166	Philips	
	SN74F166	TI	
TTL-LS	GD54LS166	† GoldStar	
	SN54LS166	† Motorola	
	SN74LS166	Motorola	110
	DM74LS166	National	
	SN54LS166A	† TI	
	SN74LS166A	TI	
8-Bit Parallel-In, Serial-Out with Input Latches			
TTL-F	54F597	† National	
	54F598	† National	115
	74F597	National	
	74F597	Philips	
	74F598	Philips	
TTL-LS	SN54LS597	† TI	
	SN54LS598	† TI	120
	SN74LS597	TI	
	SN74LS598	TI	
8-Bit Register			
TTL-LS	74LS273	SGS-Thomson	
8-Bit Serial/Parallel-In Register with Sign Extend (for use with 25LS14/74LS384 multiplier)			
TTL-F	54F322	† National	
	74F322	National	125
	74F322	Philips	
TTL-LS	74LS322	National	
8-Bit Serial-In, Parallel-Out			
TTL-ALS	74ALS164	Philips	
	SN74ALS164	° TI	
TTL-F	54F164A	°† National	130
	74F164A	National	
8-Bit Serial-In, Parallel-Out Register with Output Latches			
TTL-F	54F595	† National	
	74F595	National	
	74F595	Philips	
TTL-LS	SN54LS595	† TI	135
	SN74LS594	TI	
	SN74LS595	TI	
	SN74LS599	TI	
8-Bit Serial-In, Serial-Out			
TTL	5491	† Rochester	
	SN5491A	† TI	140
TTL-L	54L91	† Rochester	
TTL-LS	T74LS91	SGS-Thomson	
	SN54LS91	† TI	
	SN74LS91	TI	
8-Bit Synchronous with Parallel Load, Load Complement, Preset, Clear and Hold			
TTL-LS	DM74LS380	National	145
8-Bit Universal Shift/Storage, Three-State			
TTL-ALS	SN54ALS299	°† TI	
	SN54ALS323	°† TI	
	SN74ALS2299	TI	
	SN74ALS2323	TI	
	SN74ALS299	° TI	150
	SN74ALS323	° TI	
TTL-AS	SN74AS299	TI	
TTL-F	54F323	°† National	
	74F299	° National	
	74F323	° National	155
	74F299	Philips	
	74F323	° Philips	
	SN54F299	°† TI	
	SN74F299	° TI	
	SN74F323	° TI	160
TTL-LS	GD54LS299	† GoldStar	
	SN54LS299	† Motorola	
	SN54LS323	† Motorola	
	SN74LS299	Motorola	
	SN74LS323	Motorola	165
	54LS299	† National	
	54LS323	† National	
	74LS299	National	
	74LS323	National	
	SN54LS299	°† TI	170
	SN54LS323	°† TI	
	SN74LS299	° TI	
	SN74LS323	° TI	
TTL-S	DM74S299	National	
	SN54S299	† TI	175
	SN74S299	TI	
8-Bit Dual Serial-In, Serial-Out			
TTL	9328C	National	
	9328M	† National	
9-Bit Bidirectional Register with Parity			
TTL	SL6007	Universal	
	SL6008	Universal	180
	SL6009	Universal	
	SL6010	Universal	
9-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)			
TTL	AM29823C	AMD	
9-Bit, True, Three-State			
TTL-ALS	SN74ALS29823	TI	
10/9-Bit Serial/Parallel-In, Serial-Out			
TTL-F	74F847	Philips	185

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Shift Registers (Cont'd)

Function	Device	Source	Line
10-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface)			
TTL	AM29821A	° AMD	
	AM29821C	AMD	
16-Bit Parallel-In, Serial-Out			
TTL-F	54F674	† National	
	74F674	National	
	74F674	Philips	5
TTL-LS	SN54LS674	† TI	
	SN74LS674	TI	
16-Bit Serial/Parallel-In, Serial Out			
	54F676	† National	
	74F676	National	
TTL-F	74F676	Philips	10
16-Bit Serial-In, Serial/Parallel Out			
	54F675	† National	
	54F675A	National	
	74F675	National	
	74F675A	National	
16-Bit Serial-In, Serial-Out Register plus Stored Parallel Output			
TTL-F	54F673	† National	15
	54F673A	National	
	74F673	National	
	74F673A	National	
TTL-LS	SN54LS673	† TI	

Transceivers, Bus

Function	Device	Source	Line
Quad Tridirectional Bus Transceiver, Open Collector			
TTL-LS	54LS440	Rochester	20
	54LS441	Rochester	

Translators

Function	Device	Source	Line
TTL to 10K ECL with latch			
	DP8481	National	
	DP8481	TI	
TTL to 100K ECL with latch			
	DP8483	National	
Dual 2-Input NAND TTL to MOS Voltage			
TTL	µA962AM	† National	25
	DH0034	† National	
	DH0034C	National	
	DS7800	† National	
	DS8800	National	
Hex TTL to MOS Voltage			
TTL	DS78L12	‡ National	30
	DS88L12	National	
Hex TTL-to-ECL Translator			
	100124	Philips	
Octal 10KH ECL to TTL and TTL to 10KH ECL			
	BT501	Brooktree	
Octal 100K ECL to TTL and TTL to 100K ECL			
	BT502	Brooktree	
7-Unit MOS to TTL Level Converter			
TTL	SN75270	TI	35

Miscellaneous

Function	Device	Source	Line
Bidirectional Bus Extender and Repeater, Asynchronous			
TTL	SL8X41	Lansdale	
Bus Arbiter	**IL8289**	† **Lansdale (3664)**	
Bus Arbiter, 4-Input Asynchronous			
TTL-F	74F786	Philips	
Bus Transfer Switch (transmit-receive connections to 4 bus terminals)			
TTL	**ML4060**	**Lansdale (3667)**	
Clock Driver, 8 Outputs			
LSI	CGS74B2525	National	40
Clock Driver, 8 Outputs (divide by 2)			
LSI	CGS74B303	National	
	CGS74B304	National	
	CGS74B305	National	
Crossbar Switch			
TTL-S	SN74S8840	TI	
Cyclic Redundancy Checker			
TTL	9401C	National	45
	9401M	† National	
D/A Converter; 10-Bit, 20 MHz			
	TDC1041	‡ TRWLSI	
Delay Element			
TTL-LS	SN74LS31	TI	
Delay Line Module, 5-Tap (30,60,90,120,150 ns)			
	BTTLDL150	Technitrol	
Display Driver	SN55563A	† TI	50
	SN55564A	† TI	
DRAM Controller, Intelligent (IDC)			
TTL-F	74F1763	Philips	
DRAM Dual-Ported Controller			
TTL-F	74F764-1	° Philips	
	74F765	Philips	
	74F765-1	Philips	55
DRAM Dual-Ported Controller (1 Mbit)			
TTL-F	74F1764	° Philips	
	74F1764-1	° Philips	
	74F1765	° Philips	
	74F1765-1	° Philips	
Driver, Dual (TTL level to MOSFETs)			
	CS2706	Cherry Semi	60
	CS3706	Cherry Semi	
Dynamic Memory Controller			
TTL-ALS	SN74ALS6301	° TI	
	SN74ALS6302	° TI	
Error Detection and Correction Circuit			
TTL-F	MC74F2960	Motorola	
	MC74F2960A	Motorola	65
Error Detection and Correction Circuit, 16-Bit Parallel			
TTL-LS	SN54LS630	† TI	
FIFO RAM Emulator (12-Bit address)			
TTL-LS	SL8X60	Lansdale	
GPIB Adapter (IEEE 488 bus) See also Microprocessor Peripheral			
TTL-LS	96LS488	Rochester	
GPIB Data Transceiver See also Microprocessor Peripherals			
TTL-F	54F588	† National	
	74F588	National	70
Identity Comparator/Decoder, Fuse Programmable			
TTL-ALS	SN74ALS812	TI	
Image Filter, 65K x 65K Pixels, 11-Bit x 10-Bit, 30 MHz			
	TMC2246	TRWLSI	
Image Filter, 65K x 65K Pixels, 11-Bit x 10-Bit, 40 MHz			
	TMC2246-1	TRWLSI	
Isolator, 20 Kbps			
TTL	LTC1146C	LinearTech	
	LTC1146I	LinearTech	75
Isolator, 200 Kbps			
TTL	LTC1145C	LinearTech	
	LTC1145I	LinearTech	
Line Receiver	MC3550	† TI	
	MC3552	† TI	
	MC3553	† TI	80
Memory Mapper, Expands 4 Address Lines to 12 Address Lines			
TTL-LS	54LS610	Rochester	
	SN54LS610	† TI	
	SN74LS611	TI	
	SN74LS612	° TI	
	SN74LS613	TI	85
Microprogram Sequencer			
TTL-LS	AM2909A	AMD	
	AM2909M	† AMD	
	AM2911A	° AMD	
	M3001	Intel	
	IDM2909AC	National	90
	IDM2911AC	National	
	S3001	† Philips	
	SFC2909	SGS-Thomson	
	SFC2911A	SGS-Thomson	
Microsequencer			
TTL-AS	SN54AS890	°† TI	95
Multimode Associative Stack			
TTL-S	DP8402	National	
Optically Coupled Digital Filter (RFI rejection to 80 dB up to 1 GHz)	66079	† Micropac	
Oscillator Clock/Driver			
TTL-LS	74LS321	Rochester	
	SN54LS320	† TI	
	SN54LS321	† TI	100
	SN74LS321	TI	
Phase Locked Loop			
TTL-LS	SN74LS297	° TI	
Phase-Frequency Detector			
TTL	MC4044	Motorola	
	MC4344	† Motorola	
Pipeline Register, 8-Bit, Diagnostic			
TTL-ALS	SN74ALS819	TI	105
Port Controller, Universal, 8-Bit			
AS	SN74AS852	TI	
	SN74AS856	TI	
	SN74AS877	TI	
Pulse-Width Regulator (5 ns output)			
	TTLPW005	Technitrol	
Pulse-Width Regulator (10 ns output)			
	TTLPW010	Technitrol	110
Pulse-Width Regulator (15 ns output)			
	TTLPW015	Technitrol	
Pulse-Width Regulator (20 ns output)			
	TTLPW020	Technitrol	
Pulse-Width Regulator (25 ns output)			
	TTLPW025	Technitrol	
Pulse-Width Regulator (30 ns output)			
	TTLPW030	Technitrol	
Pulse-Width Regulator (35 ns output)			
	TTLPW035	Technitrol	115
Pulse-Width Regulator (40 ns output)			
	TTLPW040	Technitrol	
Pulse-Width Regulator (45 ns output)			
	TTLPW045	Technitrol	
Pulse-Width Regulator (50 ns output)			
	TTLPW050	Technitrol	
Pulse-Width Regulator (60 ns output)			
	TTLPW060	Technitrol	
Pulse-Width Regulator (70 ns output)			
	TTLPW070	Technitrol	120
Pulse-Width Regulator (75 ns output)			
	TTLPW075	Technitrol	
Pulse-Width Regulator (100 ns output)			
	TTLPW100	Technitrol	
Pulse-Width Regulator (150 ns output)			
	TTLPW150	Technitrol	
Pulse-Width Regulator (200 ns output)			
	TTLPW200	Technitrol	
Pulse-Width Regulator (250 ns output)			
	TTLPW250	Technitrol	125
Pulse-Width Regulator (300 ns output)			
	TTLPW300	Technitrol	
Pulse-Width Regulator (400 ns output)			
	TTLPW400	Technitrol	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
Pulse-Width Regulator (500 ns output)			
	TTLPW500	Technitrol	
Read-Back Transceiver			
FAST	54F702	† National	
	74F702	National	
Register/Counter/Comparator			
FAST	54F701	† National	
	74F701	National	5
Synchronous Decade Rate Multiplier			
TTL	54167	† Rochester	
	74167	Rochester	
	SN54167	† TI	
	SN74167	TI	
Trajectory Generator (for Winchester disk drives)			
	ML414	MicroLinear	10
TTL-ECL Register, 8-Bit (400 MHz)			
FAST	54F707	† National	
	75F707	National	
Voltage Controlled Oscillator (or crystal controlled)			
TTL-LS	SN54LS624	† TI	
	SN54LS628	† TI	
	SN74LS624	TI	15
	SN74LS628	TI	
Binary-To-BCD Converter			
TTL	DM74185A	National	
	54185	† Rochester	
	74185	Rochester	
BCD-To-Binary Converter			
TTL	DM74184	National	20
	74184	Rochester	
Dual Pulse Synchronizer/Driver			
TTL	**ML54120**	**† Lansdale (3668)**	
	ML74120	**Lansdale (3669)**	
	SN54120	† TI	
	SN74120	TI	25
Dual Voltage Controlled Oscillator (or crystal controlled)			
TTL-S	54LS627	Rochester	
	SN54LS626	† TI	
	SN54LS629	† TI	
	SN74LS625	TI	
	SN74LS629	TI	30
Dual 4-Bit Parity Tree			
TTL	**ML4010**	**Lansdale (3667)**	
	ML4310	**Lansdale (3667)**	
Dual 4-Input Expander			
TTL-H	**ML54H60**	**Lansdale (3669)**	
	54H60	† Rochester	
Dual 4-Input NAND Schmitt-Trigger			
TTL	7413	Rochester	35
	SN5413	† TI	
	SN7413	TI	
TTL-ALS	DM74ALS13	National	
TTL-F	54F13	°† National	
	74F13	° National	40
	74F13	° Philips	
TTL-LS	SL54LS13	† Lansdale	
	SN54LS13	† Motorola	
	SN74LS13	Motorola	
	54LS13	† National	45
	74LS13	National	
	T54LS13	† SGS-Thomson	
	T74LS13	SGS-Thomson	
	54LS132	† SGS-Thomson	
	74LS132	SGS-Thomson	50
	SN54LS13	°† TI	
	SN74LS13	° TI	
Dual 4-Input 30-Ohm Transmission Line Driver			
TTL-F	74F3040	° Philips	
Triple 3-Input Expander (for H52)			
TTL-H	**ML54H61**	**Lansdale (3669)**	
	ML74H61	**Lansdale (3669)**	55
		(Continued)	
Triple 3-Input Expander (for H52)			
TTL-H		(Cont'd)	
	54H61	† Rochester	
	74H61	Rochester	
Quad Complementary-Output Elements (for symmetrical generation of complementary outputs)			
TTL	74265	Rochester	
	SN54265	† TI	
	SN74265	TI	60
Quad Differential Backplane Transceiver			
TTL-LS	AM26LS38	AMD	
Quad S-R Latch			
TTL-LS	T54LS279	† SGS-Thomson	
Quad 2-Input NAND Schmitt Trigger			
TTL-F	MC54F132	† Motorola	
	MC74F132	Motorola	
Quad 2-Input NAND Schmitt-Trigger			
TTL	DM54132	† National	65
	DM74132	National	
	74132	National	
	74132	Rochester	
	SN54132	† TI	
	SN74132	TI	70
TTL-ALS	DM74ALS132	National	
TTL-F	54F132	National	
	74F132	National	
	74F132	Philips	
TTL-LS	GD54LS132	† GoldStar	75
	GD74LS132	GoldStar	
	SL54LS132	† Lansdale	
	SL74LS132	**Lansdale (3674)**	
	SN54LS132	† Motorola	
	SN74LS132	Motorola	80
	DM54LS132	† National	
	DM74LS132	National	
	74LS132	National	
	SN54LS132	† TI	
	SN74LS132	TI	85
TTL-S	74S132	National	
	SN54S132	† TI	
	SN74S132	TI	
Quad 2-Input 30-Ohm Transmission Line Driver			
TTL-F	54F3037	† Philips	
	74F3037	° Philips	90
	74F3038	° Philips	
Hex Schmitt Trigger, Inverting			
TTL	SL5414	† Lansdale	
	SL7414	Lansdale	
	DM5414	† National	
	DM7414	National	95
	7414	National	
	7414	Rochester	
	SN5414	† TI	
	SN7414	TI	
TTL-ALS	DM74ALS14	National	100
TTL-F	54F14	°† National	
	74F14	° National	
	74F14	° Philips	
TTL-LS	GD54LS14	† GoldStar	
	GD74LS14	GoldStar	105
	SL54LS14	† Lansdale	
	SL74LS14	**Lansdale (3674)**	
	SN54LS14	† Motorola	
	SN74LS14	Motorola	
	DM74LS14	National	110
	54LS14	† National	
	74LS14	National	
	74LS19	Rochester	
	54LS14	† SGS-Thomson	
	74LS14	SGS-Thomson	115
	SN54LS14	°† TI	
	SN74LS14	° TI	
	SN74LS19	TI	
Octal Flip-Flop with Serial Scanner			
FAST	54F978	† National	
	74F978	National	120
Octal Trapezoidal Repeater			
TTL-S	DS3898	National	
3–2–2–3-Input AND-OR Expander (for H50, H53, H55)			
TTL-H	**ML54H62**	**Lansdale (3669)**	
	ML74H62	**Lansdale (3669)**	
	54H62	† Rochester	
	74H62	Rochester	125
4-Bit Parallel Universal Bus Transceiver, Storage, Three-State			
TTL-S	54S226	† Rochester	
4-Bit Priority Register, Cascadable			
TTL	SN54278	† TI	
	SN74278	TI	
4-Bit True/Complement Zero/One Element			
TTL-H	**ML54H87**	**Lansdale (3669)**	
	ML74H87	**Lansdale (3669)**	130
	54H87	Rochester	
	74H87	Rochester	
6-Bit Synchronous Binary Rate Multiplier			
TTL	5497	† National	
	7497	National	
	SN5497	† TI	135
	SN7497	TI	
8-Bit Bidirectional I/O Port, Latched, Addressable			
TTL-S	S8T33	† Philips	
8-Bit Parity Tree			
TTL	**ML4008**	**Lansdale (3667)**	
	ML4308	**Lansdale (3667)**	
8-Bit Successive Approximation Register			
TTL	DM2502C	National	140
	DM2502M	† National	
	DM2503C	National	
	DM2503M	† National	
	2502	Rochester	
	2503	Rochester	145
	7603	Rochester	
	7605	Rochester	
	8603	Rochester	
	8605	Rochester	
TTL-LS	54LS502	† National	150
	54LS503	† National	
	74LS502	National	
	74LS503	National	
8-Input Priority Encoder			
	MC54F148	† Motorola	
	MC74F148	Motorola	155
TTL	DM54148	† National	
	DM74148	National	
	DM8318	National	
	DM9318	† National	
	9318C	National	160
	9318M	† National	
	54148	† Rochester	
	9318	Rochester	
	SN54148	† TI	
	SN74148	TI	165
TTL-F	54F148	† National	
	74F148	National	
	74F148	Philips	
	SN74F148	TI	
TTL-LS	GD54LS148	† GoldStar	170
	GD74LS148	GoldStar	
	SN54LS148	† Motorola	
	SN54LS748	Motorola	
	SN74LS148	Motorola	
	SN74LS748	Motorola	175
	T74LS148	SGS-Thomson	
	SN54LS148	† TI	
	SN74LS148	TI	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL–TTL (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
8-Input Priority Encoder, Three-State			
TTL-LS	SN54LS348	Motorola	
	SN54LS848	† Motorola	
	SN74LS348	Motorola	
	SN74LS848	Motorola	
	SN54LS348	°† TI	5
	SN74LS348	° TI	
9-Bit Odd/Even Parity Generator/Checker			
	T54L5280	† SGS-Thomson	
TTL	DM54180	† National	
	DM74180	National	
	74180	National	10
	74180	Rochester	
	SN54180	† TI	
	SN74180	TI	
TTL-ALS	SN74ALS280	° TI	
TTL-AS	DM74AS280	National	15
	SN74AS280	° TI	
TTL-F	MC54F280	† Motorola	
	MC74F280	Motorola	
	54F280	°† National	
	74F280	° National	20
	54F280	°† Philips	
	74F280A	° Philips	
	74F280B	° Philips	
	SN54F280B	°† TI	
	SN74F280A	° TI	25
TTL-LS	GD54LS280	† GoldStar	
	GD74LS280	GoldStar	
	SN54LS280	† Motorola	
	SN74LS280	Motorola	
	SN54LS280	°† TI	30
	SN74LS280	° TI	
TTL-S	GD54S280	† GoldStar	
	GD74S280	GoldStar	
	SL54S280	**Lansdale (3674)**	
	SL74S280	**Lansdale (3675)**	35
	SL82S62	Lansdale	
	DM54S280	† National	
	DM74S280	National	
	N82S62	Philips	
	93S62	Rochester	40
	SN54S280	† TI	
	SN74S280	TI	
9-Bit Parity Generator/Checker with Parity I/O Port			
TTL-AS	DM74AS286	National	
	SN74AS286	TI	
10-Bit Priority Encoder			
TTL	SN74147	TI	45
TTL-LS	SN54LS147	Motorola	
	SN74LS147	Motorola	
	SN54LS147	† TI	
	SN74LS147	TI	
12-Bit Schottky Barrier Diode			
TTL-S	SN74S1050	TI	50
	SN74S1051	TI	
12-Bit Successive Approximation Register			
TTL	DM2504C	National	
	DM2504M	† National	
	2504	Rochester	
	7604	Rochester	55
	8604	Rochester	
12-Input Odd/Even Parity Checker/Generator			
TTL	9348C	National	
	9348M	† National	
	9348	Rochester	
16-Bit Schottky Barrier Diode			
TTL-S	SN74S1052	TI	60
	SN74S1053	TI	
16-Bit Shift Register, Video, Parallel-In, Parallel Out			
	DP8515	National	
	DP8515-350	National	
		(Continued)	
16-Bit Shift Register, Video, Parallel-In, Parallel Out (Cont'd)			
	DP8516	National	
	DP8516-350	National	65
16-Stage Programmable Counter/Divider			
	54F525	† National	
	74F525	National	
32-Bit Parallel Error Detection and Correction Circuit			
FAST	54F632	† National	
	74F632	National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—Special

Function	Device	Source	Line
Arithmetic Processor (supply 5–12 V)	AM9511A	AMD	
Baud Rate Generator/Programmable Divider (ROM controlled divider)	COM8046	SMC	
	COM8046T	SMC	
	COM8126	SMC	
	COM8126T	SMC	5
	COM8146	SMC	
	COM8146T	SMC	
Baud Rate Generator/Programmable Divider, Dual (ROM controlled divider)	COM8116	SMC	
	COM8116T	SMC	
	COM8136	SMC	10
	COM8136T	SMC	
Capacitor-Coupled, Digital Coupler, Dual	**ISO150**	**Burr-Brown (3464)**	
Chassis-Level Phase Modulated DDS (with internal clock)	**STEL9275**	**STEL (3796)**	
Comparator for Servomechanisms (NC, robot, and drawing machine applications)	KM3702D	Toko	
Counter/Display Decoder, 4 Decade (7 segment and BCD outputs, 0.25 MHz; supply 5 V)	MIC5002	Micrel	15
	MIC5005	Micrel	
	MIC5007	Micrel	
Counter/Display Driver, 6 Decade Up/Down (7 segment and BCD output, 1MHz, presettable compare register, latched output, LED driver maximum count 999999, 995959, or 595999 versions, supply 10–15V)	MIC50395	Micrel	
	MIC50396	Micrel	
	MIC50397	Micrel	20
	MIC50398	Micrel	
	MIC50399	Micrel	
Counter Logic Control (use with MC12013 and MC4016)	MC12014	Motorola	
Counter Time-Base (oscillator, programmable divider, 10^1 to 10^8, $2x10^7$, $6x10^8$, and $36x10^8$, supply –12,5 V)	MIC5009	Micrel	
Counter/Timer, 4 Digit Up/Down Presettable Counter/Timer, Settable Register with Comparison to Counter, Multiplexed 7-Segment and BCD Output (maximum count 5959)	ICM7217B	Maxim	25
	ICM7217C	Maxim	
Counter, Universal (8 decade)/Latch/Display Driver (direct 7 segment and digit drivers for common anode LEDs: 'A' types	ICM7216B	Harris	
	ICM7226A	Harris	
	ICM7226AI	Harris	
	ICM7226B	Harris	30
	ICM7226BI	Harris	
Counter, Dual (two 3-decade up/down counters with latch, BCD output, 0.5 MHz, supply 5–15 V)	**LS7040**	**LSI Comp (3681)**	
Counter, Dual 16-Bit Binary Up Counter with 32-Bit Latch, Multiplexer and Three-State Drivers	**LS7062**	**LSI Comp (3681)**	
Counter, Dual 16-Bit, Prescalable, Multiplexed and Latched Outputs (5 V supply)	**LS7063**	**LSI Comp (3681)**	
Counter, 6 Decade Up/Down (predetermining, 3 pre-set storage registers, latched output)	**LS7055**	**LSI Comp (3681)**	35
	LS7056	**LSI Comp (3681)**	
Counter, 6 Decade, BCD Output, 5 MHz, 8 Latches (supply 5–15 V)	**LS7031**	**LSI Comp (3681)**	
Counter, 8 Decade Frequency Counter/Latch/Display Driver (Direct 7 segment and digit drivers for common anode LEDs: 7216C. common cathode LEDs: 7216D. DC to 10 MHz, 5 V supply)	ICM7216D	Harris	
Counter, 8 Decade, BCD and 7 Segment Outputs, 5 MHz, Latches (supply 5–15 V)	**LS7030**	**LSI Comp (3681)**	
Counter, 32-Bit, Multiplexed and Latched Outputs (5 V supply)	**LS7060**	**LSI Comp (3681)**	40
Counter, 32-Bit, 8-Bit Prescalable, Multiplexed and Latched Outputs (5 V supply)	**LS7061**	**LSI Comp (3681)**	
Cryptographic Data Security Element (12 Mbps data rate)	99C003	CE Infosys	
Delay Generator (digitally programmable, TTL and ECL compatible)	AD9500B	AD	
	AD9500T	† AD	
Delay Line, 3-in–1	**DS1013**	**Dallas (3566)**	45
Delay Line, 10-Tap	**DS1010**	**Dallas (3566)**	
Digital Delay Line (for filter, noise reduction)	**CXK1202**	**Sony (3794)**	
Digital Filter, 64-Tap Complex Matched Filter	**STEL3310**	**STEL (3797)**	
Digital Gain Set, for setting gain of op-amps	LF13006	National	
	LF13007	National	50
Digital Potentiometer, Dual	DS1267	Dallas	
Digital Resistor w/Op Amp	DS1667	Dallas	
Digital to Synchro Converter (16-bit)	DSC10510	ILC-DDC	
Digitally Controlled Transconductance Block	GT560	Gennum	
Digitally Programmable Delay Generator	AD9501	AD	55
	AD9501J	AD	
	AD9501S	AD	
Direct Digital Synthesizer, 20 MHz	Q2334I-20L	Qualcomm	
	Q2334I-20N	Qualcomm	
	Q2334M-20L	† Qualcomm	60
Direct Digital Synthesizer, 30 MHz	Q2334I-30L	Qualcomm	
	Q2334I-30N	Qualcomm	
Direct Digital Synthesizer, 40 MHz	Q2220M-40L	† Qualcomm	
Direct Digital Synthesizer, 50 MHz	Q2220I-50N	Qualcomm	
	Q2334C-50N	Qualcomm	65
Direct Digital Synthesizer, 85 MHz	Q2230C-85	Qualcomm	
Divider, Divide by 2, Above 1 GHz	SP8606B	GEC Plessey	
	SP8606M	GEC Plessey	
Divider, Divide by 2, 0.2 to 1 GHz	SP8602A	† GEC Plessey	
	SP8602B	GEC Plessey	70
	SP8605B	GEC Plessey	
	SP8605M	GEC Plessey	
	SP8607A	† GEC Plessey	
	SP8607B	GEC Plessey	
Divider, Divide by 2, 740 MHz	MC12090	Motorola	75
Divider, Divide by 3/4, 40 to 300 MHz	SP8720	GEC Plessey	
Divider, Divide by 4, 0.07 to 1 GHz	SP8613	GEC Plessey	
Divider, Divide by 4, 0.15 to 1 GHz	SP8600A	† GEC Plessey	
	SP8600B	GEC Plessey	
Divider, Divide by 4/10/11/20/21	TD6109	Toshiba	80
Divider, Divide by 5/6, to 1 MHz	**RED5/6**	**LSI Comp (3681)**	
Divider, Divide by 5/6, 0.2 to 1 GHz	SP8740A	† GEC Plessey	
	SP8740B	GEC Plessey	
	MC12009	Motorola	
Divider, Divide by 6/7, 0.2 to 1 GHz	SP8741A	† GEC Plessey	85
	SP8741B	GEC Plessey	
Divider, Divide by 8, 0.25 to 1 GHz	SP8735B	GEC Plessey	
Divider, Divide by 8/9, 0.25 to 1 GHz	SP8743B	GEC Plessey	
	SP8743M	GEC Plessey	
Divider, Divide by 10, Above 1 GHz	SP8665B	GEC Plessey	90
	SP8668B	GEC Plessey	
Divider, Divide by 10, 0.2 to 1 GHz	SP8630A	† GEC Plessey	
	SP8630B	GEC Plessey	
Divider, Divide by 10/100/1000/10,000 to 2 MHz	**RDD104**	**LSI Comp (3681)**	
Divider, Divide by 10/11, 0.2 to 1 GHz	SP8643B	GEC Plessey	95
	SP8647A	† GEC Plessey	
	SP8647B	GEC Plessey	
	SP8680A	† GEC Plessey	
	SP8680B	GEC Plessey	
	SP8685A	† GEC Plessey	100
	SP8685B	GEC Plessey	
	SP8690A	† GEC Plessey	
	SP8690B	GEC Plessey	
	MC12013	Motorola	
Divider, Divide by 16, 0.2 to 1 GHz	SP8659A	† GEC Plessey	105
	SP8659B	GEC Plessey	
Divider, Divide by 20, 0.2 to 1 GHz	SP8657A	† GEC Plessey	
	SP8657B	GEC Plessey	
	SP8658	GEC Plessey	
Divider, Divide by 20/21, to 225 MHz	DS8614	National	110
Divider, Divide by 32, 0.2 to 1 GHz	SP8655A	† GEC Plessey	
	SP8655B	GEC Plessey	
Divider, Divide by 32/33 to 225 MHz	MC12015	Motorola	
	DS8615	National	
Divider, Divide by 40/41, to 225 MHz	DS8616	National	115
Divider, Divide by 40/41, 225 MHz	MC12016	Motorola	
Divider, Divide by 50/60, to 1 MHz	**RED50/60**	**LSI Comp (3681)**	
Divider, Divide by 64, above 1 GHz	SP8755A	† GEC Plessey	
	SP8755B	GEC Plessey	
Divider, Divide by 64, 1.1 GHz	MC12073	Motorola	120
Divider, Divide by 64/65, to 225 MHz	DS8617	National	
Divider, Divide by 64/65 to 225MHz	MC12017	Motorola	
Divider, Divide by 64/256, 90–1000 MHz	CA3163	Harris	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL—Special (Cont'd)

Function	Device	Source	Line
Divider, Divide by 64, 225 MHz	MC12023	Motorola	
Divider, Divide by 100, to 150 MHz	SP8629	GEC Plessey	
	DS8629	National	
Divider, Divide by 100/120	**RED100/120**	**LSI Comp (3681)**	
Divider, Divide by 128/129, 520 MHz	MC12018	Motorola	5
Divider, Divide by 239,240,255,256, to 0.5 GHz	SP8906	GEC Plessey	
Divider, Divide by 256, 1.1 GHz	MC12074	Motorola	
Divider, Divide by 300/360	**RED300/360**	**LSI Comp (3681)**	
Divider, Divide by 478,480,510,512, to 1 GHz	SP8901	GEC Plessey	
Divider, Divide by 3000/3600	**RED3000/3600**	**LSI Comp (3681)**	10
Divider, Divide by 500/600	**RED500/600**	**LSI Comp (3681)**	
Divider Extender, Divide by 4, to Extend Division Ratios of Two Modulus Counters while Maintaining the Difference (i.e., 5/6 to 20/21)	SP8790A	† GEC Plessey	
	SP8790B	GEC Plessey	
Divider Extender, Divide by 8 (i.e., extends 5/6 to 40/41)	SP8794A	† GEC Plessey	
	SP8794B	GEC Plessey	15
Divider, Programmable; 6– 1/2 Decade, to 4.5 GHz	HEF4751	Philips	
Filter, Digital Programmable High Order, Low-Pass	FLJ-DC	Datel	
	FLJ-D1	**Datel (3570)**	
	FLJ-D2	**Datel (3570)**	
	FLJ-D5	**Datel (3570)**	20
	FLJ-D6	**Datel (3570)**	
	FLT-C1	**Datel (3570)**	
Filter, FIR, 30 MHz	**HSP43481**	**Harris (3637)**	
	HSP43881	**Harris (3637)**	
	HSP43891	**Harris (3637)**	25
Filter, Resistor Tuneable	**FLJ-UR**	**Datel (3570)**	
FM and PM Modulated DDS Frequency Synthesizer (32-bit quadrature)	**STEL1377Q**	**STEL (3796)**	
	STEL1377S	**STEL (3796)**	
Hall Effect Switch (senses magnetic field)	DN6839	Panasonic	
	TL170C	TI	30
Interpolation Pulse Generator (NC, robot, and drawing machine applications)	KM3701AD	Toko	
	KM3702AD	Toko	
	KM3702AQ	Toko	
LED Driver System, 8 Decade 8x8 Memory, Decoder (versions either hardwire or processor controlled	ICM7218A	Harris	
	ICM7218B	Harris	35
	ICM7218C	Harris	
	ICM7218D	Harris	
	ICM7218A	Maxim	
	ICM7218B	Maxim	
	ICM7218C	Maxim	40
	ICM7218D	Maxim	
Linear, Digital Programmable Current Sinks	GP521	Gennum	
Linear Programmable Analog Signal Processor	GP520	Gennum	
LVDT/RVDT to Digital Converter (12 or 14-Bit resolution)	DTC19300	ILC-DDC	
Modulated Frequency Synthesizer, 32-Bit	**STEL1375A**	**STEL (3796)**	45
Multiplexer/Demultiplexer, 8-Channel Latched, Binary Addressable (supply –5 to –70 V)	**LS7110**	**LSI Comp (3683)**	
Numerical Control Circuit (for rotary encoder interface)	KM3703D	Toko	
Numerically Controlled Oscillator (1 GHz, GaAs, 32-Bit BPSK, QPSK)	**STEL2173**	**STEL (3796)**	
Numerically Controlled Oscillator (60 MHz, 32-Bit, full PM, FM, and quadrature)	**STEL1177**	**STEL (3796)**	
Numerically Controlled Oscillator (80 MHz, BCD decimal)	**STEL1176**	**STEL (3796)**	50
Phase-Lock/Clock Synchronizer (digital delay puts 10–30 MHz clock in phase with trigger)	KS6369-15P	Cornes USA	
	KS6369-150P	Cornes USA	
Phase-Lock/Clock Synthesizer (digital delay puts 12–40 MHz clock in phase with trigger)	KS6369-20AP	Cornes USA	
PIN Diode Drivers	DH0035	† National	
	DH0035C	National	55
Precision Clock Shape and Fan Out Driver, 20-Copy (ten copies at primary frequency up to 80 MHz, five copies at primary or 1/2 primary frequency, five copies at 1/2 or 1/4 primary frequency)	SC3501	Silicon Conn	
Precision Programmable Frequency Generator/Synthesizer	AV9101	Avasem	
Programmable Amplifier, Telephone Line Delay Equalizer	AT76C10	ATMEL	
Programmable Diode Matrix, 10x16	S353	Siemens	
Random Bit Generator Component (hybrid)	RBG1210	Newbridge	60
Resistor Network, Logic Controlled	FLJ-ACR1	Datel	
	FLJ-ACR2	Datel	
Schmitt Trigger, Zener Clamped Output (supply 2.2 to 6 V)	CS102	Cherry Semi	
Signal Quality Estimator (provides front end processing)	STEL2330	STEL	
Solid-State Relay, Normally Closed, High Voltage (for isolation switching)	LH1298	Siemens	65
Solid-State Relay, Normally Open, High Voltage (for isolation switching)	LH1056	Siemens	
Static RAM, 256x8, w/ Alarm Clock/Calendar	PCF8583	Philips	
Synchro or Resolver-to-Digital Converter (12 or 14-Bit)	SDC14532	ILC-DDC	
Synchro or Resolver-to-Digital Converter (14 or 16-Bit)	SDC14531	ILC-DDC	
Test Access Port (IEEE1149.1), Multidrop, Bridge	SCANPSC110F	National	70
Test-Bus Interface Unit (provides protocol and hardware support for interfacing between TM bus and ETM bus	HTIU2000	Honeywell	
Video Frame Averager	67156	OEI	
Video Frame Buffer (512 x 512 x 8)	67145	OEI	
Video Processor (Subtraction, Overlay).	67149	OEI	
BCD/Decimal Modulated DDS Frequency Synthesizer (8 3/4 decade resolution)	**STEL1376**	**STEL (3796)**	75
Quadrature Clock Converter	**LS7083**	**LSI Comp (3682)**	
	LS7084	**LSI Comp (3682)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 271

INTRODUCTION TO DIGITAL SIGNAL PROCESSORS

This section begins with a Master Selection Guide that covers all major parameters needed to choose a digital signal processor for a particular application. Digital Signal Processors are broken down into two major categories: Fixed Point and Floating Point. Digital signal processors are sequenced by increasing external data bus width and then alphabetically by manufacturer.

Once you've chosen the proper digital signal processor for your application, go to the System Components section. Although some of these parts may be found in other Master Selection Guides, each of them is particularly suited to DSP applications. They are arranged alphabetically by function:

Digital Signal Processors
Fixed Point 272
Floating Point 278

System Components
Arithmetic Functions 280
Converters, Analog to Digital 280
Converters, Digital to Analog 280
Processors 281
Registers 281
Miscellaneous............................ 282

DIGITAL SIGNAL PROCESSORS—Fixed Point

Bus Width					On-Chip Memory				Performance						Specifications		
Ext. Data (bits)	Int. Data (bits)	Address (bits)	Process Technology	No. of Pins	RAM	ROM	EPROM	Cache	Clock Rate (MHz)	Load/ Store Cycle (ns)	Cycles/ Instruction	Interrupt Latency (cycles)	Task Switch Time (ns)	Multiply Time (ns)	No. of Op Codes	Address Modes	Pipeline Depth
	16	14	CMOS	68	1K Program 512 Data				16.67	60							
8	16	8	CMOS	68	256 x 16	2K x 24 instruction, 1K x 16 data			5.5296	181							
8	32		CMOS	28	512x16	4Kx16			40	100							
16	16	8	CMOS	28	2K				10	200	1	100	N/A	100	N/A	N/A	0
16	16	8	CMOS	32	256		2K		8	244	1	122		100			
16	16	12	CMOS		256 word	8K word				114							
16	16	12	CMOS	40	144	1.5K			20.5	160	1			195			
16	16	12	CMOS	40	144	1.5K			20.5	160	1			195			
16	16	12	CMOS	40	144	1.5K			20.5	160	1			195			
16	16	12	CMOS	40	144	1.5K			25.6	160	1			156			
16	16	12	CMOS	40	144	1.5K			25.6	160	1			156			
16	16	12	CMOS	40	144	1.5K			25.6	160	1			156			
16	16	12	CMOS	40	144	1.5K			32.8	160	1			122			
16	16	12	CMOS	40	144 word	1.5K word				160							
16	16	12	CMOS	40	144 word	1.5K word				200							
16	16	12	CMOS	40	144 word	1.5K word				280							
16	16	12	CMOS	40	144 word	1.5K word			14.4	280							
16	16	12	CMOS	40	144 word	1.5K word			20.5	200							
16	16	12	CMOS	40	144 word	1.5K word			25.6	160							
16	16	12	CMOS	40	144 word	1.5K word			32.8	122							
16	16	12	CMOS	40	256 word		4K word			160							
16	16	12	CMOS	40	256 word		4K word			200							
16	16	12	CMOS	40	256 word		4K word			200							
16	16	12	CMOS	40	256 word	4K word				160							
16	16	12	CMOS	40	256 word	4K word				200							
16	16	12	CMOS	40	256 word	4K word				200							
16	16	12	CMOS	68	256 word		4K word			160							
16	16	12	CMOS	68	256 word	4K word				160							
16	16	12	NMOS	40	144 word	1.5K word				200							
16	16	14	CMOS	100				16 word	8.192		1						
16	16	14	CMOS	100				16 word	12.5	80	1						
16	16	16	CMOS	28	128 x 16	510 x 13 data, 1K x 23 program			8.33		1			240			
16	16	16	CMOS	28	128 x 16	512 x 13 data, 512 x 23 program				240	1						
16	16	16	CMOS	28	256 x 16		256 x 16 data, 2K x 24 program		8.192	122	1						

Peripherals (No./Resolution)			Ports						
Timer/Counter	A/D Converter	D/A Converter	Parallel (bits)	Serial (No.)	Inter processor (No.)	Comments	Device	Source	Line
1 16 Bit Timer			24	2			ADSP2115	AD	
			3 x 8	1		Designed for modem applications. Consists of a dual processor and a modem function block. The dual processor comprises a uPD77C25 DSP and a uCOM78K/I general puropose processor.	µPD77810	NEC	
			1 8-bit	1 3-line			RP5C72	Ricoh	
			8	1			µPD77C25L-10	NEC	
			8	1			µPD77P25GW	NEC	5
			8 x 16				TMS320C16	TI	
			8x16				DSP320C10I	Microchip	
			8 x 16				DSP320C10B	Microchip	
			8x16				DSP320C10I	Microchip	
			8x16				DSP30CF10-25B	Microchip	10
			8 x 16				DSP320C10-25B	Microchip	
			8 x 16				DSP320C10-25I	Microchip	
			8x16				DSP320C10-32I	Microchip	
			8 x 16				TMS320C10-25	TI	
			8 x 16				TMS320C10	TI	15
			8 x 16				TMS320C10-14	TI	
			8 x 16				DSP320C10-14	Microchip	
			8 x 16				DSP320C10	Microchip	
			8 x 16				DSP320C10-25	Microchip	
			8 x 16				DSP320C10-32	Microchip	20
			8 x 16				TMS320E15-25	TI	
			8 x 16				TMS320E15	TI	
			6 x 16	2	1	On-chip µ-law/A-law companding hardware.	TMS320E17	TI	
			8 x 16				TMS320C15-25	TI	
			8 x 16				TMS320C15	TI	25
			6 x 16	2	1	On-chip µ-law/A-law companding hardware.	TMS320C17	TI	
4			7 x 16	1			TMS320E14	TI	
4			7 x 16	1			TMS320C14	TI	
			8 x 16				DSP32010	Microchip	
			16				**ADSP2100**	**AD (3519)**	30
			16				**ADSP2100A**	**AD (3519)**	
			8	1			µPD77C20A	NEC	
			8	1			MSM77C20A	OKI	
			8 or 16	1		Twice the throughput of a uPD77C20A.	µPD77P25	NEC	

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS–Fixed Point (Cont'd)

Bus Width					On-Chip Memory				Performance						Specifications		
Ext. Data (bits)	Int. Data (bits)	Address (bits)	Process Technology	No. of Pins	RAM	ROM	EPROM	Cache	Clock Rate (MHz)	Load/ Store Cycle (ns)	Cycles/ Instruction	Interrupt Latency (cycles)	Task Switch Time (ns)	Multiply Time (ns)	No. of Op Codes	Address Modes	Pipeline Depth
16	16	16	CMOS	28	256 x 16	256 x 16 data, 2K x 24 program			8.192	122	1						
16	16	16	CMOS	68	1.5K word	256 word				100							
16	16	16	CMOS	68	544 word		4K word			100							
16	16	16	CMOS	68	544 word	4K word				80							
16	16	16	CMOS	68	544 word	4K word				100							
16	16	16	CMOS	68	544 word	4K word				100							
16	16	16	CMOS	68	544 word	4K word				120							
16	16	16	CMOS	84	2K word	4K word		15 word		25	1						
16	16	16	CMOS	84	2K word	4K word		15 word		33	1						
16	16	16	CMOS	84	2K word	4K word		15 word		55	1						
16	16	16	CMOS	84	512 word	2K word		15 word		55	1						
16	16	16	CMOS	84	512 word	2K word		15 word		75	1						
16	16	16	CMOS	132	1K word (data + program)	8K word				35							
16	16	16	CMOS	132	1K word (data + program)	8K word				50							
16	16	16	CMOS	132	9K word (data + program)	2K word				35–50							
16	16	16	HCMOS	101	2K words	Opt. 12K			40	50	1					22	
16	16	16	NMOS	28	128 x 16		510 x 13 data, 1K x 23 program		8.33 MHz		1			240			
16	16	16	NMOS	28	128 x 16	510 x 13 data, 1K x 23 program			8.33 MHz		1			240			
16	16	16	NMOS	68	544 word					200							
24	16	14	CMOS	68	1K x 16	2K x 24				80							
24	16	14	CMOS	68	2K x 24 program, 1K x 16 data					80							
24	16	14	CMOS	68	2Kx24 program, 1Kx16 data				40	80							
24	16	14	CMOS	68	2Kx24 program, 1Kx16 data				50	80							
24	24	16	HCMOS	88		3.75K words + X/Y DATA ROMS			20.5 MHz		1					18	3

DIGITAL SIGNAL PROCESSING

Peripherals (No./Resolution)			Ports						
Timer/Counter	A/D Converter	D/A Converter	Parallel (bits)	Serial (No.)	Inter processor (No.)	Comments	Device	Source	Line
			8 or 16	1		Twice the throughput of a uPD77C20A.	µPD77C25	NEC	
1			16 x 16	1			TMS320C26	TI	
1			16 x 16	1			TMS320E25	TI	
1			16 x 16	1			TMS320C25-50	TI	
1			16 x 16	1			SMJ320C25	TI	5
1			16 x 16	1			TMS320C25	TI	
1			16 x 16	1			TMS320C25-33	TI	
			16	1		Three internal processing units, two for memory addressing and one for data operations. RAM/ROM expandable off-chip to 60/64K.	WE-DSP16A-025	AT&T	
			16	1		Three internal processing units, two for memory addressing and one for data operations. RAM/ROM expandable off-chip to 60/64K.	WE-DSP16A-033	AT&T	
			16	1		Three internal processing units, two for memory addressing and one for data operations. RAM/ROM expandable off-chip to 60/64K.	WE-DSP16A-055	AT&T	10
			16	1		Three internal processing units, two for memory addressing and one for data operations. RAM/ROM expanable off-chip to 64K.	WE-DSP16-055	AT&T	
			16	1		Three internal processing units, two for memory addressing and one for data operations. RAM/ROM expanable off-chip to 64K.	WE-DSP16-075	AT&T	
1			64K	2			TMS320C51-57	TI	
1			64K	2			TMS320C51	TI	
1			64K	2			TMS320C50	TI	15
1			16	2		CPU consists of three execution units in parallel: Data Arithmetic Logic Unit, Address Generation Unit, and Program Generation Unit.	XC56116-40	Motorola	
			8	1			µPD77P20	NEC	
			8	1			µPD7720A	NEC	
1			16 x 16	1		Twice the throughput of a 32010.	SMJ32020	TI	
1			24	2		Three independent computational units: ALU, Multiplier/ Accumulator, and Barrel Shifter.	**ADSP2102**	**AD (3519)**	20
1			24	2		Three independent computational units: ALU, Multiplier/ Accumulator, and Barrel Shifter.	**ADSP2101**	**AD (3519)**	
	1		24	2		Three independent computational units: ALU, Mulitiplier/ Accumulator, and Barrel Shifter	**ADSP2101-40**	**AD (3519)**	
	1		24	2		Three independent computational units: ALU, Mulitiplier/ Accumulator, and Barrel Shifter	**ADSP2101-50**	**AD (3519)**	
1			24	1		The core of the processor consists of three units operating in parallel, the data ALU, the address generation unit, and the program controller.	DSP56000-20	Motorola	

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS—Fixed Point (Cont'd)

Bus Width									Performance						Specifications		
Ext. Data (bits)	Int. Data (bits)	Address (bits)	Process Technology	No. of Pins	On-Chip Memory RAM	ROM	EPROM	Cache	Clock Rate (MHz)	Load/ Store Cycle (ns)	Cycles/ Instruction	Interrupt Latency (cycles)	Task Switch Time (ns)	Multiply Time (ns)	No. of Op Codes	Address Modes	Pipeline Depth
24	24	16	HCMOS	88	512 words	32 word bootstrap			20.5 MHz		1					18	3
24	24	16	HCMOS	88	512 words	32 word bootstrap			27 MHz		1					18	3
24	24	16	HCMOS	88	512 words	32 word bootstrap			33 MHz		1					18	3
24	24	16	NMOS		1K 24-bit	—	—	—	50	20	5	NA	0	150	61	8	NA
24	24	16	NMOS		1K 24-bit	1K 24-bit	—	—	50	20	5	NA	0	150	61	8	NA
24	24	16	NMOS		2K 24-bit	—	—	—	50	20	5	NA	0	75	61	8	NA
32	24	12	CMOS	68	512		2K		20	200	1	100		100			3
32	24	12	CMOS	68	512	2K			20	200	1	100		100			3

Peripherals (No./Resolution)			Ports						
Timer/Counter	A/D Converter	D/A Converter	Parallel (bits)	Serial (No.)	Inter processor (No.)	Comments	Device	Source	Line
1			24	1		The core of the processor consists of three units operating in parallel, the data ALU, the address generation unit, and the program controller. Mu- and A-Law to linear expansion table and four quadrant sine wave table.	XSP56001-20	Motorola	
1			24	1		The core of the processor consists of three units operating in parallel, the data ALU, the address generation unit, and the program controller. Mu- and A-Law to linear expansion table and four quadrant sine wave table.	XSP56001-27	Motorola	
1			24	1		The core of the processor consists of three units operating in parallel, the data ALU, the address generation unit, and the program controller. Mu- and A-Law to linear expansion table and four quadrant sine wave table.	XSP56001-33	Motorola	
NA	NA	NA	1 24-bit	2 24-bit	1	Includes two on-chip signal processing engines	SPROC1200	Star Semi	
NA	NA	NA	1 24-bit	2 24-bit	1	Includes two on-chip signal processing engines	SPROC1210	Star Semi	5
NA	NA	NA	1 24-bit	2 24-bit	1	Includes four on-chip signal processing engines	SPROC1400	Star Semi	
			16	1			μPD77P220L	NEC	
			16	1			μPD77220L	NEC	

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS—Floating Point

Bus Width									Performance						Specifications		
Ext. Data (bits)	Int. Data (bits)	Address (bits)	Process Technology	No. of Pins	On-Chip Memory RAM	ROM	EPROM	Cache	Clock Rate (MHz)	Load/ Store Cycle (ns)	Cycles/ Instruction	Interrupt Latency (cycles)	Task Switch Time (ns)	Multiply Time (ns)	No. of Op Codes	Address Modes	Pipeline Depth
22	22	16	CMOS	84	512 x 22	2K x 32				100							
22	22	16	CMOS	84	512 x 22	2K x 32				100							
22	22	16	CMOS	132	1K x 32	1K x 32				100							
32	32		HCMOS	223	1K X/Y, 1K Program memory	2 Data ROMs			33 MHz								
32	32		HCMOS	223	1K X/Y, 1K Program memory	2 Data ROMs			40 MHz								
32	32	14	CMOS	100	512 words x 2	512 words			16	250	1						
32	32	14	CMOS	100	512 words x 2	512 words			25	160	1						
32	32	22	CMOS	13 x 13 PGA	1K word	2K words				80	1						
32	32	22	CMOS	13 x 13 PGA	1K word	2K words				100	1						
32	32	24	CMOS	132	1K	2K			11	180	1	90		90			3
32	32	31	CMOS		8K x 32	16K x 32		512 Bytes		40	1						
32	32	32	CMOS		2K word					60	1						
32	32	32	CMOS		2K word					74	1						
32	32	32	CMOS		2K word	4K word				60	1						
32	32	32	CMOS		2K word	4K word				74	1						
32	32	32	CMOS	68	1K x 32		2K x 32 instruction, 1K data		13.3 MHz	150	1			150	26		3
32	32	32	CMOS	68	1K x 32	2K x 32 instruction, 1K data			13.3 MHz	150	1			150	26		3
32	32	32	CMOS	68	1K x 32	2K x 32 instruction, 1K data			13.3 MHz	150	1			150	26		3

Peripherals (No./Resolution)			Ports						
Timer/Counter	A/D Converter	D/A Converter	Parallel (bits)	Serial (No.)	Inter processor (No.)	Comments	Device	Source	Line
			21		1	The MSM699210 has the processor mode and controller mode as external interface. The interface functions allow establishing a multiprocessor system or highly flexible system configuration.	MSM699210	OKI	
			21	1	1	The MSM699215 has the same architecture as the MSM699210 but has serial ports.	MSM699215	OKI	
			21			Capable of functioning in the master mode as a multiprocessor or in the slave mode as a microcomputer I/O processor.	MSM6992	OKI	
			32		2 Host/ Slave	CPU consists of three 32-bit execution units operating in parallel: the Data Arithmetic Unit, the Address Generation Unit, and the Program Control Unit. Linear arrays of processors can be implemented without glue logic.	XC96002-33	Motorola	
			32		2 Host/ Slave	CPU consists of three 32-bit execution units operating in parallel: the Data Arithmetic Unit, the Address Generation Unit, and the Program Control Unit. Linear arrays of processors can be implemented without glue logic.	XC96002-40	Motorola	5
			32	1		Two internal arithmetic units available to the designer, the control arithmetic unit (CAU) and the data arithmetic unit.	WE-DSP32-250	AT&T	
			32	1		Two internal arithmetic units available to the designer, the control arithmetic unit (CAU) and the data arithmetic unit.	WE-DSP32-160	AT&T	
			32	1		Two internal arithmetic units available to the designer, the control arithmetic unit (CAU) and the data arithmetic unit. Opt 0/1.5K ROM/RAM.	WE-DSP32C-080	AT&T	
			32	1		Two internal arithmetic units available to the designer, the control arithmetic unit (CAU) and the data arithmetic unit. Opt 0/1.5K ROM/RAM.	WE-DSP-32C-100	AT&T	
							μPD77240R	NEC	10
2			32		6 x 32	Interprocessor communication handled by DMA and/or COM ports. Global and local bus bandwidths support data and program fetches. All six high-speed COM ports (interprocessor) capable of bidirectional data rates of 160 MBits per second.	TMS320C40	TI	
1			16M x 32	1		External/internal DMA.	TMS320C31	TI	
1			16M x 32	1		External/internal DMA.	TMS320C31-27	TI	
2			16M x 32	2		External/internal DMA.	TMS320C30	TI	
2			16M x 32	2		External/internal DMA.	TMS320C30-27	TI	15
			32	1		Master/slave mode operation.	μPD77P230	NEC	
			32	1		Master/slave mode operation.	μPD77230A	NEC	
			32	1		Master/slave mode operation. The mask ROM contains a standard, general-purpose DSP library.	μPD77230A-003	NEC	

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS—System Components

Arithmetic Functions

Function	Device	Source	Line
Accumulator, Complex			
	PDSP16318	GEC Plessey	
Add/Subtract Logic, 16-Bit			
	L4C381	LogicDev	
Adder, 6-Bit High Speed			
	F100180	National	
	100180	Philips	
Adder, 9-Bit Wallace Tree			
	F100182	National	5
Address Generator			
	ADSP1410	° AD	
ALU, Cascadable			
	MA7188	GEC Plessey	
	IDT7381	IDT	
	IDT7383	IDT	
	IDT7384	IDT	10
ALU, Floating Point			
	ADSP3220	° AD	
	ADSP3222	AD	
ALU w/Barrel Shifter			
	PDSP1601	GEC Plessey	
ALU, Single Precision			
	ADSP3202	AD	
ALU, 4-Bit Binary, BCD			
	F100181	National	15
ALU, 4-Bit, BCD			
	100181	Philips	
ALU, 16 Bit-Slice			
	L29C101	† LogicDev	
Convolver, 2D	**HSP48908**	**Harris (3637)**	
Convolver, 2D w/Integral Delay Lines			
	PDSP16488	GEC Plessey	
Correlator	MA7170	GEC Plessey	20
	HSP45256	**Harris (3637)**	
	L10C23	† LogicDev	
	TMC2220	TRWLSI	
	TMC2220-1	† TRWLSI	
FFT Processor	PDSP16510	GEC Plessey	25
Multiplier, Complex (16x12)			
	PDSP16112	GEC Plessey	
Multiplier, Complex (16x16)			
	PDSP16116	GEC Plessey	
Multiplier, Floating Point, Single Precision			
	ADSP3201	AD	
Multiplier (2x8) Recode			
	F100183	National	
Multiplier (8-Bit Serial)			
	54HCT384	† Philips	30
Multiplier (8x8)			
	ADSP1080A	AD	
	ADSP1081A	AD	
	LMU08	† LogicDev	
	LMU557	† LogicDev	
	LMU558	† LogicDev	35
	LMU8U	† LogicDev	
Multiplier (12x12)			
	ADSP1012A	AD	
	MPY12	† IMI	
	LMU12	† LogicDev	
Multiplier (12x12) 2's Complement and Unsigned MaGNITUDE.	LMU112	† LogicDev	40
Multiplier (16x16)			
	ADSP1016A	AD	
	PDSP16116A	GEC Plessey	
	HMU16	Harris	
	HMU16/883	† Harris	
	HMU17	Harris	45
	HMU17/883	† Harris	
	IDT7317	IDT	
		(Continued)	
Multiplier (16x16) (Cont'd)			
	LMU16	† LogicDev	
	LMU17	† LogicDev	
	LMU18	† LogicDev	50
	LMU216	† LogicDev	
	LMU217	† LogicDev	
Multiplier (24x24)			
	ADSP1024A	AD	
	ADSP1024AS	† AD	
	ADSP1024AT	† AD	55
Multiplier (32-bit)			
	ADSP3210	° AD	
Multiplier-Accumulator, Complex Numbers			
	STI2003	STEL	
Multiplier-Accumulator (8x8)			
	ADSP1008	° AD	
	ADSP1008A	AD	
Multiplier-Accumulator (12x12)			
	ADSP1009A	AD	60
	LMA1009	† LogicDev	
	LMA2009	† LogicDev	
	TDC1009	† TRWLSI	
Multiplier-Accumulator (16x16)			
	ADSP1010A	AD	
	ADSP1010B	AD	65
	ADSP1101	AD	
	ADSP1110A	AD	
	MA7010	GEC Plessey	
	HMA510	Harris	
	HMA510/883	† Harris	70
	LMA1010	† LogicDev	
	LMA2010	† LogicDev	
	TMC2210	† TRWLSI	
	WS59510	Waferscale	
Multiplier-Divider, Floating Point			
	ADSP3212	° AD	75
Polar to Cartesian Converter			
	PDSP16340	GEC Plessey	
Programmable FIR Filter (16 multiplier - accumulators)			
	PDSP16256	GEC Plessey	
Pythagoras Processor			
	PDSP16330	GEC Plessey	
Shift Matrix, 8-Bit Barrel Shifter			
	F100158	National	
	100158	Philips	80
Shifter, Barrel Shifter			
	LSH32	† LogicDev	
	MC54F350	† Motorola	
	MC74F350	Motorola	
	54F350	† National	
	74F350	° National	85
	N25S10	Philips	
	54S350	† Philips	
	74F350	° Philips	
	SN74F350	° TI	
Spread Spectum Demodulator, 100bps–64Mbps, multiple waveform			
	PA100	Unisys	90

Converters, Analog to Digital

Function	Device	Source	Line
4-Bit, 200 MSPS			
	TDC1034	TRWLSI	
4-Bit, 30 MSPS			
	UAB1005	SGS-Thomson	
6-Bit, 15 MSPS			
	CA3306	**Harris (3639)**	
6-Bit, 25 MSPS			
	TDC1014	† TRWLSI	
	TDC1046	† TRWLSI	95
7-Bit, 15 MSPS			
	TDC1147	TRWLSI	
7-Bit, 20 MSPS			
	TDC1047	TRWLSI	
7-Bit, 50 ns	MC10319	Motorola	
8-Bit, 20 MSPS			
	TDC1048	† TRWLSI	
12-Bit, 1.5 μs	**ADC803**	**Burr-Brown (3472)**	100
12-Bit, 3000 ns			
	MX578	† Maxim	
13-Bit ADC	**TC5092A**	**Toshiba (3838)**	
14-Bit A/D D/A for TMS320 DSP			
	TLC32040	† TI	
16-Bit, Sigma Delta			
	XC56ADC16S	Motorola	
18-Bit, Serial Output, Single			
	DSP101J	**Burr-Brown (3472)**	105
	DSP101K	**Burr-Brown (3472)**	
18-Bit, Serial Output, Dual			
	DSP102J	**Burr-Brown (3472)**	
	DSP102K	**Burr-Brown (3472)**	
18-Bit, 200 kHz, Serial Output, Dual			
	DSP102	**Burr-Brown (3472)**	
18-Bit, 200kHz, Serial Output			
	DSP101	**Burr-Brown (3472)**	110

Converters, Digital to Analog

Function	Device	Source	Line
4-Bit Triple Video DAC, 200 MSPS			
	TDC1334	TRWLSI	
4-Bit, 4 ns	ZN434	GEC Plessey	
	TDC1034	TRWLSI	
6-Bit, Triple Video DAC, 35 MSPS			
	IMSG170-35	SGS-Thomson	
6-Bit, Triple Video DAC, 50 MSPS			
	IMSG170-50	SGS-Thomson	115
	IMSG171-50	° SGS-Thomson	
6-Bit, Triple Video DAC, 80 MSPS			
	IMSG171-80	° SGS-Thomson	
6-Bit, 100 kHz, Serial, 5 Channel			
	CXA1315	Sony	
8-Bit, Triple Video DAC, 200 MSPS			
	TDC1318	TRWLSI	
8-Bit, 100 MSPS			
	AD9768	**AD (3517)**	120
8-Bit, 125 MSPS			
	AD9700	AD	
8-Bit, 200 MSPS			
	TDC1018	† TRWLSI	
8-Bit, 5 MSPS, 8 dB Dynamic Range			
	TLC7524	TI	
8-Bit, 8 ns	HDG0805	AD	
	ADC0805	National	125
10-Bit, 75 MSPS			
	SP9770	GEC Plessey	
12-Bit, 20 MSPS			
	TDC1012	TRWLSI	
12-Bit, 40 ns	DAC63	Burr-Brown	
12-Bits (0.012 linearity error)			
	DAC65	Burr-Brown	
18-Bit, Serial Output, Single			
	DSP201J	**Burr-Brown (3468)**	130
	DSP201K	**Burr-Brown (3468)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS—System Components (Cont'd)

Converters, Digital to Analog (Cont'd)

Function	Device	Source	Line
18-Bit, Serial Output, Dual	**DSP202J**	**Burr-Brown (3468)**	
	DSP202K	**Burr-Brown (3468)**	
18-Bit, 200 kHz, Serial Input	**DSP201**	**Burr-Brown (3468)**	
18-Bit, 200 kHz, Serial Input, Dual	**DSP202**	**Burr-Brown (3468)**	

Processors

Function	Device	Source	Line
BCH Error Correcting Codec (30 MHz)	L64715-30	LSI Logic	5
Controller, Microprogram	WS5910A	Waferscale	
Discrete Cosine Transform Processor (30 MHz)	L64730-30	LSI Logic	
Discrete Cosine Transform Processor (40 MHz)	L64730-40	LSI Logic	
Discrete Cosine Transform Quantization Processor (MHz)	L64740-30	LSI Logic	
Discrete Cosine Transform Quantization Processor (40 MHz)	L64740-40	LSI Logic	10
Histogram/Hough Transform Processor (HHP)	L64250	LSI Logic	
Modem DSP contains uPD77C25 DSP, uCOM78 general purpose processor, and modem block	μPD77810	NEC	
Multiplier/Divider Set, 32 and 64-Bit IEEE Floating Point Multiplier/Divider and ALU	ADSP3212	AD	
	ADSP3222	AD	
Multiplier Set, 32 and 64-Bit IEEE Floating Point Multiplier and ALU	ADSP3210	AD	15
	ADSP3211	AD	
	ADSP3220	AD	
	ADSP3221	AD	
	IDT721264	IDT	
Processor, ADPCM	DS2167	Dallas	20
	DS2168	Dallas	
Processor, Advanced Signal Processor (ASP)	μPD77C20	NEC	
Processor, Concurrent	Transputer	SGS-Thomson	
Processor, Digital Audio Signal	CXD1160	Sony	
Processor, Digital Signal Processor	WE-DSP32C	AT&T	25
Processor, DSP	**ADSP2100J**	° **AD (3519)**	
	ADSP2100K	° **AD (3519)**	
	ADSP2100S	°† **AD (3519)**	
	MB87064	Fujitsu	
	DSP56000	† Motorola	30
	F9450	† National	
	MN1900	SGS-Thomson	
	TS68930	SGS-Thomson	
	LR37632	Sharp	
	SMJ32010	°† TI	35
	TMS320	TI	
Processor, DSP, Floating Point	8232	Intel	
Processor, DSP, High Performance External ROM Version of TS68930	TS68931	SGS-Thomson	
Processor, DSP, IEEE Floating-Point	**ADSP21020**	**AD (3519)**	
Processor, DSP, 16/32-Bit Fixed Point	TMS320C14	TI	40
	TMS320C50	TI	
	TMS320C51	TI	
Processor, DSP, 16/32-Bit Fixed Point w/EPROM	TMS320E14	° TI	
Processor, DSP, 16-Bit Fixed Point	**ADSP2100**	° **AD (3519)**	
	ADSP2100A	° **AD (3519)**	45
	ADSP2101	**AD (3519)**	
	ADSP2101-40	° **AD (3519)**	
	ADSP2101-50	° **AD (3519)**	
	ADSP2102	**AD (3519)**	
	WE-DSP16A	AT&T	50
	DSP320CF10-25B	Microchip	
	DSP320CI0B	Microchip	
	DSP320C1OI	Microchip	
	DSP320C10	Microchip	
	DSP320C10-14	Microchip	55
	DSP320C10-25	Microchip	
	DSP320C10-25B	Microchip	
	DSP320C10-25I	Microchip	
	DSP320C10-32	Microchip	
	DSP320C10-32I	Microchip	60
	μPD77C20A	NEC	
	μPD77C25	NEC	
	μPD7720A	NEC	
	MSM77C20A	OKI	
	SMJ320C25	°† TI	65
	SMJ32020	† TI	
	TMS320C10	TI	
	TMS320C10-14	TI	
	TMS320C10-25	TI	
	TMS320C15	TI	70
	TMS320C15-25	° TI	
	TMS320C17	TI	
	TMS320C25	TI	
	TMS320C25-33	° TI	
	TMS320C25-50	TI	75
Processor, DSP, 16-Bit Fixed Point w/EPROM	μPD77P20	NEC	
	μPD77P25	NEC	
	SMJ320E15	°† TI	
	TMS320E15	TI	
	TMS320E15-25	° TI	80
	TMS320E17	TI	
	TMS320E25	TI	
Processor, DSP, 16-Bit (40 MHz), 1.5K RAM Version of TMS320C25	TMS320C26	TI	
Processor, DSP, 22-Bit Floating Point	MSM699210	OKI	
	MSM699215	OKI	85
Processor, DSP, 24-Bit Fixed Point	μPD77220	NEC	
Processor, DSP, 24-Bit Floating Point	MB86220	Fujitsu	
	MB86232	Fujitsu	
	MSM6992	OKI	
Processor, DSP, 32-Bit Floating Point	WE-DSP32	AT&T	90
	μPD77230	NEC	
Processor, DSP, 32-Bit Floating Point w/EPROM	μPD77P230	NEC	
Processor, DSP, 32-Bit Floating Point (26 MHz)	TMS320C31	TI	
Processor, DSP, 32-Bit Floating Point, 33 MFLOPS	TMS320C30	° TI	
Processor, DSP, 32-Bit, With Modem	TMS320A2400	TI	95
Processor, DSP (40 MHz, 1K RAM-program, 512 RAM data)	**ADSP2105**	**AD (3519)**	
	ADSP2105-40	**AD (3519)**	
Processor, DSP (52 MHz)	**ADSP21MSP50**	**AD (3519)**	
	ADSP2111	**AD (3519)**	
Processor, DSP, 56-Bit	DSP56001	Motorola	100
Processor, DSP (1Kx24-bit program memory)	**ADSP2106**	**AD (3519)**	
Processor, DSP (8 kHz sampling freq.)	ADSP28MSP02	AD	
Processor, Image Pipeline (Data Flow)	μPD7281	NEC	
Processor, Signal Processing Interface	MSM77C20	OKI	
Program Sequencer	ADSP1401	° AD	105
	ADSP1402	AD	
Signal Processor, Analog Real Time	2920	Intel	
	2921	Intel	
Sound Processor ARIA	SC18025	Sierra	
SPROC Signal Processor, 50 MHz	SPROC1400	Star Semi	110
Video Motion Estimator Processor (30 MHz)	L64720-30	LSI Logic	
Video Motion Estimator Processor (40 MHz)	L64720-40	LSI Logic	
Video Object Contour Tracer	L64290-20	LSI Logic	
Voice Processor, Int (25K) or Ext ROM	NS32AM162	National	
Voice Processor, Int (32K) or Ext ROM	NS32AM163	National	115
Voice Processor, 25K ROM	NS32AM160-20	National	
Voice Processor, 32K ROM	NS32AM161-20	National	
4-Bit Slice	AM29203	† AMD	
	2901	LSI Logic	
	2901-Cell	LSI Logic	120
	IDM2901	† National	
	SFC2901	SGS-Thomson	
	SFC2903	SGS-Thomson	
	2901	SGS-Thomson	
	2901-Cell	SGS-Thomson	125
4-Bit Slice (43 MHz)	WS5901C	Waferscale	
	WS5901D	Waferscale	
16-Bit General Purpose (20 MIPS)	DSP56116	Motorola	
	DSP56156	Motorola	
16-Bit Slice (15 MHz)	WS59016C	Waferscale	130
16-Bit Slice (32 MHz)	WS59016E	Waferscale	
16-Bit Versions of 2901	4x2901B	IMI	
	WS59016	† Waferscale	
32-Bit Slice (1.35 MHz)	WS59032D	° Waferscale	

Registers

Function	Device	Source	Line
Pipeline Register, Multilevel	**HSP9520**	**Harris (3637)**	135
	HSP9521	**Harris (3637)**	
	ISP9521	**Harris (3637)**	
	IDT7320	IDT	
	IDT7321	IDT	
	LPR520	°† LogicDev	140
	LPR521	°† LogicDev	
	L29C520	°† LogicDev	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS—System Components (Cont'd)

Registers (Cont'd)

Function	Device	Source	Line
Pipeline Register, Multilevel (Cont'd)	L29C521	† LogicDev	
	WS59520	Waferscale	
	WS59521	Waferscale	
Register File	ADSP3128A	AD	
Register File, 3-Port (8x8)	LRF07	† LogicDev	5

Miscellaneous

Function	Device	Source	Line
Address Generator	PDSP1640	GEC Plessey	
Address Sequencer	**HSP45240**	**Harris (3637)**	
Analog Interface Circuit	TLC32071	TI	
Analog, Interface Circuit (for DSPs)	TLC32040C	TI	
	TLC32040I	TI	10
	TLC32041C	TI	
	TLC32041I	TI	
	TLC32042C	TI	
	TLC32042I	TI	
Buffer, Bucket, 32K	PDSP16540	GEC Plessey	15
Buffer, Programmable	**HSP9501**	**Harris (3637)**	
Cable Driver for Digital Transfer	**CXA1389**	**Sony (3795)**	
CCITT Variable Length Coder/Decoder (performs run length and variable length coding and decoding)	L64750	LSI Logic	
	L64751	LSI Logic	
Codec Filter (Programmable)	**PEB2060**	**Siemens (3770)**	20
Codec, Reed-Solomon Error-Correcting	L64710-40	LSI Logic	
Coder/Decoder/Filter, 14-Bit, 14 dB Dynamic Range, 19.2 MSPS (Programmable)	TLC32040	TI	
	TLC32041	TI	
	TLC32042	TI	
Color and Raster-Block Converter	L64765	LSI Logic	25
Comparator, String Proximity Computer and Ranker	PF474C	Proximity	
Converter, Digital to Resolver	DRC10520	† ILC-DDC	
Converter, Digital to Synchro/Resolver	DSC11520	† ILC-DDC	
Convolver 1-D/2-D	MA7180	GEC Plessey	
Crossbar Switch (64x64)	L64270	LSI Logic	30
Data Acquisition Peripheral (w/12-bit plus sign A/D converter)	ML2208BC	MicroLinear	
	LM12454	National	
	LM12458	National	
Data Acquisition System, Small Signal	**AD7850**	**AD (3539)**	
Data Multiplexer, EEP/ECP (Converter, Parallel Printer to ISA Bus)	SMC34C60	SMC	35
Digital Decimation Filter (user selectable for 1/4 or 1/2 decimating ratios)	DF1750	Burr-Brown	
Digital Down Converter (DDC; includes synthesizer, quadrature mixer and low pass filter)	HSP50016	Harris	
Digital Filter, 8x Oversampling, Dual Channel	DF1700	Burr-Brown	

Function	Device	Source	Line
Digital timing delay, 15 ps delay resolution, 125 MHz trigger rate	BT604	Brooktree	
Digitally Programmable Delay Generator (10 ps resolution)	AD9500	AD	40
Direct Digital Synthesizer, 20 MHz	Q2334I-20L	Qualcomm	
	Q2334I-20N	Qualcomm	
	Q2334M-20L	† Qualcomm	
Direct Digital Synthesizer, 30 MHz	Q2334I-30L	Qualcomm	
	Q2334I-30N	Qualcomm	45
Direct Digital Synthesizer, 50 MHz .	Q2220I-50N	Qualcomm	
	Q2220M-40L	† Qualcomm	
	Q2334C-50N	Qualcomm	
Direct Digital Synthesizer, 85 MHz	Q2230C-85	Qualcomm	
Direct Digital Synthesizer, 85MHz	**AD9955**	**AD (3514)**	50
Discrete Cosine Transform Processor	L64735	LSI Logic	
DSP Analog I/O Peripheral	ML2375CC	MicroLinear	
	ML2377CC	MicroLinear	
DSP Peripheral with Memory (128K EPROM, 32K SRAM)	PSD100	Waferscale	
	PSD100L	ℓ Waferscale	55
Encoder/Decoder, ADPCM	μPD77C30C	NEC	
Ethernet/StarLAN Controller, IEEE 802.3	MB86950	Fujitsu	
Filter, Cascadable Adaptive Finite Impulse Response (CAFIR)	DSP56200	Motorola	
Filter, Decimating Digital	**HSP43220**	**Harris (3637)**	
Filter, FIR	PDSP16256	GEC Plessey	60
	TDC1028	† TRWLSI	
	TMC2243	TRWLSI	
Filter, FIR, Cascadable Adaptive, 10.5 MHz	MC56200LC10	Motorola	
Filter, FIR, Dual	**HSP43168**	**Harris (3637)**	
	HSP43481	**Harris (3637)**	65
Filter, FIR, 12-Bit	LMS12	† LogicDev	
Filter, FIR, (30 MHz)	**HSP43881**	**Harris (3637)**	
	HSP43891	**Harris (3637)**	
Filter, FIR (40 MHz)	L64260-40	LSI Logic	
	L64261-40	LSI Logic	70
Filter, Multi-Bit (15 MHz)	L64240-15	LSI Logic	
Filter, Multi-Bit (20 MHz)	L64240-20	LSI Logic	
Filter, Multi-Bit, (20 MHz), (3x3)	L64243-20	LSI Logic	
Filter, Multi-Bit, (30 MHz), (3x3)	L64243-30	LSI Logic	
Filter, Multi-Bit, (40 MHz), (3x3)	L64243-40	LSI Logic	75
Filter, Rank Order	MA7190	GEC Plessey	
Filter, Rank-Valve (15 MHz)	L64220-15	LSI Logic	
Filter, Rank-Valve (20 MHz)	L64220-20	LSI Logic	
Filter, Binary and Template Matcher (15 MHz)	L64230-15	LSI Logic	

Function	Device	Source	Line
Filter, Binary and Template Matcher (20 MHz)	L64230-20	LSI Logic	80
Filter, 16-Bit Digital	MB86975	Fujitsu	
Filter, 16-Bit, 32 Stage, Cascadable Transversal	IMSA100	SGS-Thomson	
FIR Filter Controller	L64245	LSI Logic	
FIR Filter Processor (computes inner products on 16-bit data, 30 MHz)	L64260-30	LSI Logic	
	L64261-30	LSI Logic	85
Floating-Point Processor, 32-Bit (separate 32-bit mult. and 32-bit ALU)	L64134	LSI Logic	
Histogram/Hough Transform Processor, 15 MHz	L64250-15	LSI Logic	
Histogram/Hough Transform Processor, 20 MHz	L64250-20	LSI Logic	
I/Q Splitter w/Numerically Controlled Oscillator	PDSP16350	GEC Plessey	
Image Resizing Circuit	GM865X1	Genesis Micro	90
Image Sampling Sequencer (processes 4Kx4K multibit words at up to 18 MHz)	TMC2301	TRWLSI	
Inter-Frame Processor (CCITT video compression standard)	L64760	LSI Logic	
JPEG Controller (variable length encoder/decoder)	L64745	LSI Logic	
Numerically Controlled Oscillator/Modulator	**HSP45116**	**Harris (3637)**	
Numerically Controlled Oscillator, 32-Bit Resolution, 33 MHz	**HSP45102-33**	**Harris (3637)**	95
	HSP45102-40	**Harris (3637)**	
	HSP45102-50	**Harris (3637)**	
	HSP45106	Harris	
Object Contour Tracer (15 MHz)	L64290-15	LSI Logic	
PCM Encoder/Decoder	TCM129C18	TI	100
	TCM129C19	TI	
	TCM29C18	TI	
	TCM29C19	TI	
Programmable Array Controller	a66212ACG	Array Micro	
	a66212BCG	Array Micro	105
	a66212BEG	Array Micro	
	a66212BIG	Array Micro	
	a66212BMG	† Array Micro	
Programmable timing delay, 15 ps delay resolution, 125 MHz trigger rate, 4–40 ns delay	BT605	Brooktree	
RAM, Quad-Port, Synchronous	PDSP16520	GEC Plessey	110
Reed-Solomon Error Correcting Codec (30 MHz)	L64710-30	LSI Logic	
Servo Analog Front End Positioner	IMP52C484	IMP	
Servo and MSC for Hard Disk Drive	**SSI32H6830**	**SiliconSys (3779)**	
Video Edge Detector	PDSP16401	GEC Plessey	
Video Image Filter	**HSP48901**	**Harris (3637)**	115
Video Image Processor Memory Access and General Bus Interface for the uPD7281	μPD9305	NEC	
Video Image Processor, Pipelined	μPD7281	NEC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

DIGITAL SIGNAL PROCESSORS—System Components (Cont'd)

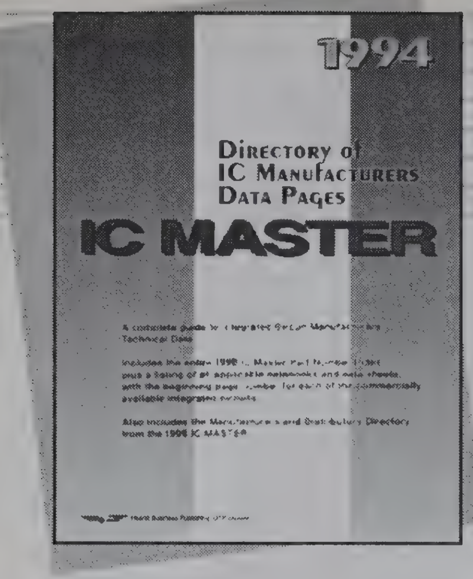
Miscellaneous (Cont'd)

Function	Device	Source	Line
Video Line Buffer, Multi-Function	7186	GEC Plessey	
Video Shift Register	L64211-15	LSI Logic	
Video Shift Register, High Speed (30 MHz)	L64212-30	LSI Logic	
Video Shift Register, High Speed (40 MHz)	L64212-40	LSI Logic	
Video Shift Register (15 MHz)	L64210-15	LSI Logic	5
Video Shift Register (20 MHz)	L64210-20	LSI Logic	
	L64211-20	LSI Logic	
Voice-Band Analog Interface	TLC32044	TI	
Voice-Band Analog Interface Circuit (for DSP application)	TLC32044C	TI	
	TLC32044I	TI	10
	TLC32044M	† TI	
	TLC32045C	TI	
	TLC32045I	TI	
Dual Input Digital Interpolation Filter	GF9101	Gennum	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 300



THE FAST AND EASY WAY TO FIND IC MANUFACTURERS' DATA BOOKS!

The 1994 DIRECTORY OF IC MANUFACTURERS' DATA PAGES is a unique index designed to save you time and help you find the manufacturers' precise data book or sheet that you need on any integrated circuit listed in the 1994 IC Master.

Simply look up any IC by base number. The cross-reference will show you the manufacturer's complete device number together with the name and issue date of the applicable manufacturers' data book.

For example: If you wanted the complete manufacturers' data on device number ADOP07. Look up base number 07. Following the base number is the manufacturer's name...Analog Devices, the complete device number ADOP07 and the page number of where the device is described in the IC Master. The listing will then show you that the manufacturer's data book is Analog Devices "Linear Products DataBook" .

Now you can contact Analog Devices by phone or FAX and request the EXACT data book you need. No wasted words, no wasted time.

Plus, where and whom to call for technical information, at any IC manufacturer, is at your fingertips in the complete Manufacturers & Distributors Directory.

A guaranteed time saver, this unique directory is a must for every engineering department!

Don't waste another precious engineering minute.

ORDER THE 1994 DIRECTORY OF IC MANUFACTURERS' DATA PAGES...TODAY!

To order your 1994 Directory of IC Manufacturers' Data Pages,
Contact your local IC MASTER distributor or,
send your purchase order and check for $84.50 plus tax* to:

Marie Botta
Hearst Business Publishing
645 Stewart Avenue Garden City, NY 11530
(516) 227-1314 • FAX (516) 227-1453

*Please add sales tax in NY,MA,IL, CA, or GST tax in Canada
For delivery outside the USA, please add $20 per directory.

For faster service, have your VISA or
MasterCard handy, and call our
CREDIT CARD HOTLINE: 1-800-833-7138

Published annually in February

INTRODUCTION TO MICROPROCESSORS

This section begins with a Master Selection Guide that covers all major parameters needed to choose a microprocessor for a particular application. The Microprocessors sections will be broken down into three main categories: Complex Instruction Set Computers (CISC), Reduced Instruction Set Computers (RISC), and finally Microcontrollers. Microprocessors are sequenced by increasing data word size, by clock-speed and then alphabetically by manufacturer.

Once you've chosen the proper microprocessor for your application, go to the System Components section. These are arranged by bit size, then alphanumerically by microprocessor, and shows all of the available peripheral devices that work with a particular microprocessor.

Finally, there is a General Purpose section describing devices that can be used in many different microprocessor systems, not just in certain families.

MICROPROCESSORS

CISC 302
RISC 338
Microcontrollers 344

SYSTEM COMPONENTS

Bit Slice.....................................398
1-Bit 398
4-Bit 398
8-Bit 400
8/16-Bit 408
12-Bit 410
16-Bit 410
16/32-Bit 411
32-Bit.......................................412
Transputer 413
Peripheral Controllers.................413
General Purpose Devices 422

MICROPROCESSORS—Complex Instruction Set

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4 Bit																	
LESS THAN 1MHz																	
4	4			CMOS	80	10	71	160x4	2.1Kx10			0.5	10				
4	4		2Kx8	NMOS	40	8	75	128x4	2048			0.45	10/20				
4	4		2Kx8	PMOS	40	8	75	128x4	2048			0.3	15/30				
4	4		512	NMOS	16	8	48	16x4	512			0.45	10/20				
4	4	10	2Kx10	CMOS	54	10	71	160x4	2Kx10			0.5	20	1	2	6	4
4	4	10	2Kx10	CMOS	80	10	71	160x4	2Kx10			0.5	10	1	2		
4	4	10	4096	CMOS	42	10	87	256x4	4Kx10			0.9	20	1	2	6	4
4	4	10	4096	CMOS	54	10	87	256x4	4Kx10			0.9	20	1	2	6	4
4	4		1K	NMOS	40	8	68	64x4				0.45	10/20				
4	4		2K	NMOS	64	8	75	64x4				0.45	10/20				
4	4		512	CMOS	16	8	48	16x4	512x8			0.5	10/20				
4	4	8	1Kx8	CMOS	48	8	52	40X4	1Kx8			0.032 *	61				
4	4	8	2K	CMOS	40	8	75	128x4	2Kx8			0.5	10/20				
4	4	8	512	CMOS	18	8	50	16x4	512x8			0.5	10/20				
4	4	8	512x8	NMOS	18	8	50	16x4	512			0.45	10/20				
4	4	8	768x8	NMOS	28	8	57	32x4	768			0.45	10/20				
4	4	8	768x8	PMOS	28	8	57	32x4	768			0.3	15/30				
4	4	8	1024	CMOS	40	8	75	64x4	1024			0.5	10/20				
4	4	8	1024	PMOS	40	8	75	64x4	1024			0.3	15/30				
4	4	8	1260	CMOS	60	8	45	32x4 + 20x4	1260x8			0.032 *	91.6				
4	4	8	2016	CMOS	80	8	49	64x4 + 24x4	2016x8			0.032 *	91.6				
4	4	8	2772	CMOS	60	8	49	96x4 + 32x4	2772x8			0.032 *	61				
4	4	8	4032	CMOS	60	8	55	96x4 + 32x4	4032x8			0.032 *	61				
4	4	8	4032	CMOS	80	8	55	80x4/ 48x4	4032x8			0.032*	61				
4	4	10	2048	CMOS	42	10	87	160x4	2Kx10			0.5	20	1	2		
1MHz																	
4	4		1K	CMOS	40	8	43	64x4	1Kx8			0.6	15/60				
4	4		4096	CMOS	80	10	71	256x4	4Kx10			1	5	1	2		
4	4		2K	NMOS	64	8	75	128x4				0.45	10/20				
2MHz																	
4	4	10	2Kx10	CMOS	64	10	99	160x4	2Kx10			2.25	4	3	2		
4	4	10	4096	CMOS	64	10	99	256x4	4Kx10			2.25	4	3	2		
4	4	8	1Kx8	CMOS	16/20	8	41	56x4	1Kx8			2	1				
4	4	8	508	CMOS	16/20	8	41	32x4	508x8			2	1				
4	4	8	6144	CMOS	80	8	98	256x4	6144x8			2.3	1.7	3	2		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				Drives seven segment LCDs, on chip counter timer. 32 I/O lines.	HIT.HD44790		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1405		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1435		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1404		
44 lines				Stand-by mode, on-chip counter	HIT.HMCS45CL		
32 lines				Power-on-reset, on-chip LCD drive	HIT.LCD-III		
32 lines				Stand-by mode, on-chip counter	HIT.HMCS46CL		
44 lines				Stand-by mode, on-chip counter	HIT.HMCS47CL		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1498		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1499		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1454		
18 data, 30 LCD				Built-in LCD driver for 56 segments	SHA.SM500		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1455		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1453		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1403		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1402		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1432		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1450		
				All the MN14XX series members are available in at least one other process type.	PAN.MN1430		
6/in, 2/out 42 LCD				Built-in LCD driver circuit for 80 segments, built in melody generator	SHA.SM531		
9/in, 8/out 50 LCD				Built-in melody generator circuit and LCD driver circuit for 96 segments programable Internal timer	SHA.SM530		
6/in, 10/out 38 LCD				15 stage divider, 132 segment LCD driver	SHA.SM510		
6/in, 9/out 38 LCD				Built-in melody generator circuit and LCD driver for 136 segments	SHA.SM511		
6/in, 9/out 54 LCD				Built-in melody generator, LCD driver for 200 segments	SHA.SM512		
32 lines	1 8-bit			Stand-by mode, on-chip counter	HIT.HMCS44CL		
					KS51200	Samsung	
32 lines				Power-on-reset, on-chip LCD drive	LCD-IV	Hitachi	
				All the MN14XX series members are available in at least one other process type.	MN1499A	Panasonic	
50 lines	2 8-bit			26 high voltage lines (40V max), serial interface	HMCS402CL	Hitachi	
58 lines				26 high voltage (40V max), serial interface	HMCS404CL	Hitachi	
11–15 (I/O)				High-speed, low-end type, 3V capable	SM591	Sharp	
11–15 (I/O)				High-speed, low-end type, 3V capable	SM590	Sharp	
68 lines 4/in, 16/out	1 8-bit			8-bit SIO, 3V capable	SM5E4	Sharp	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
2MHz																	**(Cont'd)**
4	4	10		CMOS	64	10	101	512x4	8Kx10			2	3.55	3	2		
4	4	10		CMOS	64	10	101	512x4	8Kx10			2	1.78	3	2		
4	4	10	2048	CMOS	42	10	98	160x4	2Kx10			2.25	4	1	2		
4MHz																	
4	4		4K	NMOS	40	8	124	152x4	2048x8			4	2/4				
4	4		4K	NMOS	40	8	124	256x4	4096x8			4	2/4				
4	4		4K	NMOS	64	8	124	152x4	2048x8			4	2/4				
4	4		4K	NMOS	64	8	124	256x4	4096x8			4	2/4				
4	4	10	2Kx10	CMOS	64	10	99	160x4	2Kx10			4.5	2	3	2		
4	4	10	4096	CMOS	64	10	99	256x4	4Kx10			4.5	2	3	2		
4	4			CMOS	42	10	98	576x4				6.2	1.33				
4	4	8	6K	CMOS	64	9	94	256x4	6Kx9			4	2	3	2		
4	4	8	762	CMOS	20	8	41	32x4	762x8			4	1				
4	4	10		CMOS	42	10	98	576x4	4Kx10				2				
4	4	10		CMOS	64	10	99	576x4				6.2	1.33	3	2		
4	4	10		CMOS	64	10	99	576x4	4Kx10				1.33	3	2		
4	4	10	2Kx10	CMOS	42	10	98	160x4	2Kx10			4.5	2	1	2		
4	9	9	8192	CMOS	64	4	94	1024x4	8Kx9			4	2.5	3	2		
6MHz																	
4	4	10	2Kx10	CMOS	64	10	99	160x4	2Kx10			6.2	1.33	3	2		
4	4	10	4096	CMOS	64	10	99	256x4	4Kx10			6.2	1.33	3	2		
4	4	10	2Kx10	CMOS	42	10	98	160x4	2Kx10			6.2	1.33	1	2		
							8 Bit										
1MHz																	
8	8		64K	NMOS	40	8/24	78	128x8				1.25	0.8/10				
8	8		64K	NMOS	40	8,16,24	89	128x8				1	1.6/9.6				
8	8		4K	HMOS	20	8/24	42	32x8	0.5x8			0.9	0.6/14				
8	8		4K	HMOS	20	8/24	42	32x8	1Kx8			0.9	0.6/14				
8	8		4K	HMOS	28	8/24	42	32x8	1Kx8			0.9	0.6/14				
8	8		4K	HMOS	28	8/24	59	64x8	1480x8			1	2/11				
8	8		4K	HMOS	28	8/24	59	104x8	3.7Kx8			1	2/11				
8	8		4K	HMOS	40	8/24	59	64x8	2Kx8			1	2/11				
8	8		4K	HMOS	40	8/24	59	64x8	2Kx8			1	2/11				
8	8		4K	HMOS	40	8/24	59	64x8	2Kx8			1	2/11				
8	8		4K	HMOS	40	8/24	59	112x8		3.8Kx8		1	2/11				
8	8		4K	HMOS	40	8/24	59	112x8	3.8Kx8			1	2/11				
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			1	2/7		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			1	2/7		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			1	2/7		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			1	2/7		2		
8	8	8		CMOS	40	8/24		128x8					1				
8	8	8		CMOS	40	8/24		128x8					0.8				
8	8	8		CMOS	40	8/24		128x8	2Kx8				0.8				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
58 lines	2 8-bit			26 high voltage (40 V max) lines	HMCS408AC	Hitachi	
58 lines	1 8-bit			26 high voltage (40 V max) lines	HMCS408CL	Hitachi	
31 lines	1 8-bit				HMCS412CL	Hitachi	
6 4-bit	1 8-bit			All the MN15XX series members have bidirectional I/O lines, 8-Bit serial shift register, and power down feature to save contents of RAM.	MN1542	Panasonic	
6 4-bit	1 8-bit			All the MN15XX series members have bidirectional I/O lines, 8-bit serial shift register, and power down feature to save contents of RAM.	MN1544	Panasonic	5
12 4-bit	1 8-bit			All the MN15XX series members have bidirectional I/O lines, 8 bit serial shift register, and power down feature to save contents of RAM.	MN1562	Panasonic	
12 4-bit	1 8-bit			All the MN15XX series members have bidirectional I/O lines, 8-bit serial shift register, and power down feature to save contents of RAM.	MN1564	Panasonic	
58 lines	2 8-bit			26 high voltage lines (40 V max), serial interface	HMCS402C	Hitachi	
58 lines				26 high voltage (40 V max), serial interface	HMCS404C	Hitachi	
				EPROM-on-package device (8K ROM max) for HMCS412 series	HD614P080C	Hitachi	10
52 lines 9/in, 2/out	2 8-bit	8x20		Tone output, 8-bit SIO	SM579	Sharp	
11–15 (I/O)				High speed, low-end type, 3V capable	SM595	Sharp	
36 Lines				24 high voltage (40 V max) lines	HD614P180S4	Hitachi	
58 lines	28-bit			EPROM-on-package device (8K ROM max) for HMCS402/404 series	HD614P080S	Hitachi	
58 lines	28-bit			26 high voltage (40 V max) lines	HD614P0160S	Hitachi	15
36 lines	1 8-bit			24 high voltage (40 V max) lines	HMCS412C	Hitachi	
52 lines 9/in, 12/out	2 8-bit	8x10		VFD driver	SM5J5	Sharp	
58 lines	2 8-bit			26 high voltage lines (40 V max), serial interface	HMCS402AC	Hitachi	
58 lines				26 high voltage (40 V max) Serial Interface	HMCS404AC	Hitachi	
36 lines	1 8-bit			24 high voltage (40 V max) lines	HMCS412AC	Hitachi	20
				64 Bytes RAM retainable on powerdown.	HD68P01V07	Hitachi	
	1 16-bit Timer			Serial I/O, timer, external clock, standby RAM	EF6803	Thomson Comp	
12 lines	1 8-bit			20-pin version of MC6804P2,	MC6804J1	Motorola	
12 lines	1 8-bit			20-pin version of 6804P2	MC6804J2	Motorola	
20 lines	1 8-bit			64 byte data ROM, self check.	MC6804P2	Motorola	25
21 lines		1 8-bit		SPI, watchdog timer, self check.	MC6805S2	Motorola	
21 lines	4 8/16-bit	1 8-bit		Serial communication port	MC6805S3	Motorola	
31 lines				A/D on chip.	MC6805R2	Motorola	
32 lines				Self check.	MC6805U2	Motorola	
32 lines	1 8-bit	1 8-bit		Self check.	EF6805R3	SGS-Thomson	30
31 lines	1 8-bit	1 8-bit		24 programmable lines, EPROM	MC68705R3	Motorola	
24 lines				Self check	MC6805U3	Motorola	
				On-Chip Clock, 3 Clock Modes	G65SC02-1	CMD Micro	
				On-Chip Clock	G65SC102-1	CMD Micro	
				On-Chip Clock, 3 Clock Modes	G65SC112-1	CMD Micro	35
				Ext Clock Only	G65SC12-1	CMD Micro	
13 lines	1 16-bit			Serial communications interface	HD6803	Hitachi	
13 lines	1 16-bit			Serial communications interface	HD6803-1	Hitachi	
31 lines				29 parallel I/O lines, two handshade control lines	HD6801S5	Hitachi	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
1MHz																	**(Cont'd)**
8	8	8		CMOS	40	8/24		128x8	4Kx8				1				
8	8	12	8K	CMOS	40	8	60	112x8				1	2/10				
8	8	12	2106	CMOS	40	8	61	112x8	2106x8			1	2/10	1	2	5	
8	8	16	64K	CMOS	40	8/32	158					1	4/23		5	22	
8	8	16	64K	CMOS	48/52	8/32	145	256x8	2Kx8	2Kx8		1/10	21				
8	8	16	64K	HMOS	40	8/24	82	128x8	2Kx8			1	2/12				
8	8	16	64K	HMOS	40	8/24	89	192x8				1.25	1.6/9.6				
8	8	16	64K	HMOS	40	8/24	89	192x8	4Kx8			1.25	1.6/9.6				
8	8	16	64K	HMOS	40	8/32	59					1.2	1/7.5	2	1		
8	8	16	64K	NMOS	40	8/24	56					1.2	1/7	1	1		
8	8	16	64K	NMOS	40	8/24	72					1	1/6	1	1		
8	8	16	64K	NMOS	40	8/24	72					1.2	1/6	1	1		
8	8	16	64K	NMOS	40	8/24	72					1.5	1/6	1	1		
8	8	16	64K	NMOS	40	8/24	72	128x8	4K/8Kx8			1.25	0.8/10			6	
8	8	16	64K	NMOS	40	8/32	59					1.2	1/7.5	2	1		
8	8	16	64K	NMOS	40	8/32	59					1.2	1/7.5	2	1		
8	8	16	64K	NMOS	40	8/32	59					1.2	1/7.5	2	1		
8	8	16	64K	NMOS	40	8,16,24	72	128x8				1	1/6				
8	8	16	64K	NMOS	40	8,16,24	72	128x8				1.5	1/6				
2MHz																	
8	8			CMOS	80		69	512B	8K			3.2	2.5	3	2		
8	8		2K	HMOS	28	8/24	59	64x8	1.1Kx8			2	1/5.5				
8	8		2K	HMOS	28	8/24	59	64x8	1.8Kx8			2	2/11				
8	8		65K	CMOS	40	8/24	64	2Kx8				2	1/3.5		2		
8	8		65K	CMOS	40	8/24	64	2Kx8				3	0.7/2.4		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			2	1/3.5		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			2	1/3.5		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			2	1/3.5				
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			3	0.7/2.4		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			3	0.7/2.4		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			3	0.7/2.4				
8	8	8	64K	NMOS	28	8/24	56					2	1/7				
8	8	12	4K	NMOS	28	8/12	56					1,2,3	0.5/3.5				
8	8	12	4K	NMOS	28	8/12	56					1,2,3	0.5/3.5				
8	8	12	4K	NMOS	28	8/12	56					1,2,3	0.5/3.5				
8	8	12	4K	NMOS	28	8/12	56					1,2,3	0.5/3.5				
8	8	12	4K	NMOS	28	8/12	56					1,2,3	0.5/3.5				
8	8	12	8K	CMOS	40	8/24	60	176x8	7744x8			2.1	1/5.5		5		
8	8	13	4K	CMOS	40	8/24	%60	176x8	4160x8			2.1	1/5.5		5		
8	8	13	4K	CMOS	40	8/24	59	176x8	7.9x8			2.1					
8	8	13	4K	CMOS	40	8/24	60	176	4Kx8			2.1	2/11				
8	8	13	4K	CMOS	40	8/24	60	176x8	4160x8			2.1	1/5.5		5		
8	8	13	8K	CMOS	40	8/24	60	176x8	7744x8			2.1	1/5.5		5		
8	8	13	8K	NMOS	28	8/13	56					1,2,3	0.5/3.5				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
29 lines				Two handshade control lines	HD6801V0	Hitachi	
16 lines				Single-chip CPU	CDP6805E2	Harris	
4 bidir.	1 8 bit			Single-chip CPU with 32 programmable bidirectional I/O lines	CDP6805G2	Harris	
				Fully compatible with Z80 instruction set, power-save mode, system clock generator, NSC888 evaluation board available.	NSC800-1	National	
	1 16-bit	1 8-bit		Pulse Accumulator	MC68HC11	Motorola	5
29 lines	1 16-bit			On-chip clock, serial I/O, four selectable baud rates.	MC6801	Motorola	
13 lines	1 16-bit			ROMless 6801, external bus.	MC6803U4	Motorola	
29 lines	1 16-bit			Same as 6801 with 4K ROM and selectable baud rates.	MC6801U4	Motorola	
2 16-bit				2 16-bit indexable stack pointers, 2 8-bit accumulators	EF6809	Thomson Comp	
					6502	Krueger	10
					EF6800	Thomson Comp	
					6800	Krueger	
					EF68A00	Thomson Comp	
29 lines	1 16-bit			HD6801 with piggyback socket for EPROM 2732.	HD68P01M0	Hitachi	
					6809	Krueger	15
					6809E	Krueger	
2 16-bit				2 16-bit indexable stack pointers, 2 8-bit accumulators	EF6809E	Thomson Comp	
				6800 CPU plus clock and RAM, 32 bytes standby RAM.	EF6802	Thomson Comp	
				6800 CPU plus clock and RAM, 32 bytes standby RAM.	EF68A02	Thomson Comp	
32, 8 In	3 8-bit 1 16-bit				M37415M4	Mitsubishi	20
20 lines	1 8-bit			Timer/counter.	MC6805P2	Motorola	
20 lines	1 8-bit			Self check, EPROM version available.	MC6805P6	Motorola	
				Ext Clock Only	G65SC12-2	CMD Micro	
				Ext Clock Only	G65SC12-3	CMD Micro	
				On-Chip Clock, 3 Clock Modes	G65SC02-2	CMD Micro	25
				On-Chip Clock	G65SC102-2	CMD Micro	
				On-Chip Clock, 3 Clock Modes	G65SC112-2	CMD Micro	
				On-Chip Clock, 3 Clock Modes	G65SC02-3	CMD Micro	
				On-Chip Clock	G65SC102-3	CMD Micro	
				On-Chip Clock, 3 Clock Modes	G65SC112-3	CMD Micro	30
				Bus compatible with 6800.	**R6500**	**Rockwell (3760)**	
				Bus compatible with 6800; on-chip clock	**R6503**	**Rockwell (3759)**	
				Bus compatible with 6800; on-chip clock	**R6505**	**Rockwell (3759)**	
				Bus compatible with 6800; on-chip clock, two-phase output clock for timing of support chips	R6506	Rockwell	
				Bus compatible with 6800; two-phase clock input	R6513	Rockwell	35
				Bus compatible with 6800; two-phase clock input	R6515	Rockwell	
24 bidir, 7 in	1 16-bit			Single-Chip CPU, SCI, SPI	CDP68HC05C8	Harris	
24 bidir., 7 in	1 16-bit			Low-Power CDP68HC05C4	CDP68HCL05C4	Harris	
32 lines	1 16-bit			68HC05C4 with 8K bytes of ROM	MC68HC05C8	Motorola	
32 lines	1 16-bit			Single-chip CPU, SCI SPI	MC68HC05C4	Motorola	40
24 bidir., 7 in	1 16-bit			Single-Chip CPU, SCI, SPI	CDP68HC05C4	Harris	
24 bidir., 7 in	1 16-bit			Low-Power CDP68HC05C8	CDP68HCL05C8	Harris	
				Bus compatible with 6800; on-chip clock	**R6504**	**Rockwell (3759)**	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
2MHz																	(Cont'd)
8	8	13	8K	NMOS	28	8/13	56					1,2,3	0.5/3.5				
8	8	13	8K	NMOS	28	8/13	56					1,2,3	0.5/3.5				
8	8	16	8K	NMOS	40	8/24	56	64x8	2Kx8			2	1/7				
8	8	16	16K	NMOS	40	8	71	1536	Ext.			2	1.0				
8	8	16	16K	NMOS	40	8/24	60	192x8	3072x8			2	1/7				
8	8	16	16K	NMOS	40	8/24	60	192x8	4096x8			2	1/7				
8	8	16	16K	NMOS	64	8/24	60	192x8	3072x8			2	1/7				
8	8	16	64K	CMOS	40	8/24						3	0.8		4		
8	8	16	64K	CMOS	40	8/24	56					3	0.67/2.3				
8	8	16	64K	CMOS	40	8/24	80					0.5–3	1.3			6	6
8	8	16	64K	CMOS	40	8/24	158					0/2.5	1.6/		2	12	10
8	8	16	64K	CMOS	40	8/32	158					2.5	1.6/9.2		5	22	
8	8	16	64K	CMOS	44	8/24	68					4	0.5/3.5				
8	8	16	64K	CMOS	60	8		64x8	2Kx8			2					
8	8	16	64K	NMOS	40	8/16	56					1,2,3	0.5/3.5				
8	8	16	64K	NMOS	40	8/16	56					1,2,3	0.5/3.5				
8	8	16	64K	NMOS	40	8/24	72					2	1/6	1	1		
8	8	16	64K	NMOS	40	8/24	78					2	1.5/3.75			6	1
8	8	16	64K	NMOS	40	8/24	80					3	0.8/1.3			12	
8	8	16	64K	NMOS	40	8/24	102					3	0.67/1.3			12	
8	8	16	64K	NMOS	40	8/32	158					2.5					
8	8	16	64K	NMOS	40	8,16,24	72	128x8				2	1/6				
8	8	16	64K	NMOS	40	8,16,24	72	128x8				2	1/6				
8	8	16	64K	NMOS	64	8/24	60	192x8				2	1/7				
8	8	16	64K	NMOS	64	8/24	60	192x8	256x8			2	1/7				
8	8	16	65K	NMOS	40	8/24	78					2	1.5/3.75			6	1
8	16	20	64K	NMOS	40	8/24	133					2	1.5/3.75				
4MHz																	
4			4096	CMOS	42	10	71	256x4	4Kx10			0.9	5				
4	4	10		CMOS	64	10	101	512x4	8Kx10				1.78	3	2		
8		16	2M	CMOS	100	8/32						6					
8	8			CMOS	64		69	192B	8K			4	2	3	2		
8	8			CMOS	64		69	256B	12K			4	1	8	2		
8	8			CMOS	64		69	384B	24K			4	1	10	3		
8	8			CMOS	64		69	512B	32K			4	1	9	2		
8	8			CMOS	64		70	256B	—	16K		4	1	8	8		
8	8			CMOS	64		70	256B	16K			4	1	8	8		
8	8			CMOS	64		70	256B	16K			4	1	8	8		
8	8			CMOS	64		71	384B	—	16K		4.2	0.95	4	9		
8	8			CMOS	64		71	384B	—	20K		4.2	0.95	4	6		
8	8			CMOS	64		71	384B	—	24K		4.2	0.95	4	6		
8	8			CMOS	64		71	384B	12K	—		4.2	0.95	4	6		
8	8			CMOS	64		71	384B	16K	—		4.2	0.95	4	6		
8	8			CMOS	64		71	384B	16K	—		4.2	0.95	4	9		
8	8			CMOS	64		71	384B	20K	—		4.2	0.95	4	6		
8	8			CMOS	64		71	384B	24K	—		4.2	0.95	4	6		

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				Bus compatible with 6800; on-chip clock	R6507	Rockwell	
				Bus compatible with 6800; two-phase clock input	R6514	Rockwell	
32 lines	1 16-bit			Software compatible with R6502	**R6500/1**	**Rockwell (3760)**	
32 lines	2 16-bit			Available in DIP and PLCC.	**R6518**	**Rockwell (3760)**	
32 lines	2 16-bit			On board USART	**R6500/11**	**Rockwell (3760)**	5
32 lines	2 16-bit			R6500/11 with 4K ROM	R6500/15	Rockwell	
56 lines	2 16-bit			On board USART	**R6500/12**	**Rockwell (3760)**	
					TMP8085A-2	**Toshiba (3829)**	
				CMOS NCR6502	NCR65C02	NCR	
				Serial Port	MSM80C85A	OKI	10
				Z80 CPU	LH5080	Sharp	
				Fully compatible with Z80 instruction set, power-save mode, system clock generator, NSC888 evaluation board available.	NSC800	National	
					R65NC02	**Rockwell (3759)**	
27 lines	1 16-bit			Uses 65SC00 CPU, on board sine wave generator, bus compatible with 6800.	G65SC150	CMD Micro	
				Bus compatible with 6800; on-chip clock, two-phase output clock	**R6502**	**Rockwell (3759)**	15
				Bus compatible with 6800; two-phase clock input	**R6512**	**Rockwell (3759)**	
					EF68B00	Thomson Comp	
		512	1 16-bit	Faster versions also available, refurbished	8080A	Krueger	
				Faster versions also available, refurbished	8085A	Krueger	
				Faster versions also available, refurbished	8085AH	Krueger	20
				Faster versions also available, Refurbished	Z80CPU	Krueger	
				6800 CPU plus clock and RAM, 32 bytes standby RAM.	EF6802	SGS-Thomson	
				6800 CPU plus clock and RAM, 32 bytes standby RAM.	EF68B02	Thomson Comp	
32 lines	1 16-bit			On board USART	**R6511Q**	**Rockwell (3760)**	
32 lines	2 16-bit			On board USART	R6500/13	Rockwell	25
512	1 16-bit			8080A–1 runs at 3.125 MHz max, –2 runs at 2.63 MHz max.	8080A	Intel	
				Faster versions also available, refurbished	8088A	Krueger	
				32 I/O Lines, stand-by mode, on-chip counter	HMCS46C	Hitachi	
58 Lines	2 8-Bit			26 high voltage (40 V max) lines	HMCS408C	Hitachi	
8					**TMPZ84C810B-6**	**Toshiba (3828)**	30
46	4 8-bit				M37103M4	Mitsubishi	
47, 5 Out	4 8-bit	4 4-bit			M37202M3	Mitsubishi	
43, 5 Out	6 8-bit	2 4-bit			M37250M6	Mitsubishi	
47, 5 Out	4 8-bit	8 6-bit			M37204M8	Mitsubishi	
56	4 8-bit 1 16-bit	1 8-bit	2 5 bit 2 8-bit		M37424E8	Mitsubishi	35
56	4 8-bit 1–16-bit	1 8-bit	2 5-bit 2 8-bit		M37424M8	Mitsubishi	
56	4 8-bit 1–16-bit	1 8-bit	2 5-bit 2 8-bit		M37524M4	Mitsubishi	
27	8-bitx4				M38112E4	Mitsubishi	
27	8-bitx4				M38102E5	Mitsubishi	
27	8-bitx4				M38102E6	Mitsubishi	40
27	8-bitx4				M38102M3	Mitsubishi	
27	8-bitx4				M38102M4	Mitsubishi	
27	8-bitx4				M38112M4	Mitsubishi	
27	8-bitx4				M38102M5	Mitsubishi	
27	8-bitx4				M38102M6	Mitsubishi	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
8	8			CMOS	64		71	640B	—	32K		4.2	0.95	4	9		
8	8			CMOS	64		71	640B	32K	—		4.2	0.95	4	9		
8	8			CMOS	72		69	160B	—	10K		4	2	3	2		
8	8			CMOS	72		69	160B	8K			4	2	3	2		
8	8			CMOS	72		69	160B	10K			4	2	3	2		
8	8			CMOS	72		69	320B	12K			4.2	0.95	3	2		
8	8			CMOS	80		69	256B	—	12K		4	2	3	3		
8	8			CMOS	80		69	320B		16K		4	1	9	2		
8	8			CMOS	80		69	320B	16K			4	2	6	2		
8	8			CMOS	80		69	320B	16K			4	1	9	2		
8	8			CMOS	80		69	384B		24K		4	1	9	2		
8	8			CMOS	80		69	384B	24K			4	1	9	2		
8	8			CMOS	80		71	256B	—	12K		4	1	9	4		
8	8			CMOS	100		71	640B	—	32K		6.3	0.63	5	12		
8	8			CMOS	100		71	640B	—	40K		6.3	0.63	5	12		
8	8			CMOS	100		71	640B	32K	—		6.3	0.63	5	12		
8	8			CMOS	100		71	640B	40	—		6.3	0.63	5	12		
8	8		Int.	CMOS	40	8	71	512x8	16384			4	0.5				
8	8		4K	NMOS	40	8/24	70	128x8	4Kx8			4	1/6.5				
8	8		64K	CMOS	40	8/24						5					
8	8		65	CMOS	40	8/24	64	64x8	2Kx8			4	0.5/1.8		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			4	0.5/1.8		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			4	0.5/1.8		2		
8	8		65K	CMOS	40	8/24	64	64x8	2Kx8			4	0.5/1.8		2		
8	8		124K	NMOS	40	8/24	129	128x8				4	2.2/4.25		4		
8	8		124K	NMOS	40	8/24	129	128x8	2Kx8			4	2.2/4.25		4		
8	8		124K	NMOS	40	8/24	129	128x8	4Kx8			4	1/1.5		4		
8	8		128K	NMOS	40	8/24		128x8				4					
8	8		2112	NMOS	40	8/24	70	128x8	2Kx8			4	1/6.5				
8	8	8		CMOS	28	8/16		64x8	1100x8				1				
8	8	8		CMOS	28	8/16		64x8	1804x8				1				
8	8	8		CMOS	28	8/16		64x8	2508x8				1				
8	8	8		CMOS	40	8/24		86x8	3848x8				1				
8	8	8		CMOS	40	8/24		96x8	2056x8				1				
8	8	8		CMOS	40	8/24		96x8	3848x8				1				
8	8	8	8K	HCMOS	68	8/24	62	176x8	6208x8			4	0.25/1.0	4	1	5	
8	8	8	64K	HMOS	40	8/24	102					3,5,6	0.67/1.3				
8	8	12	2K	CMOS	20	8/24	60	128x8	2352x8			4.2	0.5/2.75		4		
8	8	12	512x12	NMOS	18	12	30	32x8	512x12			4	2/4			32	
8	8	13	2K	CMOS	40	8/24	60	176x8	4160x8			4.2	0.5/2.75		5		
8	8	13	8K	CMOS	40	8/24	60	176x8	7744x8			4.2	0.5/2.75		5		
8	8	16		CMOS	32		69	128B	4K			4	1	6	5		
8	8	16		CMOS	32		69	192B		8K		4	1	6	5		
8	8	16		CMOS	32		69	192B	8K			4	1	6	5		
8	8	16		CMOS	32		69	384B		16K		4	1	6	5		

I/O Ports	Peripherals (No./Resolution)					
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source
27	8-bitx4				M38114E8	Mitsubishi
27	8-bitx4				M38114M8	Mitsubishi
46, 8 In, 5 Out	4 8-bit	1 8-bit	1 5-bit		M37414E5	Mitsubishi
46, 8 In, 5 Out	4 8-bit	1 8-bit	1 5-bit		M37412M4	Mitsubishi
46, 8 In, 5 Out	4 8-bit	8 8-bit	1 5-bit		M37414M5	Mitsubishi
22, 6 In	3 8-bit				M37421M6	Mitsubishi
56, 8 In	4 8-bit 1 16-bit	1 8-bit			M37413E6H	Mitsubishi
47, 5 Out	4 8-bit	2 4-bit			M37102E8	Mitsubishi
46	3 8-bit				M37100M8	Mitsubishi
47, 5 Out	4 8-bit				M37102M8	Mitsubishi
47, 5 Out	4 8-bit	2 4-bit			M37201E6	Mitsubishi
47, 5 Out	4 8-bit				M37201M6	Mitsubishi
40, 12 In	4 8-bit	1 8-bit	1 8-bit		M37120E6	Mitsubishi
67	8-bitx6	8x8			M38184E8	Mitsubishi
67	8-bitx6	8x8			M38184EA	Mitsubishi
67	8-bitx6	8x8			M38184M8	Mitsubishi
67	8-bitx6	8x8			M38184MA	Mitsubishi
				Available in DIP and PLCC.	**R65C10**	**Rockwell (3760)**
32 lines	1 8-bit			One chip microcomputer. Programmable hardware, 3K, 2K, 1K PROM versions available.	MK3870	SGS-Thomson
					M5M80C85A	Mitsubishi
				On-Chip Clock, 3 Clock Modes	G65SC02-4	CMD Micro
				On-Chip Clock	G65SC102-4	CMD Micro
				On-Chip Clock, 3 Clock Modes	G65SC112-4	CMD Micro
				Ext Clock Only	G65SC12-4	CMD Micro
				Program storage in separate 2716 EPROM, 4. Has piggyback 24-pin socket to program memory.	Z8603-MCU	Zilog
32 lines				On-chip UART, and 2 counter/timers.	Z8601-MCU	Zilog
32 lines				On-Chip UART and 2 counter/timers	Z8611-MCU	Zilog
				ROMless Z8.	Z8681-MCU	Zilog
				Programmable hardware timer, baud rate generator.	MK3873	SGS-Thomson
20 lines				TTL/CMOS compatible I/O	HD6805S1	Hitachi
20 lines				TTL/CMOS compatible I/O	HD6805S6	Hitachi
19 lines				TTL/CMOS compatible I/O lines, PLL logic	HD6805T2	Hitachi
23 lines				TTL/CMOS compatible I/O lines	HD6805W1	Hitachi
24 lines					HD6805U1	Hitachi
24 lines					HD6805V1	Hitachi
24 lines				8-bit Microcomputer with Liquid Crystal Driver Circuitry	MC68HC05L6	Motorola
				8085AH–1 runs 6 MHz, AH–2 runs 5 MHz. M8085AH Mil version.	8085AH	Intel
12/bidir.	1 16-bit			High-speed CDP68HC05J3	CDP68HSC05J3	Harris
12 lines	1			Crystal oscillator. Available in three temperature ranges including –40°C to 110°C.	PIC1654	Microchip
24 bidir., 7 in	1 16 bit			High-speed CDP68HC05C4	CDP68HSC05C4	Harris
24 bidir., 7 in	1 16 bit				CDP68HSC05C8	Harris
22	4 8-bit	4 8-bit			M37470M2	Mitsubishi
22	4 8-bit	4 8-bit			M37470E4	Mitsubishi
22	4 8-bit	4 8-bit			M37470M4	Mitsubishi
22	4 8-bit	4 8-bit			M37470E8	Mitsubishi

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
8	8	16		CMOS	32		69	384B	16K			4	1	6	5		
8	8	16		CMOS	56		69	192B		8K		4	1	6	5		
8	8	16		CMOS	56		69	384B		16K		4	1	6	5		
8	8	16		CMOS	64		71	1K	—	16K		8	0.5	8	6		
8	8	16		CMOS	64	8/32		256				6					
8	8	16		CMOS	72		69	160B	—	10K		4	2	3	2		
8	8	16		CMOS	80		71	256B	12K			4	1	9	4		
8	8	16		CMOS	80		71	384B	16K	—		6.3	0.63	5	12		
8	8	16		CMOS	80		71	512B	—	24K		6.3	0.63	5	12		
8	8	16		CMOS	80		71	512B	24K	—		6.3	0.63	5	12		
8	8	16		CMOS	80		71	640B	—	32K		6.3	0.63	5	12		
8	8	16		CMOS	80		71	640B	32K	—		6.3	0.63	5	12		
8	8	16	64K	CMOS	40	8	61					5	2				
8	8	16	64K	CMOS	40	8	64					4	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					4	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					4	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					4	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					4	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					4	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					5	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					6	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					6	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					7	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	80					0/5	0.8/8	4	1		
8	8	16	64K	CMOS	40	8/24	80					0.5–5				6	6
8	8	16	64K	CMOS	40	8/24	80					0.5–5	0.8/			6	6
8	8	16	64K	CMOS	40	8/24	91					5	3.2/4.8				
8	8	16	64K	CMOS	40	8/24	91					6.4	5/7.5				
8	8	16	64K	CMOS	40	8/24	91					6.4	5/7.5				
8	8	16	64K	CMOS	40	8/24	91					6.4	5/7.5				
8	8	16	64K	CMOS	40	8/24	91					6.4	5/7.5				
8	8	16	64K	CMOS	40	8/24	91					6.4	5/7.5				
8	8	16	64K	CMOS	40	8/24	123	64x8				5	3.2/16				
8	8	16	64K	CMOS	40	8/24	123	64x8				5	3.2/16				
8	8	16	64K	CMOS	40	8/24	158					0/4	1/		2	12	10
8	8	16	64K	CMOS	40	8/32	158					4	1/5.75		5	22	
8	8	16	64K	CMOS	40	8/32	158					4					
8	8	16	64K	CMOS	40	8/32	158					6			4		
8	8	16	64K	CMOS	44	8/32	158					4			4		
8	8	16	64K	CMOS	44	8/32	158					6			4		
8	8	16	64K	CMOS	68	8	180	192x8	4096x8			4	0.25/4				
8	8	16	64K	CMOS	68	8	180	192x8	4096x8			4	0.25/4				
8	8	16	64K	NMOS	40	8/24	80					5	1.4/2.8				
8	16	20	1M	CMOS	40	8/48	133					5					

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
22	4 8-bit	4 8-bit			M37470M8	Mitsubishi	
28	4 8-bit	8 8-bit			M37471E4	Mitsubishi	
28	4 8-bit	8 8-bit			M37471E8	Mitsubishi	
58	8-bitx4				M38007E4	Mitsubishi	
21/23					**TMPZ84C112B-6**	**Toshiba (3828)**	5
46, 8 In, 5 Out	4 8-bit	1 8-bit			M37412E5	Mitsubishi	
40, 12 In	4 8-bit	8 8-bit	6 8-bit		M37120M6	Mitsubishi	
45	8-bitx6	8x8			M38172M4	Mitsubishi	
45	8-bitx6	8x8			M38173E6	Mitsubishi	
45	8-bitx6	8x8			M38173M6	Mitsubishi	10
45	8-bitx6	8x8			M38174E8	Mitsubishi	
45	8-bitx6	8x8			M38174M8	Mitsubishi	
16 lines				Enhanced 6805E2	CDP6805E3	Harris	
				Pin compatible with NMOS 6500 processors, bus compatible with MC6800. On-board clock oscillator.	G65SC02	CMD Micro	
				CMOS R6502	RP65C02G	Ricoh	15
				CMOS R6502	**R65C02**	**Rockwell (3759)**	
				On-chip oscillator, bus Three-State capability, quadrature clock, R6500 software compatibility.	**R65C102**	**Rockwell (3759)**	
				Slave processor, bus Three-State capability	**R65C112**	**Rockwell (3759)**	
				CMOS R6502	**W65C02S-4**	**WDC (3849)**	
				CMOS R6502	**W65C02S-5**	**WDC (3849)**	20
				CMOS R6502	RP65C02G-06	Ricoh	
				CMOS R6502	**W65C02S-6**	**WDC (3849)**	
				CMOS R6502	**W65C02S-7**	**WDC (3849)**	
				CMOS version of M5L8085A	M5M80C85A-2	Mitsubishi	
					MSM80C85A-2	OKI	25
				Power down mode	MSM80C85AH	OKI	
					CDP1802BC	Harris	
					CDP1802A	Harris	
					CDP1802A/3	Harris	
					CDP1802AC	Harris	30
					CDP1802AC/3	Harris	
					CDP1802AX	Harris	
	1 8-bit				CDP1805AC	Harris	
	1 8-bit				CDP1806AC	Harris	
					LH5080A	Sharp	35
				Fully compatible with Z80 instruction set, power-save mode, system clock generator, NSC888 evaluation board available.	NSC800-4	National	
					Z80-4	Zilog	
					TMPZ84C00A-6	**Toshiba (3828)**	
					TMPZ84C01	Toshiba	
					TMPZ84C02A-6	Toshiba	40
7	4			I/O or external memory mode; four timers; UART, LAN, Toolbox Emulation Interface	**W65C134-1**	**WDC (3849)**	
7	4			I/O or external memory mode; four timers; UART, LAN, Toolbox Emulation Interface	**W65C134-2**	**WDC (3849)**	
				8080A compatible.	µPD8085A-2	NEC	
					80C88A	Intel	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
8	16	20	1M	HMOS	40	8/48	46					5	0.4/4				
8	16	20	1M	NMOS	40	8/48	133					5				14	
8	16	20	1M	NMOS	40	8/48	133	64x8				5					
16	16	20	1M	CMOS	40	8/48	133					5	0.4/0.8				
8MHz																	
8			4K	HMOS	40	8/24		128x8	2Kx8			11					
8			1024x13	NMOS	40	13	57	64x8	1024x13			8	1/2				
8		16	2M	CMOS	100	8/32						8					
8	8			CMOS	44		69	128B	4K			10	0.8				
8	8			CMOS	52		69	192B	8K			8	1	3	2		
8	8			CMOS	52		69	256B	—	12K		8	1	3	2		
8	8			CMOS	52		69	256B	12K			8	1	3	2		
8	8			CMOS	52		69	320B	24K			8	0.5	8	1		
8	8			CMOS	56		69	128B	4K			8	1	6	2		
8	8			CMOS	56		69	128B	4K			10	0.8				
8	8			CMOS	80		69	192B	6K			8	1	3	3		
8	8			CMOS	80		69	256B	—	12K		8	1	3	3		
8	8			CMOS	80		69	256B	8K			8	1	3	3		
8	8			CMOS	80		69	256B	8K			8	1	5	4		
8	8			CMOS	80		69	256B	12K			8	1	3	3		
8	8			CMOS	80		69	256B	12K			8	1	5	4		
8	8			CMOS	80		69	384B	8K			8	1	6	3		
8	8		1M	CMOS	40	16	101					8					
8	8		4K	CHMOS	40	8/16	97	128x8				11	1.4/2.8				
8	8		4K	CMOS	28	8/24	42	128x8	1.7Kx8			11	0.15/14				
8	8		4K	HMOS	20	8/24	42	32x8	1Kx8			11	0.6/14				
8	8		4K	HMOS	28	8/24		32x8	1Kx8			11	0.6/14				
8	8	8		CMOS				2Kx24		512x24		8					
8	8	8		CMOS				2Kx24	10Kx24	512x24		8					
8	8	8	1M	CHMOS	52		95					8		3			
8	8	8	1M	CHMOS	52		95					8		3			
8	8	8	1M	CHMOS	52		95					8		3			
8	8	8	1M	CHMOS	52		95					10		3			
8	8	8	1M	CHMOS	52		95					10		3			
8	8	8	1M	CHMOS	52		95					12.5		3			
8	8	8	1M	CHMOS	52		95					12.5		3			
8	8	8	1M	CHMOS	52		95					12.5		3			
8	8	8	1M	CHMOS	52		95					13		3			
8	8	8	1M	CHMOS	52		95					13		3			
8	8	8	1M	CHMOS	52		95					16		3			
8	8	8	1M	CHMOS	52		95					16		3			
8	8	8	1M	CHMOS	52		95					16		3			
8	8	8	1M	CHMOS	52		95					16		3			
8	8	8	1M	CHMOS	52		95					16		3			
8	8	8	1M	CHMOS	52		95					20		3			

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				I/O processor concentrator and intelligent DMA controller. 4 special purpose input interrupts, 2 DMA request interrupts, 2 general purpose interrupt outputs.	8089	Intel	
				Faster versions also available, refurbished	8088	Krueger	
					µPD8088	NEC	
					80C86A	Intel	
27 lines	1 8-bit			Programmable ROM. Can be used with external RAM or ROM.	M8749H	Intel	5
				Expanded PIC1650 instruction set. 1024x13-Bit program ROM. 64 8-Bit registers, 6 level stack, 2 external interrupts. 32 I/O lines.	PIC1670	Microchip	
8					**TMPZ84C810B-8**	**Toshiba (3828)**	
15	1 8-bit				M37408M2	Mitsubishi	
42, 8 In	4 8-bit	1 8-bit			M37420M4	Mitsubishi	
42, 4 In	4 8-bit	4 8-bit	2 8-bit		M37420E6	Mitsubishi	10
42, 8 In	4 8-bit	1 8-bit			M37420M6	Mitsubishi	
30, 6 Out, 7 In	4 8-bit				M37260M6	Mitsubishi	
45	2 8-bit				M37416M2	Mitsubishi	
19	1 8-bit				M37409M2	Mitsubishi	
40, 4 In		8 8-bit			M37410M3H	Mitsubishi	15
40, 4 In	4 8-bit 1 16-bit	1 8-bit			M37410E6H	Mitsubishi	
40, 4 In		8 8-bit			M37410M4H	Mitsubishi	
56, 8 In	4 8-bit 1 16-bit	8 8-bit			M37413M4H	Mitsubishi	
40, 4 In		8 8-bit			M37410M6H	Mitsubishi	
56, 8 In	4 8-bit 1 16-bit	8 8-bit			M37413M6H	Mitsubishi	20
32, 8 In	5 8-bit				M37428M4	Mitsubishi	
				High speed, CMOS 8088	µPD70108-8	NEC	
24 lines	1 8-bit			Can be used with external RAM or ROM, Military temperature.	M80C39	Intel	
20 lines	1 8-bit			Larger ROM Version of 68HC04P2	EF68HC04P3	SGS-Thomson	
12 lines	1 8-bit			20-pin version of 6804P2, extensive self check.	EF6804J2	SGS-Thomson	25
20 lines	1 8-bit			64 byte data ROM, self check.	EF6804P2	SGS-Thomson	
11	2 16-Bit			Neuron Chip	**TMPN3150**	**Toshiba (3833)**	
11	2 16-Bit			Neuron Chip	**TMPN3120**	**Toshiba (3833)**	
2 8-bit	3 16-bit				80C188EB8	Intel	
	3 16-bit				80L188EA8	Intel	30
	3 16-bit				80L188EB8	Intel	
	3 16-bit				80C188	Intel	
	3 16-bit				80C188XL	Intel	
	3 16-bit				80C188-12	Intel	
	3 16-bit				80C188EA12	Intel	35
	3 16-bit				80C188XL12	Intel	
2 8-bit	3 16-bit				80C188EB13	Intel	
24	3 16-bit				80C188EC-13	Intel	
	3 16-bit				80C188-16	Intel	
	3 16-bit				80C188EA16	Intel	40
2 8-bit	3 16-bit				80C188EB16	Intel	
24	3 16-bit				80C188EC-16	Intel	
	3 16-bit				80C188XL16	Intel	
	3 16-bit				80C188EA20	Intel	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
8	8	8	1M	CHMOS	52		95					20		3			
8	8	8	64K	HMOS	40	8/24	111	128x8	4Kx8			12	4				
8	8	16		CMOS	64		71	1	—	32K		8	0.5	8	6		
8	8	16		CMOS	64		71	1	32K	—		8	0.5	8	6		
8	8	16		CMOS	64		71	1K	—	32K		8	0.5	7	8		
8	8	16		CMOS	64		71	1K	16K	—		8	0.5	8	6		
8	8	16		CMOS	64		71	1K	32K	—		8	0.5	7	8		
8	8	16		CMOS	64		71	256B		8K		12.5	0.64	8	6		
8	8	16		CMOS	64		71	256B	8K			12.5	0.64	8	6		
8	8	16		CMOS	64		71	384B	—	8K		8	0.5	8	6		
8	8	16		CMOS	64		71	384B	—	12K		8	0.5	7	8		
8	8	16		CMOS	64		71	384B	—	16K		8	0.5	8	6		
8	8	16		CMOS	64		71	384B	—	16K		8	0.5	7	8		
8	8	16		CMOS	64		71	384B		16K		12.5	0.64	8	6		
8	8	16		CMOS	64		71	384B	—	24K		8	0.5	7	8		
8	8	16		CMOS	64		71	384B	8K	—		8	0.5	8	6		
8	8	16		CMOS	64		71	384B	12K	—		8	0.5	7	8		
8	8	16		CMOS	64		71	384B	16K	—		8	0.5	8	6		
8	8	16		CMOS	64		71	384B	16K	—		8	0.5	7	8		
8	8	16		CMOS	64		71	384B	16K			12.5	0.64	8	6		
8	8	16		CMOS	64		71	384B	24K	—		8	0.5	7	8		
8	8	16		CMOS	64		71	512B	—	24K		8	0.5	8	6		
8	8	16		CMOS	64		71	512B	—	24K		8	0.5	7	8		
8	8	16		CMOS	64		71	512B		24K		12.5	0.64	8	6		
8	8	16		CMOS	64		71	512B	24K	—		8	0.5	8	6		
8	8	16		CMOS	64		71	512B	24K	—		8	0.5	7	8		
8	8	16		CMOS	64		71	640B	—	32K		8	0.5	8	6		
8	8	16		CMOS	64		71	640B	—	32K		8	0.5	7	8		
8	8	16		CMOS	64		71	640B	32K	—		8	0.5	8	6		
8	8	16		CMOS	64		71	640B	32K	—		8	0.5	7	8		
8	8	16		CMOS	74		71	256B		8K		10	0.8	8	6		
8	8	16		CMOS	74		71	256B	8K			10	0.8	8	6		
8	8	16		CMOS	80		71	1K				12.5	0.64	8	6		
8	8	16		CMOS	80		71	128B				10	0.8	8	6		
8	8	16		CMOS	80		71	128B	4K	—		10	0.8	8	6		
8	8	16		CMOS	80		71	256B				10	0.8	8	6		
8	8	16		CMOS	80		71	256B	8K			10	0.8	8	6		
8	8	16		CMOS	80		71	256B	8K	—		10	0.8	8	6		
8	8	16		CMOS	80		71	256B	8K			12.5	0.64	8	6		
8	8	16		CMOS	80		71	384B	—	16K		10	0.8	8	6		
8	8	16		CMOS	80		71	384B	16K	—		10	0.8	8	6		
8	8	16		CMOS	80		71	384B	16K			12.5	0.64	8	6		
8	8	16		CMOS	80		71	448B				10	0.8	8	6		
8	8	16		CMOS	80		71	512B	24K			12.5	0.64	8	6		
8	8	16	2M	CMOS	84	8/32	158					10			4		
8	8	16	2M	CMOS	100	8/32	158					10			4	6	
8	8	16	2M	CMOS	100	8/32	158					10	0.125		4	6	

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
	3 16-bit				80C188XL20	Intel	
	2 16-bit			Serial I/O port Boolean processor, 4K EPROM.	8751H	Intel	
58	8-bitx4				M38007E8	Mitsubishi	
58	8-bitx4				M38007M8	Mitsubishi	
72		8-bitx8	8-bitx2		M38067E8	Mitsubishi	5
58	8-bitx4				M38007M4	Mitsubishi	
72		8-bitx8	8-bitx2		M38067M8	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451E4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451M4D	Mitsubishi	
58	8-bitx4				M38002E2	Mitsubishi	10
72		8-bitx8	8-bitx2		M38062E3	Mitsubishi	
58	8-bitx4				M38002E4	Mitsubishi	
72		8-bitx8	8-bitx2		M38062E4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451E8	Mitsubishi	
72		8-bitx8	8-bitx2		M38062E6	Mitsubishi	15
58	8-bitx4				M38002M2	Mitsubishi	
72		8-bitx8	8-bitx2		M38062M3	Mitsubishi	
58	8-bitx4				M38002M4	Mitsubishi	
72		8-bitx8	8-bitx2		M38062M4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451M8D	Mitsubishi	20
72		8-bitx8	8-bitx2		M38062M6	Mitsubishi	
58	8-bitx4				M38003E6	Mitsubishi	
72		8-bitx8	8-bitx2		M38063E6	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451EC	Mitsubishi	
58	8-bitx4				M38003M6	Mitsubishi	25
72		8-bitx8	8-bitx2		M38063M6	Mitsubishi	
58	8-bitx4				M38004E8	Mitsubishi	
72		8-bitx8	8-bitx2		M38064E8	Mitsubishi	
58	8-bitx4				M38004M8	Mitsubishi	
72		8-bitx8	8-bitx2		M38064M8	Mitsubishi	30
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450E4T	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450M4T	Mitsubishi	
24	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451S	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450S1	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit			M37450M2	Mitsubishi	35
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450S2	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450E4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit			M37450M4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451M4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450E8	Mitsubishi	40
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit			M37450M8	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451M8	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37450S4	Mitsubishi	
48	3 16-bit 1 8-bit	3 8-bit 8 8-bit	2 8-bit		M37451MC	Mitsubishi	
6/8					**TMPZ84C013A-10**	**Toshiba (3828)**	45
8					**TMPZ84C015B-10**	**Toshiba (3828)**	
8/5					**TMPZ84C810B-10**	**Toshiba (3828)**	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
8	8	16	64K	CMOS	40	8/24	68					8	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					9	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	68					10	0.5/3.5				
8	8	16	64K	CMOS	40	8/24	246					8	1.28/8				
8	8	16	64K	CMOS	40	8/32	158					8			4		
8	8	16	64K	CMOS	40	8/32	158					10			4		
8	8	16	64K	CMOS	40	8/32	158					10					
8	8	16	64K	CMOS	48/52	8/32	145	256x8	2Kx8	2Kx8		1/10	21				
8	8	16	64K	NMOS	40	8/24	111	128x8				20	0.6/10		5		
8	16		1M	CMOS	64/68	8	65	384x8	8Kx8			12	0.333				
8	16		1M	CMOS	84/94	8	65	1Kx8	32Kx8			12	0.333				
8	16		1M	CMOS	84/94	8	65	640x8	16Kx8			12	0.333				
8	16		1M	CMOS	84/94	8	65	640x8	16Kx8			12	0.333				
8	16	20	1M	CMOS	40	8/32	133					8				14	
8	16	20	1M	CMOS	40	8/48	133					8				14	
8	16	20	1M	CMOS	40	8/48	133					8					
8	16	20	1M	CMOS	68	8/48	101					8					
8	16	20	1M	NMOS	40	8/48	133					8				14	
8	32	20	1M	HMOS	64		56					8					16
12MHz																	
8	16			CMOS	64		159	1K				15	—/0.8	8	3		
8	16		1M	CMOS	64/68	8		512x8				12	0.333				
8	16		1M	CMOS	64/68	8	65	512x8	16x8			12	0.333				
8	16		1M	CMOS	84/94	8	65	1Kx8	32Kx8			12					
8	16		1M	CMOS	84/94	8	65	640x8	16Kx8			12	0.333				
8	16		1M	CMOS	84/94	8	65	640x8	16x8			12	0.333				
8	16		1M	CMOS	84/94	8	65	640x8	16x8			12	0.333				
8/16 Bit																	
2MHz																	
8	16	24	16M	CMOS			91					2			2		
8	16	24	16M	CMOS			91					3			2		
4MHz																	
8	16	20	1M	CMOS	40	8/32	89					0–5	0.8/		2	6	8
8	16	20	1M	CMOS	40	8/32	133					0–5	0.2/				
8	16	20	1M	NMOS	40	8/32	89					2–5	0.8/			8	6
8	16	20	1M	NMOS	40	8/32	89					2–5	0.8/			8	6
8	16	20	1M	NMOS	40	8/32	133					2–5	0.8/			13	
8	16	24	16M	CMOS			91					4			2		
8MHz																	
8	8	20	1M	CMOS	68	8/48	101					2–8	0.25/		2	4	10
8	8	20	1M	CMOS	68	8/48	101					2–10	0.2/		2	4	10
8	16	16	1M	CMOS	40		101					0–10	0.2/		2	4	10
8	16	16	1M	CMOS	40		101					2–8	0.25/		2	4	10
8	16	16	1M	CMOS	40		101					2–10	0.2/		2	4	10
8	16	20	1M	CHMOS	68	8/32						–8				8	6

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				CMOS R6502	**W65C02S-8**	**WDC (3849)**	
				CMOS R6502	**W65C02S-9**	**WDC (3849)**	
				CMOS R6502	**W65C02S-10**	**WDC (3849)**	
				Compatible with NMOS 8085; supports extended instruction set	CA80C85B	Newbridge	
					TMPZ84C00A-8	**Toshiba (3828)**	5
					TMPZ84C00A-10	**Toshiba (3828)**	
				8080A software compatible	Z80-10	Zilog	
	1 16-bit	1 8-bit		Pulse Accumulator	MC68HC11	Motorola	
32 lines	2 16-bit			Serial I/O	SAB8031A	Siemens	
					μPD78212	NEC	10
64 lines	1 16-bit, 2 8-bit	1 8-bit	1 8-bit	4 PWM channels	μPD78P238	NEC	
					μPD78220	NEC	
64 lines	1 16-bit, 2 8-bit	1 8-bit	1 8-bit		μPD78234	NEC	
					80C88	Harris	
				Multiply and divide, Multibus compatible, military, industrial, commercial grades	80C88-2	Harris	15
					80C88A-2	Intel	
				High integration with several peripherals on chip. Compatible with μPD70108, μPD70116.	μPD70208	NEC	
					8088	AMD	
				TS68008 completely code compatible with TS68000	TS68008	Thomson Comp	
40 lines	2 8-bit	1 8-bit		Two Zero-Cross Detect Inputs	μPD78C17	NEC	20
					μPD78213	NEC	
54 lines	1 16-bit, 3 8-bit			Peripheral Management Unit	μPD78214	NEC	
64 lines	1 16-bit, 2 8-bit	1 8-bit	1 8-bit	Four PWM Channels	μPD78238	NEC	
71 lines	1 16-bit, 2 8-bit			Peripheral Management Unit	μPD78P224	NEC	
71 lines	1 16-bit, 2 8-bit			Peripheral Management Unit	μPD78224	NEC	25
64 lines	1 16-bit, 2 8-bit	1 8-bit			μPD78234	NEC	
				16-bit ALU Enhanced Instruction Set	G65SC816-2	CMD Micro	
				16-bit ALU Enhanced Instruction Set	G65SC816-3	CMD Micro	
					MSM80C88A	OKI	
20 lines				Ext/Mil temp ranges available	80C88	Harris	30
				Std and Ext temp range	M8088	Intel	
				Std and Ext temp range	8088	Intel	
				Ind, Com Temp Range, Mil Version	8088	AMD	
				16-bit ALU Enhanced Instruction Set	G65SC816-4	CMD Micro	
3 16-bit				8080 Emulation Mode, Serial Communication	μPD70208-8	NEC	35
3 16-bit				8080 Emulation Mode, Serial Communication	μPD70208-10	NEC	
				8080 Emulation, STOP Mode, Low Power Standby, Low Voltage	μPD70108H-10	NEC	
				8080 Emulation, Low Power Standby, Low Voltage	μPD70108-8	NEC	
				8080 Emulation, Low Power Standby, Low Voltage	μPD70108-10	NEC	
				On-chip controllers and clock	80C188-8	Intel	40

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
8	16	20	1M	CHMOS	68	8/32						–10				8	6
8	16	20	1M	CMOS	40	8/32	89					0–8	0.5/		2	6	8
8	16	20	1M	CMOS	40	8/32	89					0–10	0.4/		2	6	8
8	16	20	1M	CMOS	40	8/32	133					0–8	0.125/				
8	16	20	1M	NMOS	40	8/32	89					2–8	0.5/			8	6
8	16	20	1M	NMOS	40	8/32	133					2–8	0.5/			13	
8	16	20	1M	NMOS	40	8/32	133					2–10	0.4/			13	
8	16	20	1M	NMOS	68	8/32						–8				8	6
8	16	20	1M	NMOS	68	8/32						–10				8	6
16	16	20	1M	CHMOS	68	8/32						/8	0.5/			8	6
16	16	20	1M	CHMOS	68	8/32						/10	0.4/			8	6
12MHz																	
8	16		1M	CMOS	84/94	8	65	640x8	16Kx8			12	0.333				
8	16	16	1M	CMOS	40		101					0–12	0.24/		2	4	10
8	16	16	1M	CMOS	40		101					0–16	0.125/		2	4	10
16	16	20	1M	CHMOS	68	8/32						/12.5				8	6
16 Bit																	
4MHz																	
16	16	20	1M	CMOS	40	8/32	89					0–5	0.8		2	6	8
16	16	20	1M	CMOS	40	8/32	133					0–5	0.20/				
16	16	20	1M	CMOS	40	8/48	133					5	0.4/0.8				
16	16	20	1M	CMOS	40	8/48	133					5	0.4/0.8				
16	16	20	1M	CMOS	40	8/48	133					5	0.4/0.8				
16	16	20	1M	HMOS	40	8/32	89					0–5	0.8/			8	6
16	16	20	1M	HMOS	40	8/32	89					0–5	0.8/			8	6
16	16	20	1M	NMOS	40	8/32	133					2–5	0.8/			13	7
16	16	20	1M	NMOS	40	8/48	133					5	0.4/0.8				
16	16	20	1M	NMOS	40	8/48	133					5	0.4/0.8				
16	16	24	16M	CMOS	40	8/24	91					4					
16	16	24	16M	CMOS	40	8/24	91					5					
16	16	24	16M	CMOS	40	8/24	91					6					
16	16	24	16M	CMOS	40	8/24	91					7					
16	32	24	16M	CMOS	48	8/32	108					6				8	
16	32	24	16M	HMOS	64	16/80	56					4	0.4			16	
16	32	24	16M	NMOS	64	16/80	56					6	0.4/—			16	
8MHz																	
8	32	24	1M	NMOS	48	16/80	56					8	0.75/0.78				
8	32	24	16M	NMOS	52	16/80	56					8			7	17	
8	32	24	16M	NMOS	52	16/80	56					10			7	17	
16	16			TTL	52	8/16			512x16			10	0.1		6		6
16	16		User def.	TTL/ECL	52	8/16						10	0.1		6		6
16	16		500K	HMOS	40	1/4	69					8	1.25/100				
16	16		500K	HMOS	40	1/4	69					8	1.25/100				
16	16	16		CMOS	64		103	2K	—	32K		8	0.5	16	3		

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				On-chip controllers and clock	80C188-10	Intel	
					MSM80C88A-2	OKI	
					MSM80C88A-10	OKI	
20 lines				Ext/Mil temp ranges avialable	80C88-2	Harris	
				Std and Ext temp range	8088-2	Intel	5
				Ind, Com Temp Range, Mil Version	8088-2	AMD	
					8088-1	AMD	
				On-chip controllers and clock	80188-8	Intel	
				On-chip controllers and clock	80188-10	Intel	
				On-chip controllers and clock	80C186-8	Intel	10
				On-chip controllers and clock	80C186-10	Intel	
64	1 16-bit, 2 8-bit	1 8-bit	1 8-bit		µPD78233	NEC	
				8080 Emulation, STOP Mode, Low Power Standby, Low Voltage	µPD70108H-12	NEC	
				8080 Emulation, STOP Mode, Low Power Standby, Low Voltage	µPD70108H-16	NEC	
				On-chip controllers and clock	80C186-12	Intel	15
					MSM80C86A	OKI	
20 lines				Ext/Mil temp ranges available	80C86	Harris	
				Multiply and divide, multibus system compatible, 8 MHz version available, available in industrial or military temperature ranges.	C80C86	Harris	
				Multiply/divide, Multibus compatible, Single Event Upset immune	HS80C86RRH	Harris	
				Multiply and divide, multibus system compatible, 8 MHz version available, available in industrial or military temperature ranges.	M80C86/B	Harris	20
					M8086	Intel	
					8086	Intel	
				COM, IND, MIL TEMP RANGE	8086	AMD	
				Faster versions also available, refurbished	8086	Krueger	
					µPD8086-2	NEC	25
				Software compatible with the 6500	**W65C816S-4**	**WDC (3849)**	
				Software compatible with the 6500	**W65C816S-5**	**WDC (3849)**	
				Software compatible with the 6500	**W65C816S-6**	**WDC (3849)**	
				Software compatible with the 6500	**W65C816S-7**	**WDC (3849)**	
				Slave processor interface	NS32C016RT-6	National	30
					TS68000	SGS-Thomson	
				Faster Versions also available, Refurbished	68000	Krueger	
				Faster Versions also Available, Refurbished	68008	Krueger	
					TMP68008-8	Toshiba	
					TMP68008-10	Toshiba	35
16				Microprogrammable	AM29116A	AMD	
16				Three-operand ALU, 16-bit barrel shifter, instruction set optimized for high-performance intelligent controllers.	AM29116	AMD	
				Numeric coprocessor for 8086, 8088, 80186, 80188	8087-2	Intel	
				Numeric coprocessor for 8086, 8088, 80186, 80188	8087-2	Krueger	
	5 16-bit	1 8-bit			M37701E4	Mitsubishi	40

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
16	16	16		CMOS	64		103	2K	32K			8	0.5	16	3		
16	16	16		CMOS	64		103	2K	32K			8	0.5	16	3		
16	16	16		CMOS	64		103	512B	—	16K		8	0.5	16	3		
16	16	16		CMOS	64		103	512B	—	16K		8	0.5	14	2		
16	16	16		CMOS	64		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	64		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	64		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	64		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	80		103	2K	—	32K		8	0.5	16	3		
16	16	16		CMOS	80		103	2K	32K			8	0.5	16	3		
16	16	16		CMOS	80		103	2K	32K			8	0.5	16	3		
16	16	16		CMOS	80		103	512B		16K		8	0.5	16	3		
16	16	16		CMOS	80		103	512B	—	16K		8	0.5	16	3		
16	16	16		CMOS	80		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	80		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	80		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	80		103	512B	16K			8	0.5	16	3		
16	16	16		CMOS	84		103	—	—			8	0.5	16	4		
16	16	16		CMOS	84		103	—	—			8	0.5	16	4		
16	16	16		CMOS	84		103	1K	—	32K		8	0.5	16	4		
16	16	16		CMOS	84		103	1K	—	32K		8	0.5	16	4		
16	16	16	1M	CHMOS	68	16	95					8		3			
16	16	16	1M	CHMOS	68	16	95					8		3			
16	16	16	1M	CHMOS	68	16	95					8		3			
16	16	16	1M	CHMOS	68	16	95					8		3			
16	16	16	1M	CHMOS	68	16	95					8		3			
16	16	16	1M	CHMOS	68	16	95					10		3			
16	16	16	1M	CHMOS	68	16	95					10		3			
16	16	16	1M	CMOS	68	16	95					8		3			
16	16	16	1M	CMOS	68	16	95					8		3			
16	16	16	1M	CMOS	68	16	95					10		3			
16	16	20	1M	CHMOS	40	8/32	89					0–8	0.5/			8	6
16	16	20	1M	CMOS	40	8/32	89					0–8	0.5/		2	6	8
16	16	20	1M	CMOS	40	8/32	89					0–10	0.4/		2	6	8
16	16	20	1M	CMOS	40	8/32	133					0–8	0.125/				
16	16	20	1M	CMOS	40	8/48	101					2–8	0.25/		2	4	10
16	16	20	1M	CMOS	40	8/48	101					2–10	0.20/		2	4	10
16	16	20	1M	CMOS	40	8/48	101					2–10	0.20		2	4	10
16	16	20	1M	CMOS	40	8/48	133					8	0.4/0.8				
16	16	20	1M	CMOS	40	8/48	133					8	0.4/0.8				
16	16	20	1M	CMOS	40	8/48	133					8	0.4/0.8				
16	16	20	1M	CMOS	40	8/48	133					8	0.4/0.8				
16	16	20	1M	CMOS	68	8/48	101					2–8	0.25/		2	4	10
16	16	20	1M	CMOS	68	8/48	101					2–10	0.2/		2	4	10
16	16	20	1M	HMOS	40	8/32	89					0–8	0.5/			8	6

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
53	8 16-bit	1 8-bit			M37701MA	Mitsubishi	
53	8 16-bit	1 8-bit			M37701S4	Mitsubishi	
68	5 16-bit	1 8-bit			M37701E2	Mitsubishi	
	5 16-bit	1 8-bit			M37705E2	Mitsubishi	
53		1 8-bit			M37701M2	Mitsubishi	5
53		1 8-bit			M37701S	Mitsubishi	
53	8 16-bit	1 8-bit			M37705M2	Mitsubishi	
53	8 16-bit	1 8-bit			M37705S1	Mitsubishi	
	5 16-bit	1 8-bit			M37700E4	Mitsubishi	
68	8 16-bit	1 8-bit			M37700M4	Mitsubishi	10
68	8 16-bit	1 8-bit			M37700S4	Mitsubishi	
	8 16-bit	1 8-bit			M37700E2	Mitsubishi	
	5 16-bit	1 8-bit			M37704E2	Mitsubishi	
68	8 16-bit	1 8-bit			M37700M2	Mitsubishi	
68	8 16-bit	1 8-bit			M37700S	Mitsubishi	15
68	8 16-bit	1 8-bit			M37704M2	Mitsubishi	
68	8 16-bit	1 8-bit			M37704S1	Mitsubishi	
33	16 16-bit	1 10-bit			M37795S	Mitsubishi	
33	16 16-bit	1 10-bit			M37795ST	Mitsubishi	
	13 16-bit	1 10-bit			M37796E4	Mitsubishi	20
	13 16-bit	1 10-bit			M37796E4T	Mitsubishi	
	3 16-bit				M80C186EB-8	Intel	
	3 16-bit				80C186EB-8	Intel	
	3 16-bit				80C186XL	Intel	
	3 16-bit				80L186EA8	Intel	25
	3 16-bit				80L186EB-8	Intel	
	3 16-bit				M80C186	Intel	
	3 16-bit				80C186	Intel	
	3 16-bit				M80186-8	Intel	
	3 16-bit				80186-8	Intel	30
	3 16-bit				80186-10	Intel	
					80C86A-2	Intel	
					MSM80C86A-2	OKI	
					MSM80C86A-10	OKI	
20 lines				Ext/Mil temp ranges available	80C86-2	Harris	35
				8080 Emulation, Low Power Standby, Low Voltage	µPD70116-8	NEC	
				8080 Emulation, Low power Standby, Low Voltage	µPD70116-10	NEC	
				8080 Emulation, STOP Mode, Low Power Standby, Low Voltage	µPD70116H-10	NEC	
				Multiply and divide, multibus system compatible, 8 MHz version available, available in industrial or military temperature ranges.	C80C86-2	Harris	
				Multiply and divide multibus system compatible, available in military temperature ranges.	HS80C86RH	Harris	40
				Multiply and divide, multibus system compatible, 8 MHz version available, available in industrial or military temperature ranges.	M80C86-2/B	Harris	
				Multiply and divide, multibus system compatible, 8 MHz version available, available in industrial or military temperature ranges.	80C86	Harris	
	3 16-bit			8080 Emulation Mode, Serial Communication	µPD70216-8	NEC	
	3 16-bit			8080 Emulation Mode, Serial Communication	µPD70216-10	NEC	
					8086-2	Intel	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
16	16	20	1M	HMOS	40	8/32	89					0–10	0.4/			8	6
16	16	20	1M	NMOS	40	8/32	133					2–8	0.5			13	
16	16	20	1M	NMOS	40	8/32	133					2–10	0.4/			13	
16	16	20	16M	CMOS	68	8/80	150					10				8	11
16	16	20	16M	CMOS	68	8/80	150					10				8	11
16	16	20	16M	CMOS	68	8/80	150					10				8	11
16	16	20	16M	CMOS	68	8/80	150					10				8	11
16	16	20	16M	HMOS		8/48	150					8	0.8			8	11
16	16	20	16M	HMOS		8/48	150					8	0.8			8	11
16	16	24	16M	CMOS	40	8/24	91					8					
16	16	24	16M	CMOS	40	8/24	91					9					
16	16	24	16M	CMOS	40	8/24	91					10					
16	16	24	16M	CMOS	40	8/24	91					10					
16	16	24	16M	CMOS	68	8/32	120					4–8	0.24/			8	7
16	16	24	16M	CMOS	68	8/32	120					4–8	0.24/			8	7
16	16	24	16M	CMOS	68	8/32	120					4–10	0.20/			8	7
16	16	24	16M	CMOS	68	8/32	120					4–10	0.20/			8	7
16	16	24	16M	CMOS	120	8/48	105					2–10	0.2/		2	4	10
16	16–80			CMOS								8	-/0.125				
16	16–80			CMOS								8	-/0.125				
16	16–80			CMOS								10	-/0.1				
16	32	20	1M	HMOS	64		56										16
16	32	20	1M	HMOS	64		56										16
16	32	20	16M	XMOS	48	8/32	128					10	0.3/—				
16	32	24	16 M	NMOS	48	8/200	133					10	0.3				
16	32	24	16M	CMOS	48	8/32	108					10				8	
16	32	24	16M	HMOS	64	16/80	56					8	0.4			16	
16	32	24	16M	HMOS	64	16/80	56					8	0.4			16	
16	32	24	16M	HMOS	64	16/80	56					10	0.4			16	
16	32	24	16M	HMOS	64	16/80	57					8	0.4		7	17	
16	32	24	16M	HMOS	64	16/80	57					10	0.4		7	17	
16	32	24	16M	NMOS	64	16/80	56					8	0.75/0.78			16	
16	32	24	16M	NMOS	64	24/32	56					8	0.08/0.25		7	16	
16	32	24	16M	NMOS	64	24/32	56					10	0.08/0.25		7	16	
16	32	24	16M	NMOS	64	24/32	56					10	0.08/0.25		7	16	
16	32	32	16M	CHMOS	20							8	-/0.125				
16	32	32	16M	CHMOS	20							8	-/0.125				
16	32	32	16M	CHMOS	20							10	-/0.1				
16	32	32	16M	CHMOS	20							10	-/0.1				
16	32	32	16M	CHMOS	68							8	-/0.125		4		
16	32	32	16M	CHMOS	68							10	-/0.1		4		
16	32	32	16M	CHMOS	68							10	-/0.1		4		

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
					8086-1	Intel	
				Com, Ind, Mil Temp Range	8086-2	AMD	
				COM, IND TEMP RANGE	8086-1	AMD	
				On-chip memory management and protection	C80C286-10	Harris	
				On-chip memory management and protection	M80C286-10/883	Harris	5
				On-chip memory management and protection	80C286-10	Harris	
				On-chip memory management and protection	80C286-10/883	Harris	
				80286 processor with memory management. Upward compatible with iAPX86, 88 software.	M80286	Intel	
				80286 processor with memory management. Upward compatible with iAPX86, 88 software.	80286	Intel	
				Software compatible with the 6500	**W65C816S-8**	**WDC (3849)**	10
				Software compatible with the 6500	**W65C816S-9**	**WDC (3849)**	
				Software compatible with the 6500	**W65C816S**	**WDC (3849)**	
				Software compatible with the 6500	W65C816S-10	WDC	
				Low Power	80L286-8	AMD	
					80286-8	AMD	15
				Low Power	80L286-10	AMD	
				On-chip MMU	80286-10	AMD	
	3 16-bit			4 Channel DMA, UART, IRQ Controller	μPD70236-10	NEC	
				Math Coprocessor	M8087	Intel	
				Math Coprocessor	8087	Intel	20
				Math Coprocessor	8087-1	Intel	
				MC68008 completely code compatible with MC68000. General purpose machine.	TS68008-10	SGS-Thomson	
				MC68008 completely code compatible with MC68000. General purpose machine.	TS68008-8	SGS-Thomson	
				Real-Time Processor	NS32016RT-10	National	
					TI32016	TI	25
				Slave processor interface	NS32C016RT-10	National	
				Low Power	TS68C000	Thomson Comp	
					TS68000	Thomson Comp	
				Enhanced 68000 supporting true virtual memory with faster instruction set. Relocatable vector table to support multiple operating systems.	MC68010	Motorola	
					TMP68010-8	**Toshiba (3831)**	30
					TMP68010-10	**Toshiba (3831)**	
				Faster Versions also Available, Refurbished	68010	Krueger	
					TMP68000-8	**Toshiba (3831)**	
					TMP68HC000-10	**Toshiba (3831)**	
					TMP68000-10	**Toshiba (3831)**	35
				Bus Controller for 80286	M82C288-8	Intel	
				Bus Controller for 80286	82C288-8	Intel	
				Bus Controller for 80286	M82C288-10	Intel	
				Bus Controller for 80286	82C288-10	Intel	
					80286-8	Intel	40
					M80286-10	Intel	
					80286-10	Intel	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (µs)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	
8	32	20	1M	NMOS	48	16/80	56					12	0.75/0.78			16	
16	16			XMOS	24							15	4/12				
16	16	16	1M	CHMOS	68	16	95					12		3			
16	16	16	1M	CHMOS	68	16	95					12		3			
16	16	16	1M	CHMOS	68	16	95					12.5		3			
16	16	16	1M	CHMOS	68	16	95					13		3			
16	16	16	1M	CHMOS	68	16	95					13		3			
16	16	20	1M	CMOS	40	8/48	101					2–12	0.16/		2	4	10
16	16	20	16M	CMOS	68	8/80	150					12				8	11
16	16	20	16M	CMOS	68	8/80	150					12.5				8	11
16	16	20	16M	CMOS	68	8/80	150					12.5				8	11
16	16	20	16M	CMOS	68	8/80	150					12.5				8	11
16	16	20	16M	CMOS	68	8/80	150					12.5				8	11
16	16	24	1M	CMOS	216	8/32	120					0–12				8	7
16	16	24	1M	CMOS	216	8/32	120					0–12				8	7
16	16	24	16M	CMOS	68	8/32	120					4–12	0.16/			8	7
16	16	24	16M	CMOS	68	8/32	120					4–12.5	0.15/			8	7
16	16	24	16M	CMOS	68	8/48	105					2–12.5	0.16/		2	4	10
16	16	24	16M	CMOS	120	8/48	105					2–12	0.24/		2	4	10
16	16	24	16M	NMOS	68	8/32	120					0–12.5	0.16/			8	7
16	32	24	16M	CMOS	48	8/32	108					15	0.267/8			8	
16	32	24	16M	CMOS	48	8/32	108					15				8	
16	32	24	16M	HMOS	64	16/80	57					12	0.4		7	17	
16	32	24	16M	HMOS	64	24/32	56					12.5	0.08/0.25			16	
16	32	24	16M	NMOS	64	24/32	56					12	0.08/0.25		7	16	
16	32	24	16M	NMOS	64	24/32	56					12	0.08/0.25		7	16	
16	32	24	16M	NMOS	100	24/32	56					12	0.08/0.25		7	16	
16	32	24	16M	NMOS	100	24/32	56					12	0.08/0.25		7	16	
16	32	32	16M	CHMOS	20							12.5	-/0.08				
16	32	32	16M	CHMOS	40							12.5	-/0.08		4		
16	32	32	16M	CHMOS	40							12.5	-/0.08		4		
16	32	32	16M	CHMOS	68							12.5	-/0.08		4		
16	80		1M	CMOS	40							12					
16MHz																	
16	16	16		CMOS	64		103	2K	—	32K		16	0.25	16	3		
16	16	16		CMOS	64		103	2K	32K			16	0.25	16	3		
16	16	16		CMOS	64		103	2K	32K			16	0.25	16	3		
16	16	16		CMOS	64		103	512B	—	16K		16	0.25	16	3		
16	16	16		CMOS	64		103	512B	—	16K		16	0.25	14	2		
16	16	16		CMOS	64		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	64		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	64		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	64		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	80		103	2K	—	32K		16	0.25	16	3		
16	16	16		CMOS	80		103	2K	32K			16	0.25	16	3		
16	16	16		CMOS	80		103	2K	32K			16	0.25	16	3		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
					TS68008	SGS-Thomson	
				Slave processor for floating point arithmetic	NS32081	National	
	3 16-bit				80C186EA12	Intel	
	3 16-bit				80C186XL12	Intel	
	3 16-bit				80C186-12	Intel	5
	3 16-bit				80C186EB-13	Intel	
	3 16-bit				80C186EC-13	Intel	
				8080 Emulation, STOP Mode, Low Power Standby, Low Voltage	μPD70116H-12	NEC	
					80C286-12	AMD	
				On-chip memory management and protection	C80C286-12	Harris	10
				On-chip memory management and protection	M80C286-12/ 883	Harris	
				On-chip memory management and protection.	80C286-12	Harris	
				On-chip memory management and protection	80C286-12/883	Harris	
	16-bitx3			80C286 core memory management	Am286ZX-12	AMD	
	16-bitx3			Low power, 80C286 core memory management, On-chip controllers	AM286LX-12	AMD	15
					80286-12	AMD	
				Low Power	80L286-12	AMD	
					μPD70136-12	NEC	
	3 16-bit			4 Channel DMA, UART, IRQ Controller	μPD70236-12	NEC	
					80C286-12	Intel	20
				Slave processor interface	NS32C016	National	
				Slave processor interface	NS32C016RT-15	National	
					TMP68010-12	**Toshiba (3831)**	
				Low-Power HCMOS Microprocessor	MC68HC000	Motorola	
					TMP68HC000-12	**Toshiba (3831)**	25
					TMP68000-12	**Toshiba (3831)**	
				ASSP	**TMP680301A-12**	**Toshiba (3832)**	
				ASSP	**TMP68301A-12**	**Toshiba (3832)**	
				Bus Controller for 80286	82C288-12	Intel	
					80C287XL-12	Intel	30
					80C287XLT-12	Intel	
					80286-12	Intel	
				Math Coprocessor	80C187-12	Intel	
	5 16-bit	1 8-bit			M37701E4A	Mitsubishi	
53	8 16-bit	1 8-bit			M37701M4A	Mitsubishi	35
53	8 16-bit	1 8-bit			M37701S4A	Mitsubishi	
68	5 16-bit	1 8-bit			M37701E2A	Mitsubishi	
	5 16-bit	1 8-bit			M37705E2A	Mitsubishi	
53		1 8-bit			M37701M2A	Mitsubishi	
53		1 8-bit			M37701SA	Mitsubishi	40
53	8 16-bit	1 8-bit			M37705M2A	Mitsubishi	
53	8 16-bit	1 8-bit			M37705S1A	Mitsubishi	
	5 16-bit	1 8-bit			M37700E4A	Mitsubishi	
68	8 16-bit	1 8-bit			M37700M4A	Mitsubishi	
68	8 16-bit	1 8-bit			M37700S4A	Mitsubishi	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
16MHz																	**(Cont'd)**
16	16	16		CMOS	80		103	512B		16K		16	0.25	16	3		
16	16	16		CMOS	80		103	512B	—	16K		16	0.25	16	3		
16	16	16		CMOS	80		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	80		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	80		103	512B	16K			16	0.25	16	3		
16	16	16		CMOS	80		103	512B	16K			16	0.25	16	3		
16	16	16	1M	CHMOS	68	16	95					16		3			
16	16	16	1M	CHMOS	68	16	95					16		3			
16	16	16	1M	CHMOS	68	16	95					16		3			
16	16	16	1M	CHMOS	68	16	95					16		3			
16	16	16	1M	CHMOS	68	16	95					16		3			
16	16	20	1M	CMOS	40	8/48	101					2–16	0.125/		2	4	10
16	16	20	16M	CMOS	68	8/80	150					16				8	11
16	16	20	16M	CMOS	68	8/80	150					16				8	11
16	16	20	16M	CMOS	68	8/80	150					16				8	11
16	16	24	1M	CMOS	216	8/32	120					0–16				8	7
16	16	24	1M	CMOS	216	8/32	120					0–16				8	7
16	16	24	16M	CMOS	68	8/32	120					4–16				8	7
16	16	24	16M	CMOS	68	8/32	120					4–16	0.12/			8	7
16	16	24	16M	CMOS	68	8/48	105					2–16	0.125		2	4	10
16	16	24	16M	CMOS	120	8/48	105					2–16	0.125/		2	4	10
16	32	24	16M	NMOS	64	24/32	56					16	0.08/0.25		7	16	
16	32	24	16M	NMOS	64	24/32	56					16	0.08/0.25		7	16	
16	32	24	16M	NMOS	64	24/32	56					16	0.08/0.25		7	16	
16	32	24	16M	NMOS	100	24/32	56					16	0.08/0.25		7	16	
16	80		1M	CMOS	40							16					
20MHz																	
16			64K	SOS	64	16						25					
16	16		User def.	CMOS	64	9	16					21					
16	16	16	1M	CHMOS	68	16	95					20		3			
16	16	16	1M	CHMOS	68	16	95					20		3			
16	16	16	64K	CMOS	64/68	16	130					40			8	16	8
16	16	16	64K	CMOS	64/68	16	130					40			8	16	8
16	16	20	16M	CMOS	68	8/80	150					20				8	11
16	16	20	16M	CMOS	68	8/80	150					20				8	11
16	16	20	16M	CMOS	68	8/80	150					25				8	11
16	16	20	16M	CMOS	68	8/80	150					25				8	11
16	16	20	16M	CMOS	68	8/80	150					25				8	11
16	16	24	16M	CMOS	68		120					0–25	0.125/				
16	32	26	64	CMOS	144	16	250					30	0.3			29	
16	48	20		CMOS	64/68	16	154					40					
16	48	20		CMOS	64/68	16	154					40					
16	48	20	2M	CMOS	64	16	154					20				24	
16	48	20	2M	CMOS	64	16	154					30				24	

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
	8 16-bit	1 8-bit			M37700E2A	Mitsubishi	
	5 16-bit	1 8-bit			M37704E2A	Mitsubishi	
68	8 16-bit	1 8-bit			M37700M2A	Mitsubishi	
68	8 16-bit	1 8-bit			M37700SA	Mitsubishi	
68	8 16-bit	1 8-bit			M37704M2A	Mitsubishi	5
68	8 16-bit	1 8-bit			M37704S1A	Mitsubishi	
	3 16-bit				80C186-16	Intel	
	3 16-bit				80C186EA16	Intel	
	3 16-bit				80C186EB-16	Intel	
	3 16-bit				80C186EC-16	Intel	10
	3 16-bit				80C186XL16	Intel	
				8080 Emulation, STOP Mode, Low Power Standby, Low Voltage	µPD70116H-16	NEC	
					80C286-16	AMD	
				On-chip memory management and protection	C80C286-16	Harris	
				On-chip memory management and protection	80C286-16	Harris	15
	16-bitx3			Low power, 80C286 core memory management	AM286LX-16	AMD	
	16-bitx3			80C286 core memory management, On-chip controllers	AM286ZX-16	AMD	
				Low Power	80L286-16	AMD	
					80286-16	AMD	
					µPD70136-16	NEC	20
	3 16-bit			4 Channel DMA, UART, IRQ Controller	µPD70236-16	NEC	
					TMP68HC000-16	**Toshiba (3831)**	
				ASSP	**TMP68303-16**	**Toshiba (3832)**	
				ASSP	**TMP68305-16**	**Toshiba (3832)**	
				ASSP	**TMP68301A-16**	**Toshiba (3832)**	25
				Math Coprocessor	80C187-16	Intel	
				MIL-STD–1750A Qualified	MAS281	GEC Plessey	
				Four 2901, 2902 Look-ahead carry, 64 addressable registers, additional instructions	IDT49C402	IDT	
	3 16-bit				80C186EA20	Intel	
	3 16-bit				80C186XL20	Intel	30
	2 16-bit			SEAFAC certified to MIL-STD–1750A	P1750A	Performance	
	2 16-bit			Enhanced MIL-STD–1750A CPU, available in 20/30/40 MHz versions	P1750AE	Performance	
					C80C286-20	Harris	
					80C286-20	Harris	
					80C286-20	AMD	35
					C80C286-25	Harris	
					80C286-25	Harris	
				Mem management 10, 12, 16, 20, 25MHz, Virtual mem, Mil version available	80C286	Harris	
				Implements MIL-STD–1750A Instruction Set. MMU Support Chip Available (L64550).	L64500	LSI Logic	
				Processor Interface Circuit with Built-In System Test	P1754	Performance	40
				Four channels, transfers from/to I/O, local and global memory supported, expandable up to eight channels	P1755	Performance	
	2			SEAFAC Certified to MIL-STD–1750A	P1750A-20CM	Performance	
	2			SEAFAC Certified to MIL-STD–1750A	P1750A-30CM	Performance	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
20MHz																	**(Cont'd)**
16	48	20	2M	CMOS	64	16	154					40	40.1			24	
16	48	20	2M	CMOS	64/68	16	154					40	0.1			24	
16	48	20	2M	CMOS	144	16	154					40	0.1			24	
16/32 Bit																	
8MHz																	
16	32	24	16M	HCMOS	64	8/32	96				256	0/8	0.125			16	
16	32	24	16M	HCMOS	64	8/32	96				256	0/10	0.125			16	
16	32	24	16M	HCMOS	68	8/32	96					8	0.125/		3	16	
16	32	24	16M	HCMOS	68	8/32	96					10	0.1/		3	16	
16	32	32	4G	HCMOS	144/145	8/32	96					0/8	0.12/		3	16	
12MHz																	
16	32	24	16M	HCMOS	64	8/32	96				256	0/12.5	0.08/			16	
16	32	24	16M	HCMOS	68	8/32	96					12.2	0.08/		3	16	
16MHz																	
16	32	24	16M	CMOS	100	8/32	144					0/16	0.125	254	2	8	26
16	32	24	16M	HCMOS	64	8/32	96				256	0/16.67	0.06			16	
16	32	24	16M	HCMOS	68	8/32	96					16.7	0.06		3	16	
16	32	24	16M	HCMOS	132	8/32	88	1152x8				8/16.67	0.06/0.5	15	3		
16	32	32	4G	HCMOS	144/145	8/32	96					0/16.78	0.06/		3	16	
16	32	32	4G	HCMOS	144/145	8/32	96					0/16.78	0.06/		3	16	
16	32	32	4G	HCMOS	160	8/32	88	1152x8				0/16	0.12/		7	7	80
16	32	32	4G	HCMOS	160	48/32	90					0/16	0.12/		7	7	80
20MHz																	
16	32	24	16M	CMOS	100	8/32	144					0/20	0.1/	254	2	8	26
16	32	24	16M	CMOS	100	8/32	144					0/25	0.08/	254	2	8	26
16	32	24	16M	CMOS	100	8/32	144					0/33	0.06/	254	2	8	26
16	32	24	16M	HCMOS	132	8/32	88	1152x8				0/20	0.05/	15	3		
16	32	32	4G	HCMOS	144/145	8/32	96					0/25.16	0.04/		3	16	
16	32	32	4G	HCMOS	160	8/32	90					0/25	0.08/		7	7	80
16	32	32	4G	HCMOS	160	8/32	90					0/25	0.08/		7	7	80
32 Bit																	
8MHz																	
4				BIP	24							10					
32			16 M	NMOS	68	8–200	133					10	0.3				
32	32		4 G	XMOS	84	8/32	128					10					
32	32		4 G	XMOS	120							15					
32	32		16M	CMOS	68	8/32	128					10				8	8
12MHz																	
16	32	24	16M	CHMOS	100	8/32	144				Ext	2–16				8	26
16	32	24	16M	CHMOS	100	8/32	144				Ext	2–16				8	26
16	32	24	16M	CMOS	100	8/32	145					0–16				8	24
16	32	24	16M	CMOS	100	8/32	145					0–16				8	24
32	16		16 M	NMOS	48	8/24	128					10/15	0.3/22				
32	32		1 M	SOS	120	32						12					

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
	2			SEAFAC Certified to MIL-STD-1750A	P1750A-40CM	Performance	
	2			MIL-STD-1750D Memory Management and Protection Unit with block protect unit and EDAC	P1753	Performance	
	2			P1750A, P1753, and P1754 in Hybrid Chip Carrier, 20/30/40 MHz versions available	P1757M	Performance	
					MC68HC000-8	Motorola	
					MC68HC000-10	Motorola	5
				Selectable 8/16 data bus operation	MC68HC001-8	Motorola	
				Selectable 8/16 data bus operation	MC68HC001-10	Motorola	
16 lines	2 16-bit			2 Serial Ports, JTAG, 3.3 V	MC68340V-8	Motorola	
					MC68HC000-12	Motorola	
				Selectable 8/16 data bus operation	MC68HC001-12	Motorola	10
				MMU	80386SXL-16	AMD	
					MC68HC000-16	Motorola	
				Selectable 8/16 data bus operation	MC68HC001-16	Motorola	
	3 16-bit			2 Serial Ports, UART	MC68302-16	Motorola	
16 lines	2 16-bit			2 Serial Ports, JTAG	MC68340-16	Motorola	15
16 lines	2 16-bit			2 Serial Ports, JTAG, 3.3 V	MC68340V-16	Motorola	
	16-bit			2 Serial Ports, 2 Parallel Ports, UART, JTAG, CD interactive	MC68341V-16	Motorola	
	16-bit			2 Serial Ports, 2 Parallel Ports, UART, JTAG, CD interactive	MC68341-16	Motorola	
				MMU	80386SXL-20	AMD	
				MMU	80386SXL-25	AMD	20
				MMU	80386SXL-33	AMD	
	3 16-bit			2 Serial Ports, UART	MC68302-20	Motorola	
16 lines	2 16-bit			2 Serial Ports, JTAG	MC68340-25	Motorola	
	16-bit			2 Serial Ports, 2 Parallel Ports, UART, JTAG, CD interactive	MC68341-25	Motorola	
	16-bit			2 Serial Ports, 2 Parallel Ports, UART, JTAG, CD interactive	MC68341V-25	Motorola	25
				System Support, System Timing and Control Unit, special cycle for slow peripherals.	TI32201	TI	
				Full 32-Bit internal architecture, 32-Bit external data paths	TI32032	TI	
				Virtual memory	NS32332-10	National	
				Advanced slave processor for virtual memory control	NS32382-10	National	
				Virtual memory processor	NS32C032-10	National	30
					M80386SX-16	Intel	
					80386SX-16	Intel	
					AM386SX-16	AMD	
					AM386SXL-16	AMD	
					TI32016T	TI	35
					MAS1908	GEC Plessey	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	(Cont'd)
32	32		4 G	XMOS	84	8/32	128					15					
32	32		4 G	XMOS	120							15					
32	32	24	16 M	NMOS	68	8/24	128					10/15	0.3/19			8	8
32	32	24	16M	CMOS	64	8/32	133					15	0.267/8			8	8
32	32	32		CHMOS	68	8–32						16	-/0.06	3		8	
32	32	32		CHMOS	132			16KB			1KB	16	-/0.06				
32	32	32		CHMOS	132			16KB			1KB	16	-/0.06				
32	32	32		CHMOS	132			16KB			1KB	16	-/0.06				
32	32	32		CHMOS	132			16KB			1KB	16	-/0.06				
32	32	32		CHMOS	132			16KB			1KB	16	-/0.06				
32	32	32	4 G	CMOS	128	32	128					20				16	
32	32	32	4G	CHMOS		8–32						12	-/0.08	3			
32	32	32	4G	CHMOS		8–32						12	-/0.08	3		8	
32	32	32	4G	CHMOS		8–32						16	-/0.06	3			
32	32	32	4G	CHMOS		8–32						16	-/0.06	3		8	
32	32	32	4G	CMOS	114	16/32	65					12				16	
20MHz																	
16	32	24	16M	CHMOS	100	8/32	144				Ext	2–20				8	26
16	32	24	16M	CHMOS	100	8/32	144				Ext	2–20				8	26
16	32	24	16M	CMOS	100	8/32	145					0–20				8	24
16	32	24	16M	CMOS	100	8/32	145					0–20				8	24
16	32	24	16M	CMOS	100	8/32	145					0–20				8	24
16	32	24	22M	CHMOS	227	8/32					Int	0–20				8	26
32	32		4 G	CMOS	175							30					
32	32	32		CHMOS	68	8–32						20	-/0.05	3		8	
32	32	32		CHMOS	132			16KB			1KB	20	-/0.05				
32	32	32		CHMOS	132			16KB			1KB	20	-/0.05				
32	32	32		CHMOS	132			16KB			1KB	20	-/0.05				
32	32	32		CHMOS	132			16KB			1KB	20	-/0.05				
32	32	32		CHMOS	132	8–32						20	-/0.05				
32	32	32		CHMOS	196	8–32						20	-/0.05				
32	32	32	4 G	CMOS	128	32	128					20				16	
32	32	32	4G	CHMOS		8–32						20	-/0.05	3		8	
32	32	32	4G	CHMOS	132	8/32	150				Ext	0–20				8	24
32	32	32	4G	CMOS	132	8/32	150					0–20				8	24
32	32	32	4G	CMOS	132	8/32	150					0–20				8	24
32	32	32	4G	CMOS	132	8/32	150					0–20				8	24
32	32	32	4G	CMOS	132	8/56	180					24	0.08/1.9				8
25MHz																	
16	32	24	4G	CMOS	100	8/56	180					25	0.08/1.9			8	26
16	32	24	16M	CMOS	100	8/32	145					0–25				8	24
16	32	24	16M	CMOS	100	8/32	145					0–25				8	24
16	32	24	16M	CMOS	100	8/32	145					0–25				8	24
16	32	24	22M	CHMOS	227	8/32					Int	0–25				8	26
32	32		4 G	CMOS	175							30					
32	32		4 G	CMOS	175							30					

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	 A/D Converter	 D/A Converter	Comments	Device	Source	Line
				Virtual memory	NS32332-15	National	
				Advanced slave processor for virtual memory control	NS32382-15	National	
					TI32032T	TI	
					NS32C032-15	National	
				Math Coprocessor	80387DX-16	Intel	5
				DMA Controller	M82370-16	Intel	
				DMA Controller	M82380-16	Intel	
				DMA Controller	82370-16	Intel	
				DMA Controller	82380-16	Intel	
				Cache Controller	82385SX-16	Intel	10
				Object code compatible with MC68020 and MC68000 family	MC68030	Motorola	
					80386SX-12	Intel	
				Math Coprocessor	80387SX-12	Intel	
					80386SL-16	Intel	
				Math Coprocessor	80387SX-16	Intel	15
				Faster Versions also Available, Refurbished	68020	Krueger	
					M80386SX-20	Intel	
					80386SX-20	Intel	
					AM386SX-20	AMD	
					AM386SXL-20	AMD	20
					AM386SXLV-20	AMD	
				Microprocessor with Controllers and Peripheral Subsystem	80386SL-20	Intel	
					NS32532-20	National	
				Math Coprocessor	80387DX-20	Intel	
				DMA Controller	M82380-20	Intel	25
				DMA Controller	82380-20	Intel	
				Cache Controller	82385SX-20	Intel	
				Smart Cache	82396SX-20	Intel	
					82385-20	Intel	
				Smart Cache, up to 64KB	82395DX-20	Intel	30
				Object code compatible with MC68020 and MC68000 family	68030	Krueger	
				Math Coprocessor	80387SX-20	Intel	
					80386DX-20	Intel	
					AM386DX-20	AMD	
					AM386DX-25	AMD	35
					AM386DXL-20	AMD	
				Binary compatible with 8088, 8086, 80188, 80286	80386	Intel	
					803865XL-25	AMD	
					AM386SX-25	AMD	
					AM386SXL-25	AMD	40
					AM386SXLV-25	AMD	
				Microprocessor with Controllers and Peripheral Subsystem	80386SL-25	Intel	
					NS32532-25	National	
					NS32532-30	National	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Complex Instruction Set (Cont'd)

25MHz (Cont'd)

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	32		CHMOS	68	8–32						25	-/0.04	3		8	
32	32	32		CHMOS	132			16KB			1KB	25	-/0.04				
32	32	32		CHMOS	132	8–32						25	-/0.04				
32	32	32		CHMOS	196	8–32						25	-/0.04				
32	32	32	4 G	CMOS	114	16/32	65					25					
32	32	32	4 G	CMOS	114	16/32	65					25					
32	32	32	4G	CHMOS	132	8/32	150				Ext	0–25				8	24
32	32	32	4G	CHMOS	132	8/32	150				Ext	0–25				8	24
32	32	32	4G	CMOS	132	8/32	150					0–25				8	24
32	32	32	4G	CMOS	132	8/32	150					0–25				8	24
32	32	32	4G	CMOS	132	8/56	180					25	0.08/1.9	254	2	8	26
32	32	32	4G	HCMOS	179	16/128	120	4K				25					
32	32	32	4G	HCMOS	179	16/128	120	4K				25					

33MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
16	32	24	4G	CMOS	100	8/56	180					33	0.33/0.66			8	26
16	32	24	4G	CMOS	100	8/56	180					40	.025/0.5			8	26
32			4 G	CMOS	96	16,32	101					50	0.02/—				
32	32	32		CHMOS	68	8–32						33	-/0.03	3		8	
32	32	32		CHMOS	132	8–32						33	-/0.03				
32	32	32		CHMOS	196	8–32						33	-/0.03				
32	32	32	4G	CHMOS	132	8/32	150				Ext	0–33				8	24
32	32	32	4G	CMOS	132	8/32	150					0–33				8	24
32	32	32	4G	CMOS	132	8/32	150					0–33				8	24
32	32	32	4G	CMOS	132	8/32	150					0–33				8	24
32	32	32	4G	CMOS	132	8/32	150					0–40				8	24
32	32	32	4G	CMOS	132	8/32	150					0–40				8	24
32	32	32	4G	CMOS	132	8/56	180					33	0.33/0.66	254	2	8	26
32	32	32	4G	CMOS	132	8/56	180					40	0.025/0.5	254	2	8	26
32	32	32	4G	HCMOS	184	16/128	120	4K				33					
32	32	32	128M	CMOS	68	16	130					50	0.16/6				
32	32	32	128M	CMOS	68	16	130					50	0.2				
32	32	32	128M	CMOS	68	16	130					50	0.16				

32/64 Bit

12MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	32	4G	CHMOS	168	8/32	207				Int	0–16				8	32
32	64	32	4G	CHMOS	168	8–32					8K	16	-/0.06	3		14	

20MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	32	4G	CHMOS	168	8/32	207				Int	0–20				8	32
32	64	32	4G	CHMOS	168	8–32					8K	20	-/0.05	3		14	

25MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
			4G						512x48			25	-/0.04				
			4G						512x48			25	-/0.04				
32	32	32	4G	CHMOS	132	8–32											

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				Math Coprocessor	80387DX-25	Intel	
				DMA Controller	82380-25	Intel	
					82385-25	Intel	
				Smart Cache, up to 64KB	82395DX-25	Intel	
				MC68000, 68010 and 68008 are upward compatible with 68020. Separate 32-bit data and address bus. On-chip cache for speed enhancement and Co-processor Interface to extend CPU functions.	MC68020	Motorola	5
				TS68000, 68010 and 68008 are upward compatible with 68020. Separate 32-bit data and address bus. On-chip cache for speed enhancement and Co-processor Interface to extend CPU functions.	TS68020	Thomson Comp	
					M80386DX-25	Intel	
					80386DX-25	Intel	
					AM386DXL-25	AMD	
					AM386DXLV-25	AMD	10
					80386DXL-25	AMD	
					MC68040	Motorola	
				IEEE 754 Compatible Floating-Point Unit (FPU), 68030 Compatible Integer Unit	TS68040	Thomson Comp	
					803865XL-33	AMD	
					803865XL-40	AMD	15
				Module with CPU/FPU, 2 cache, MMUs and clock	CLIPPER C300	Intergraph	
				Math Coprocessor	80387DX-33	Intel	
					82385-33	Intel	
				Smart Cache, up to 64KB	82395DX-33	Intel	
					80386DX-33	Intel	20
					AM386DX-33	AMD	
					AM386DXL-33	AMD	
					AM386DXLV-33	AMD	
					AM386DX-40	AMD	
					AM386DXL-40	AMD	25
					80386DXL-33	AMD	
					80386DXL-40	AMD	
				3.3 V, Low Power	MC68040V	Motorola	
				Graphics System Processor	SMJ34010-40	TI	
				Graphics System Processor	TMS34010-40	TI	30
				Graphics System Processor	TMS34010-50	TI	
				On-chip Coprocessor	80486SX-16	Intel	
				Math Coprocessor	80487SX-16	Intel	
				On-chip Coprocessor	80486SX-20	Intel	
				Math Coprocessor	80487SX-20	Intel	35
				Pixel Processor	82750DB	Intel	
				Pixel Processor	82750PB	Intel	
				Cache Controller	82485-25	Intel	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Complex Instruction Set (Cont'd)

25MHz (Cont'd)

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	32	4G	CHMOS	168	8/32	207				Int	0–25				8	32
32	32	32	4G	CHMOS	168	8/32	207				Int	0–25				8	32
32	64	32	4G	CHMOS	168	8–32					8K	25	-/0.04	3		14	

33MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	32	4G	CHMOS	132	8–32											
32	32	32	4G	CHMOS	168	8/32	207				Int	0–33				8	32
32	32	32	4G	CHMOS	168	8/32	207				Int	0–50				8	32
64	128		64M	CMOS							8KB	40	-/0.025				
64	128		64M	CMOS							8KB	40	-/0.025				
64	128		64M	CMOS	84							50	-/0.025				
64	128		64M	CMOS	84						512KB	50	-/0.02				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				On-chip Coprocessor	80486DX-25	Intel	
				On-chip Coprocessor	80486SX-25	Intel	
				Math Coprocessor	80487SX-25	Intel	
				Cache Controller	82485-33	Intel	
				On-chip Coprocessor	80486DX-33	Intel	5
				On-chip Coprocessor	80486DX-50	Intel	
					M80860	Intel	
					80860	Intel	
				Cache Controller	82495XP	Intel	
				Cache RAM	82490XP	Intel	10

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Reduced Instruction Set

32 Bit

12MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	28		CMOS	160	32	88					16	60/360		15	104	
32	32	32		CMOS	168	64	113				32x4	16	.062/-				
32	32	32	4 G	CMOS	144	32	74					16	0.062				
64	64	36	64 G	.7 Mcron	179 or 447	32	52				8KI 8KD	1/12	2	6	32	32	

20MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32		4 M	CMOS	149	32	25					20					
32	32	32					51					20				32	
32	32	32	4G	CMOS	169	32	125				1Kx8	20	0.025/0.4	2+	4	192	161
32	32	32	4G	CMOS	208						2K	20					
32	32	32	256M	CMOS	160	32	88					20	50/250		15	104	
32	32	38	4G		160	32/160	74				4Kx8	20	2.5		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	20	2.5		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	20	2.5/		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	20	2.5		6	32	3
32	64	32	4G	CMOS	208	32	88				10K	20	50/250		15	136	
32	64	32	4G	CMOS	208	32	88				10K	20	25/125		15	136	
32	64	32	4G	CMOS	256	32	88				4K	20	50/250		15	136	

25MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	32	4 G	CMOS	144	32	74					25	0.04				
32	32	32	4 G	CMOS	168	32	112					25	0.04/0.16				
32	32	32	4 G	CMOS	179	32	70					25					
32	32	32	4 G	CMOS	207	32	60	136x32				25				136	
32	32	32	4 G	CMOS	207	32	60	136x32				25				136	
32	32	32	4G	CMOS	155	32	37				8K-I 1K-D	25	1/13	2	6	32	
32	32	32	4G	CMOS	169	32	125					25	0.025/0.4	2+	4	192	161
32	32	32	4G	CMOS	179	32	67					20/25	0.06/—			120	
32	32	32	4G	CMOS	207	32	64					25				136	
32	32	32	4G	CMOS	208						2K	30					
32	32	38	4G		160	32/160	74					25	2		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	25	2		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	25	2		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	25	2		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	25	2		6	32	3
32	64	32	4G	CMOS	223	32	66				4K	32	0.033/-		15	105	
32	64	32	4G	CMOS	223	32	66				4K	32	0.033/-		15	105	
64	32	32	1G	CMOS	208	32	70	128			1K-D 4K-I	25	1	5	3	32	60
64	64	32	4 G	CMOS	223	32	66				4KI 1KD	16/32	0.06/	9	4	32	73
64	64	32	4 G	CMOS	223	32	66				4KI 1KD	16/32	0.06/	9	4	32	73

33MHz

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
32	32	22	4G	CMOS	175	32	76				8KI 1KD	33	0.03/0.15	2	6	32	
32	32	32	1G	CMOS	145	32	76					33	0.03/0.15			32	
32	32	32	4 G	CMOS	207	32	60	136x32				33				136	

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
	1			SPARClite Embedded Family, lower-cost SPARC chip	**MB86933-16**	**Fujitsu (3635)**	
					AM29005	AMD	
					79R2000	IDT	
	1 32 bit			Super Pipeline High Performance General Purpose Processor	LR4000MC	NEC	
					VL86C020	VLSI Tech	5
				IEEE 754 floating point compatibility	TS88100	Thomson Comp	
				Three Bus Architecture, 16 MIPS	AM29050-20	AMD	
	1 16-bit				**MB86930-20**	**Fujitsu (3633)**	
	1 16-bit			SPARClite Embedded Family, lower-cost SPARC chip	**MB86933-20**	**Fujitsu (3635)**	
				Read and Write Buffers	SABR3051-20	Siemens	10
				MMU (with Virtual Memory), Read and Write Buffers	SABR3051E-20	Siemens	
				Read and Write Buffers	SABR3052-20	Siemens	
				MMU (with Virtual Memory), Read and Write Buffers	SABR3052E-20	Siemens	
	1			SPARClite Embedded Family, two DMA Channels	**MB86932-20**	**Fujitsu (3634)**	
	1			SPARClite Embedded Family, two DMA Channels	**MB86932-40**	**Fujitsu (3634)**	15
	5			SPARClite Embedded Family, two USART ports	MB86931-20	Fujitsu	
					79R3000	IDT	
				RISC processor, 32-Bit three-bus architecture	AM29000	AMD	
				SPARC (RISC)	L64801	LSI Logic	
					CY7C601-25C	Cypress	20
					CY7C601-25M	Cypress	
	2 24-bit;1 12-bit			R3000 Compatible CPU Core, MIPS embedded processor	LR33000-25	LSI Logic	
				Three Bus Architecture, 20 MIPS	AM29050-25	AMD	
				SPARC processor	MB86901	Fujitsu	
					CY7C601A-25C	Cypress	25
	1 16-bit				**MB86930-30**	**Fujitsu (3633)**	
				Floating Point Accelerator, On-chip Cache Control and MMU	SABR3500-25	Siemens	
				Read and Write Buffers	SABR3051-25	Siemens	
				MMU (with Virtual Memory), Read and Write Buffers	SABR3051E-25	Siemens	
				Read and Write Buffers	SABR3052-25	Siemens	30
				MMU (with Virtual Memory), Read and Write Buffers	SABR3052E-25	Siemens	
	1 16-bit			Floating-point, two DMA Chans, bus/int freq	NS32SF640-16/32	National	
	1 16-bit			Floating-point, two DMA Chans, bus/int freq	NS32SF641-16/32	National	
4	1–24 bit,1–12 bit			R3000 Compatible CPU + Graphics Controller + DRAM (nt)	LR33020-25	LSI Logic	
1 SIO	1 16 bit			Superscaler Processor	NS32SF640-16	National	35
1 SIO	1 16 bit			Superscaler Processor w/ Floating Point Unit	NS32SF641-16	National	
					TC85R3000A	Toshiba	
					SABR3000A	Siemens	
					CY7C601-33C	Cypress	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Reduced Instruction Set (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
33MHz																	**(Cont'd)**
32	32	32	4 G	HCMOS	208	32	88	136x32				33	0.03				
32	32	32	4G		207	32						33					
32	32	32	4G	CMOS	155	32	37				8K-I 1K-D	33	1/13	2	6	32	
32	32	32	4G	CMOS	169	32	125					33	0.025/0.4	2+	4	192	161
32	32	32	4G	CMOS	207	32	60	136x32				33				136	
32	32	38	4G		160	32/160	74					33	1.5		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	33	1.5		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	33	1.5		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	33	1.5		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	33	1.5		6	32	3
64	32	32	1G	CMOS	208	32	70	128			1K-D 4K-I	33	1	5	3	32	60
40MHz																	
32	32	24		CMOS	160							40				136 32-bit	
32	32	32	1G	CMOS	160	32	74				4K-I 1K-D	25, 33, 40	1	2	6	64	
32	32	32	4 G	1 Micron	155 or 160		37				8K-I 1K-D	25 33 40	1/13	2	6	32	
32	32	32	4G		207	32						40					
32	32	32	4G	CHMOS	168	8/32	207				x	0/50				8	32
32	32	32	4G	CMOS	155	32	37				8K-I 1K-D	40	1/13	2	6	32	
32	32	32	4G	CMOS	169	32	125					40	0.025/0.4	2+	4	192	161
32	32	32	4G	CMOS	207	32	60	136x32				40				136	
32	32	32	4G	CMOS	207	32	64					40				136	
32	32	32	4G	CMOS	208						2K	40					
32	32	32	4G	CMOS	208	32	88	64x32, 8x32	1024xP			40	0.025	13	15	136	
32	32	38	4G		160	32/160	74					40	1.25		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	40	1.25/		6	32	3
32	32	38	4G		160	32/160	74				4Kx8	40	1.25		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	40	1.25/		6	32	3
32	32	38	4G		160	32/160	74				8Kx8	40	1.25		6	32	3
32	64	32	4G	CMOS	223	32	66				4K	40	0.025/-		15	105	
32	64	32	4G	CMOS	223	32	66				4K	40	0.025/-		15	105	
32	64	32	4G	CMOS	223	32	66				4K	50	0.020/-		15	105	
32	64	32	4G	CMOS	223	32	66				4K	50	0.020/-		15	105	
32	64	32	4G	HCMOS	304	32					32K	60			1	32	x
64	32	32	1G	CMOS	208	32	70	128			1K-D 4K-I	40	1	5	3	32	60
64	64	32	4 G	CMOS	223	32	66				4KI 1KD	20/40	0.05/	9	4	32	73
64	64	32	4 G	CMOS	223	32	66				4KI 1KD	20/40	0.05/	9	4	32	73
64	64	32	4 G	CMOS	223	32	66				4KI 1KD	25/50	0.04/	9	4	32	73
64	64	32	4 G	CMOS	223	32	66				4KI 1KD	25/50	0.04/	9	4	32	73
64	64	36	54 G	.7 Mcron	179 or 447	32	52				8KI 8KD	50	1/12	2	6	32	32

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				SPARC	L64811	LSI Logic	
				Version 7 SPARC Architecture	MB86903-33	Fujitsu	
	2 24-bit;1 12-bit				LR33000-33	LSI Logic	
				Three Bus Architecture, 26 MIPS	AM29050-33	AMD	
					CY7C601A-33C	Cypress	5
				Floating Point Accelerator, On-chip Cache Control and MMU	SABR3500-33	Siemens	
				Read and Write Buffers	SABR3051-33	Siemens	
				MMU (with Virtual Memory), Read and Write Buffers	SABR3051E-33	Siemens	
				Read and Write Buffers	SABR3052-33	Siemens	
				MMU (with Virtual Memory), Read and Write Buffers	SABR3052E-33	Siemens	10
4	1–24 bit,1–12 bit			R3000 Compatible CPU + Graphics Controller + DRAM (nt)	LR33020-33	LSI Logic	
					CY7C611A-25C	Cypress	
	2–24 bit,1–12 bit			R3000 Compatible CPU + R3010 Compatible FPU + DRAM (nt)	LR33050	LSI Logic	
	2 24-bit 1 12-bit			R3000 Compatible CPU Core MIPS Embedded Processor	LR33000	LSI Logic	
				Version 7 SPARC Architecture	MB86903-40	Fujitsu	15
				JTAG, 3.3/5 V	80486DX2-50	Intel	
	2 24-bit;1 12-bit			R3000 Compatible CPU Core, MIPS embedded processor	LR33000-40	LSI Logic	
				Three Bus Architecture, 32 MIPS	AM29050-40	AMD	
					CY7C601A-40C	Cypress	
					CY7C601A	Cypress	20
	1 16-bit				**MB86930-40**	**Fujitsu (3633)**	
				Conforms to SPARC 7 architecture	L64831-40	LSI Logic	
				Floating Point Accelerator, On-chip Cache Control and MMU	SABR3500-40	Siemens	
				Read and Write Buffers	SABR3051-40	Siemens	
				MMU (with Virtual Memory), Read and Write Buffers	SABR3051E-40	Siemens	25
				Read and Write Buffers	SABR3052-40	Siemens	
				MMU (with Virtual Memory), Read and Write Buffers	SABR3052E-40	Siemens	
	1 16-bit			Floating-point, two DMA Chans, bus/int freq	NS32SF640-20/40	National	
	1 16-bit			Floating-point, two DMA Chans, bus/int freq	NS32SF641-20/40	National	
	1 16-bit			Floating-point, two DMA Chans, bus/int freq	NS32SF640-25/50	National	30
	1 16-bit			Floating-point, two DMA Chans, bus/int freq	NS32SF641-25/50	National	
				32 FPR	MPC601	Motorola	
4	1–24 bit,1–12 bit			R3000 Compatible CPU + Graphics Controller + DRAM (nt)	LR33020-40	LSI Logic	
1 SIO	1 16 bit			Superscaler Processor	NS32SF640-20	National	
1 SIO	1 16 bit			Superscaler Processor w/ Floating Point Unit	NS32SF641-20	National	35
1 SIO	1 16 bit			Superscaler Processor	NS32SF640-25	National	
1 SIO	1 16 bit			Superscaler Processor w/ Floating Point Unit	NS32SF641-25	National	
	1 32-bit			Super Pipeline High Performance General Purpose Processor	LR4000PC	LSI Logic	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Reduced Instruction Set (Cont'd)

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
40MHz																	**(Cont'd)**
64	64	36	54G	CMOS	179	32	52				8K1 8KD	50	1/12	2	6	32	32
64	64	36	64G	CMOS	447	32	52				8KI 8KD	50	1/12	2	6	32	32
64	64	64	64 G			32	52				8KI 8KD	50	1/12	2	6	32	32
64	64	64	64G	CMOS	447	32	52				8KI 8KD	50	1/12	2	6	32	32
								64 Bit									
50MHz																	
64	64	32	4G	CMOS	304						32K	0/50	0.007/		1	32	
64	64	32	4G	CMOS	304						32K	0/50	0.007/		1	32	
64	64	32	4G	CMOS	304						32K	0/66	0.006/		1	32	
64	64	32	4G	CMOS	304						32K	0/66	0.006/		1	32	
64	64	36	54 G	0.7	179 or 447	32	52				8KI 8KD	50	1/12	2	6	32	32
64	64	36	54G	CMOS	208							50				64-Bit	

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	 A/D Converter	 D/A Converter	Comments	Device	Source	Line
					TC85R4000PC	Toshiba	
					TC85R4000MC	Toshiba	
	1 32 bit			Super Pipeline High Performance General Purpose Processor	LR4000SC	LSI Logic	
		1 32-bit			TC85R4000SC	Toshiba	
184				3.6 V	PPC601FA50-1	IBM	5
184				3.6 V	MPC601FA50-1	Motorola	
184				3.6 V	PPC601FA66-1	IBM	
184				3.6 V	MPC601FA66-1	Motorola	
	1 32-bit			Super Pipeline High Performance General Purpose Processor	SABR4000	Siemens	
					TC86R4600	**Toshiba (3834)**	10

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
LESS THAN 1MHz								4 Bit									
4			4K	CMOS	80	12	100	208x4	4096x12			0.5	11/366				
4			4K	CMOS	100	12	100	432x4	4096x12			0.5	11/366				
4			4K	CMOS	100	12	104	480x4	4096x12			0.5	11/366				
4			4K	CMOS	100	12	104	480x4	4096x12			0.5	153/366				
4	4			CMOS	DIE		59	120x4	2560x14			33K	91.5	2	1		
4	4			CMOS	100		65	1024x4	4096x15			33K	61	2	1		
4	4	4		CMOS	DIE		42	90x4	1792x14			33k	122 us				
4	4	4		CMOS	80		40	62x4	1024x14			33K	122				
4	4	4		CMOS	80		42	62x4	1280x14			33K	122				
4	4	4		CMOS	80		42	96x4	1792x14			33K	122				
4	4	4		CMOS	80		42	96x4	1792x14			33K	122				
4	4	8		CMOS	42/44		90	168x4	4Kx8			0.96	8.3	4	2		
4	4	8		CMOS	56		68	128x4	2Kx8			33K	91.5	2	1		
4	4	8		CMOS	56		68	128x4	2Kx8			33k	91.5	2	1		
4	4	8		CMOS	80		92	1Kx4	8Kx8			0.96	8.3	4	2		
4	4	8	1280	CMOS	42/48	8	51	64x4/ 16x4	1Kx8			0.032	5	1	2		
4	4	8	2048	CMOS	30/36	8	50	128x4	2Kx8			.5	61	1	2		
4	4	8	4096	CMOS	64	8	98	128x4/ 32x4	4Kx8			0.032	16	4	1		
4	4	8	8196	CMOS	100	8	98	256x4	8Kx8			0.32	2	4	1		
4	4	12	1K	CMOS	80	12	100	80x4	1Kx12			0.5	153/366	3	2		
4	4	12	1K	CMOS	80	12	100	80x4	1Kx12			0.5	153/366	3	2		
4	8			CMOS	64		92	128x4	2K			0.41		2	2		
4	8			CMOS	64		92	244x4	4K			0.41		2	2		
4	8		1K	CMOS	20	8	47	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	20	8	47	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	20	8	47	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	20	8	47	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	24	8	45	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	24	8	45	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	24	8	45	64x4	1Kx8			0.7	2.86				
4	8		1K	CMOS	24	8	45	64x4	1Kx8			0.7	2.86				
4	8		2K	CMOS	40	8	92	128x4	2Kx8			0.5	5		4	4	
4	8		2K	CMOS	40	8	92	208x4	4Kx8			0.28	10		4	4	
4	8		2K	CMOS	40	8	92	224x4		2Kx8		0.5			4	4	
4	8		2K	CMOS	40	8	92	224x4	4x8			0.5	4		4	4	
4	8		2K	CMOS	42	8	67	128x4	2Kx8			0.6	3.3	2	1		
4	8	9	512	NMOS	24	8	40	32x4	512			0.25	15/40				
4	8	9	512	NMOS	40	8	40	32x4				0.5	16/40				
4	8	9	512	NMOS	40	8	40	32x4				0.5	16/40				
4	8	11	1K	CMOS	20	8		64x4	1Kx8			0.25	4/dc			3	
4	8	11	512	CMOS	20	8	40	32x4	512			0.25	4/dc				
4	8	11	512	CMOS	20	8	40	32x4	512x8			0.50	16/dc				
4	8	11	512	CMOS	24	8	40	32x4	512			0.25	4/dc				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
				LCD Driver/Controller, Analog Comparator, Watchdog Timer, LED Remote Transmitter, BLD Circuit	SMO.SMC6214		
				Similar to SMC6214 with more RAM, LCD segments, Larger package	SMO.SMC6215		
				Twin clock version of SMC6234	SMO.SMC62A34		
				Low power version of SMC6234	SMO.SMC62L34		
13 lines	1			63 LCD	OKI.MSM6051		5
20 lines	1			58 LCD	OKI.MSM6351		
8 lines	1			Low voltage, 38 LCD/ALU	OKI.MSM5056		
10 lines	1			44 LCD	OKI.MSM5054		
13 lines	1			26 LCD	OKI.MSM5052		
12 lines	1			60 LCD	OKI.MSM5055		10
12 lines	1			60 LCD	OKI.MSM5055L		
35	2–12bit			DTMF Output	**TOS.TMP47C453A**	**(3823)**	
8 lines	1			LCD Driver/Buzzer	OKI.MSM6502		
8 lines	1			LCD Driver/Buzzer	OKI.MSM6512		
36	2–12bit			LCD Driver/DTMF	TOS.TMP47C856		15
19 lines 6/in, 5 out		1 12-bit		16x4 segment LCD driver, 3V operation	SHA.5M5K1		
24 lines 8/in, 4/out	1 8-bit, 1 15-bit	10bitx4		Low voltage, Power Supply Controller	SHA.5M5K5		
24 (I/O), 4/in 36 LCD		1 8-bit		Low power, 128 segment LCD driver	SHA.SM563		
24 (I/O) 4/in 68 LCD	1 8-bit			8-bit SIO, 256 segment LCD driver carrier output circuit for remote control	SHA.SM565		
12 lines				Low power version of SMC6231	SMO.SMC62L31		20
12 lines				LCD Driver/Controller, BLD Circuit, Timer, Stopwatch Timer	SMO.SMC6231		
23 lines	1 8-bit			LCD controller/driver	NEC.uPD7502A		
23 lines	1 8-bit			LCD controller/driver	NEC.uPD7503A		
16 lines	1 8-bit				NEC.uPD75P54		
16 lines	1 8-bit				NEC.uPD75P64		25
16 lines	1 8-bit				NEC.uPD7554A		
15 lines	1 8-bit				NEC.uPD7564A		
20 lines	1 8-bit				NEC.uPD75P56		
19 lines	1 8-bit				NEC.uPD75P66		
20 lines	1 8-bit				NEC.uPD7556A		30
19 lines	1 8-bit				NEC.uPD7566A		
32 lines	1 8-bit				NEC.uPD7507B		
32 lines	1 8-bit			Vacuum fluorescent display driver, 8-bit serial interface,	NEC.uPD7508A		
32 lines	1 8-bit				NEC.uPD75CG08E		
32 lines	1 8-bit				NEC.uPD7508B		35
35 lines	1 8-bit			Direct drive FIP–31 lines, Zero cross detection circuit.	NEC.uPD7537A		
16 lines				COP310L has extended temperature range (–40°C to –85°C).	NTL.COP410L		
				Same as COP401L except emulates COP413L with selected RC oscillator option.	NTL.COP401L-R13		
				Same as COP401L except emulates COP413L with selected RC oscillator option.	NTL.COP401L-X13		
16 lines	1 8-bit			COP424C less eight general purpose inputs.	NTL.COP426C		40
16 lines				2 level subroutine stack, COP311C operates extended temperature range, COP211C operates full temperature range.	NTL.COP411C		
16 lines				COP313C has extended temperature range (–40°C to 85°C)	NTL.COP413C		
20 lines				2 level subroutine stack, COP310C operates extended temperature range, COP210C operates full temperature range.	NTL.COP410C		

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
LESS THAN 1MHz																	**(Cont'd)**
4	8	11	512	NMOS	20	8		64x4	512			.25	16				
8	8	8	8192	CMOS	72	8	81	128x8	8Kx8			0.032	10	4	3		
8	8	8	16384	CMOS	72	8	74	512x8	16384x8			.032	1.09	6	2		
1MHz																	
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			1	8				
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			1	8				
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			1	8				
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			1	8				
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			1	8				
4	4	8		CMOS	22	4/16	35	16x4	1Kx8			1	8				
4	4	12	4K	CMOS	28		110	244	4K			0.032–8	1/	4	2		
4	4	12	4K	CMOS	28		110	244	4K			0.032–8	1/	4	2		
4	4	12	4K	CMOS	40		110	244	4K			0.032–8	1/	4	2		
4	4	12	4K	CMOS	42		110	244	4K			0.032–8	1/	4	2		
4	8	11	2K	NMOS	40	8	49	160x4	2Kx8			1	4/10		4		
2MHz																	
4			2048	NMOS	40	8	49	128x4				2.1	16/40				
4	4			CMOS	40		52	640x4	2Kx14			3.58	17.9	2			
4	4			CMOS	42			1Kx4	4Kx15			3.58	17.9				
4	4	8		BiCMOS	64		147	512x4		Ext		4.3	0.93	5	2		
4	4	8		CMOS	28	4/16	24	112x4	2Kx8			2	8				
4	4	8		CMOS	28	4/16	24	112x4	2Kx8			2	8				
4	4	8		CMOS	28	4/16	24	112x4	4Kx8			2	8				
4	4	8		CMOS	28	16		64x4	768x16			2	8		1		
4	4	8		CMOS	28	16		104x4	1Kx16			2	8		1		
4	4	8		CMOS	30		90	168x4	4Kx8			3.84	2.1	3	2		
4	4	8		CMOS	42		90	768x4	4Kx8			3.84	2.1	3	2		
4	4	8		CMOS	42		122	256x4		Ext		4.2	0.952	4	1		
4	4	8	1024	CMOS	48	8	94	80x4	1Kx8			2.3	1.74	3	2		
4	8	11	1K	NMOS	28	8	49	64x4	1Kx8			2.1	4/10		1	3	
4	8	11	1K	NMOS	28	8	49	64x4	1Kx8			2.1	4/dc				
4	8	11	2K	CMOS	24	8		128x4	2Kx4			4	4/dc				
4	8	11	2K	NMOS	24	8	49	128x4	2Kx8			2.1	15/40				
4	8	11	2K	NMOS	28	8	49	128x4	2Kx8			2.1	15/40				
4	8	11	2K	NMOS	28	8	49	128x4	2Kx8			2.1	15/40				
4	8	11	2K	NMOS	40	8	49	128x4				2.1	16/40				
4	8	11	512	CMOS	20	8	40	32x4	512x8			2.0	4/dc				
4	8	11	512	NMOS	40	8	40	32x4				2.097	15/40				

I/O Ports	Peripherals (No./Resolution)					
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source
					NTL.COP414L	
43 lines 23/in, 16/out	2 8-bit	8-bitx6		Built in LCD driver for 40 segments; low voltage operation	SHA.SM8405	
59 lines 19/in, 18/out	6 8-bit	8bitx7		Built in MSK data communication circuit; 16 high current parts	SHA.SM8410	
11 I/O					μPD17P107	NEC
16 I/O					μPD17P108	NEC
11 I/O				Low voltage	μPD17107L	NEC
16 I/O					μPD17108	NEC
16 I/O				Low voltage	μPD17108L	NEC
11 I/O					μPD17107	NEC
18 lines	2 12-bit			Sleep/Hold	HM75400AM	Hualon Micro
18 lines	2 12-bit			Sleep/Hold	HM75400AP	Hualon Micro
27 lines	2 12-bit			Sleep/Hold	HM75400BP	Hualon Micro
28 lines	2 12-bit			Sleep/Hold	HM75400CR	Hualon Micro
35 lines	1 8-bit			CPU version of COP2440 series, COP340 is extended temperature range version. 40 pins.	COP440	National
				Same as COP404LP except push pull memory interface drivers.	COP404LS	National
24 lines	1 4-bit			LED Driver	MSM6352	OKI
20 lines				LED Driver, Low voltage, Serial Port	MSM6353	OKI
48 lines	1 8-bit, 1 12-bit			Ext EPROM, LED Driver	MSC6458VS	OKI
21 I/O				Serial communication, timer, A/D converter	μPD17P136	NEC
21 I/O				Serial communication, timer, A/D converter	μPD17134	NEC
21 I/O				Serial communication, timer, A/D converter	μPD17136A	NEC
18 lines	8-bit			Serial Interface, 2.5 to 5.5 V	μPD17120	NEC
18 lines	8-bit			Serial Interface, 4 Channel Comparator, 2.5 to 5.5 V	μPD17132	NEC
23	2–12bit			DTMF Output	**TMP47C454A**	**Toshiba (3823)**
35				DTMF Output	**TMP47C407A**	**Toshiba (3823)**
36 lines	2 12-bit, 1 8-bit			Ext 4Kx8 EPROM 8-bit SIO	MSM6404VS	OKI
36 lines 4/in, 8/out	1 8-bit			3V capable, 8-bit SIO	SM550	Sharp
23 lines				COP32X is extended temperature range version. Also available in smaller packages: COP421 series–24 pins, COP422 series–20 pins.	COP420	National
23 lines					COP420L	National
	1 8-bit			COP444C less 4 general-purpose inputs.	COP445C	National
12 lines					COP445L	National
23 lines					COP444L	National
				Piggyback Microcontroller: CPU, RAM, I/O and EPROM socket. Accepts: MM2716, NMC27C16, MM2758A, MM27588 EPROMs. Same electrical specs as base P/N.	COP444LR	National
				Has piggyback EPROM socket. Will accept MM2716, 2758A, 2758B or NM27C16 EPROM. 2K Byte accessable. Open drain memory interface drivers.	COP404LP	National
16 lines				20 pins COP313CH has extended temperature range.	COP413CH	National
				Romless microcontroller, emulated COP410L/COP411L, interfaces with external memory, will accept MM2716, NM27C16, MM2758A, MM2758B 1K byte accessories.	COP401L	National

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	
0	4	11	1920 B	CMOS	28/44	8/24	62	64x4	1920 Bytes			5	.95	2	2	4	
0	4	13	8KB	CMOS	80	8/24	107	512x4	8K			5	.95	4	12	8	
0	4	15	32KB	CMOS		8/24	141	1024x4	32KB			5	.95	6	4	32	
4			16K	CMOS	64	8	139	512x4	16Kx8			5	0.95	3	5		
4			1536	CMOS	60	8	52	40x4	1536x8			4	8/16				
4	4	8		BiCMOS	64 SDIP		147	512x4	8Kx8			4.3	0.93	5	2		
4	4	8		CMOS	16			64x4	1Kx8			4.2	1.3	4	2		
4	4	8		CMOS	16			128x4	2Kx8			4.2	1.3	4	2		
4	4	8		CMOS	16		63	32x4	1Kx8			4.2	0.95	1	1		
4	4	8		CMOS	20			64x4	1Kx8			4.2	1.3	4	2		
4	4	8		CMOS	20			128x4	2Kx8			4.2	1.3	4	2		
4	4	8		CMOS	24		63	64x4	2Kx8			4.2	0.95	1	1		
4	4	8		CMOS	28		90	64x4	1Kx8			4.2	1.3	4	2		
4	4	8		CMOS	28		90	128x4	2Kx8			4.2	1.3	4	2		
4	4	8		CMOS	28		90	128x4	2Kx8			4.2	1.9	4	2		
4	4	8		CMOS	30		89	128x4	2Kx8			4.2	1	4	2		
4	4	8		CMOS	30		89	128x4	2Kx8			4.2	1.9	4	2		
4	4	8		CMOS	30		89	128x4	2Kx8			4.2	1.9	3	2		
4	4	8		CMOS	30		89	142x4	3Kx8			4.2	1.9	3	2		
4	4	8		CMOS	30		113	256x4	4Kx8			4.2	0.95	3	1		
4	4	8		CMOS	30		192x4	3Kx8	3Kx8			4.2	1.9	4	2		
4	4	8		CMOS	42		90	128x4	2Kx8			4.2	1.9	4	2		
4	4	8		CMOS	42		90	256x4	4Kx8			4.2	1.9	4	2		
4	4	8		CMOS	42		122	256x4	4Kx8			4.2	0.95	4	1		
4	4	8		CMOS	42		122	256x4	8Kx8			4	1	4	1		
4	4	8		CMOS	42/44		92	512x4	8Kx8			4.2	1.9	4	2		
4	4	8		CMOS	42/44		92	512x4	8Kx8			4.2	1.9	4	2		
4	4	8		CMOS	48	4/16	35	224x4	8Kx8			4.5	4.44				
4	4	8		CMOS	48	16	35	224x4	3836x16			4.5	4.44	3	1		
4	4	8		CMOS	52	4/16	24	336x4	8Kx8			4	4				
4	4	8		CMOS	52	4/16	35	336x4	8Kx8			4	4				
4	4	8		CMOS	64		89	192x4	2Kx8			4.2	1.9	4	2		
4	4	8		CMOS	64		89	256x4	4Kx8			4.2	1.9	4	2		
4	4	8		CMOS	64		89	256x4	4Kx8			4.2	1.9	4	2		
4	4	8		CMOS	64	4/16	35	112x4	4Kx8			4	4				
4	4	8		CMOS	80		71	128x4	2Kx8			4.2	0.95	3	1		
4	4	8		CMOS	80		92	384x4	6Kx8			4.2	1.9	4	2		
4	4	8		CMOS	80		92	512x4	8Kx8			4.2	1.9	4	2		
4	4	8		CMOS	80	4/16	35	320x4	8Kx8			4.5	4.44				
4	4	8		CMOS	80	4/16	35	336x4	6Kx8			4	4				
4	4	8		CMOS	80	4/16	35	336x4	6Kx8			4	4				
4	4	8		CMOS	80	4/16	35	336x4	8Kx4			4	4				
4	4	8		CMOS	80	4/16	35	432x4	16Kx8			4.5	4.44				
4	4	8		CMOS	80	16	35	320x4	8Kx8			4.5	4.44	3	2		

I/O Ports	Peripherals (No./Resolution)			Comments	Device	Source	Line
No./Type	Timer/Counter	A/D Converter	D/A Converter				
6 Input 12I/O 8 Open Dr. I/O	(1) 8-bit			8-Bit Serial Channel	µPD75402A	NEC	
8 Input 20 I/O 8 Open dr. I/O	(2) 8-bit (1) 14-bit			LCD Controller/Driver Low Voltage 2.0–6.0V	µPD75308B	NEC	
8 CMOS IN. 20 CMOS I/O	3 8-bit (1) 14-bit			FIP Controller/Driver 8-bit Serial Channel	µPD75218	NEC	
52 lines	3 8-bit				µPD75116	NEC	
13 lines	1 12-bit			40 LCD segment output.	MSM58421GS	OKI	
48 lines	1 8-bit, 1 12-bit			FLT Driver	MSM6458	OKI	
11				LED Driver	**TMP47C101**	**Toshiba (3822)**	
11				LED Driver	**TMP47C201**	**Toshiba (3822)**	
8 lines				LED Driver	MSM6411	OKI	
15				LED Driver	**TMP47C102**	**Toshiba (3822)**	
15				LED Driver	**TMP47C202**	**Toshiba (3822)**	
18 lines				LED Driver	MSM6422	OKI	
23				8-Bit SIO, LED Driver	**TMP47C103**	**Toshiba (3822)**	
23				8-Bit SIO, LED Driver	**TMP47C203**	**Toshiba (3822)**	
21	2–12bit	8 bit		LED Driver	**TMP47C241**	**Toshiba (3822)**	
22	2–12bit	3 bit	6 bit	LED Driver	**TMP47C236A**	**Toshiba (3823)**	
24	2–12bit	3 bit	14 bit 8 bit		**TMP47C237A**	**Toshiba (3823)**	
23				LED Driver	**TMP47C242B**	**Toshiba (3823)**	
24	2–12bit	3 bit	14 bit	LED Driver	**TMP47C337A**	**Toshiba (3823)**	
12 lines	2 12-bit, 1 8-bit	1 8-bitx4		LED Driver, Low power	MSM6434	OKI	
22	2–12bit	3 bit	6 bit	LED Driver	**TMP47C336A**	**Toshiba (3823)**	
35	2–12bit			VFT Driver	**TMP47C212A**	**Toshiba (3823)**	
35	2–12bit			VFT Driver	**TMP47C412A**	**Toshiba (3823)**	
36 lines	2 12-bit, 1 8-bit			Low power	MSM6404A	OKI	
36 lines	1 8-bit, 2 12-bit			Low power, LED Driver	MSM6408	OKI	
30	2–12bit	3 bit	14 bit	LED Output	**TMP47C834**	**Toshiba (3824)**	
30	2–12bit	1–3bit	1–14bit,1-bit	LED Driver/On Screen DISP	TMP47P834	Toshiba	
32 I/O				Serial communication, A/D and D/A converters, PLL	µPD17P001	NEC	
32 lines	16-bit	6-bit x 6	8-bit x 3	8-bit Serial Port, Prescaler, PLL, IF Counter	µPD17001	NEC	
27 I/O				Serial communication, learning remote controller, timer, LCD, 16K SRAM	µPD17203A	NEC	
27 I/O				Serial communication, learning remote controller, timer, LCD, 16K SRAM	µPD17P203A	NEC	
28	2–12bit			LCD Driver	**TMP47C221A**	**Toshiba (3823)**	
28	2–12 bit			LCD Driver	**TMP47C421A**	**Toshiba (3823)**	
28	2–12bit 1–16bit			LCD Driver	**TMP47C423A**	**Toshiba (3823)**	
16 I/O				Timer, LCD	µPD17202A	NEC	
16 lines	1 8-bit, 1 12-bit			LCD Driver/Buzzer	MSM6442	OKI	
35		5 bit		LCD Driver	**TMP47C647**	**Toshiba (3824)**	
35		5 bit		LCD Driver	**TMP47C847**	**Toshiba (3824)**	
63				Serial communication, A/D and D/A converters, LCD, PLL	µPD17P003	NEC	
19 I/O				Serial communication, timer, A/D converter, LCD	µPD17P201	NEC	
19 I/O				Serial communication, timer, A/D converter, LCD	µPD17201A	NEC	
19 I/O				Serial communication, timer, A/D converter, LCD	µPD17207	NEC	
61				Serial communication, A/D and D/A converters, LCD, PLL	µPD17P010	NEC	
63 I/O		6-bit x 6	8-bit x 3	Serial communication, LCD, PLL	µPD17003A	NEC	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
4	4	8		CMOS	80	16	35	320x4	3836x16			4.5	4.44	4	2		
4	4	8		CMOS	80	16	35	432x4		7932x16		4.5	4.44	3	2		
4	4	8		CMOS	80	16	35	432x4	7932x16			4.5	4.44	3	2		
4	4	8		CMOS	80	16	35	432x4	7932x16			4.5	4.44	4	2		
4	4	8		CMOS	80	16	35	896x4	12032x16			4.5	1.78	4	2		
4	4	8		CMOS	80	35	896x4	24Kx8				4.5	4.44				
4	4	8	4064	CMOS	64/60	8	93	192x4	4Kx9			4	2	r3	2		
4	8			CMOS	64		107	512x4	1K			4.19	—/0.95				
4	8		1.92K	CMOS	28/44	5	62	64x4	1920x8			5	0.95	1	2	4	
4	8		1.92K	CMOS	28/44	8	62	64x4	1920x8			5	0.95	1	2	4	
4	8		2K	CMOS	42	8	98	128x4	2Kx8			4.2	7.6		2		
4	8		2K	CMOS	42	8	98	128x4	2Kx8			4.2	1.6		2		
4	8		4K	CMOS	42/44	8	107	512x4	4Kx8			5	0.95	4	12	8	
4	8		4K	CMOS	64	8	139	320x4	4Kx8			5	0.8	3	5	8	
4	8		4K	CMOS	80	8	107	512x4	4Kx8			5	0.95	4	12	8	
4	8		6K	CMOS	42/44	8	107	512x4	6Kx8			5	0.95	4	12	8	
4	8		6K	CMOS	64	8	43	320x4	6016			5	0.8	3	5	8	
4	8		6K	CMOS	64	8	43	368x4	6016			5	0.8	6	4		
4	8		6K	CMOS	80	8	107	512x4	6Kx8			5	0.95	16		8	
4	8		8K	CMOS	42/44	8	104	512x4	8Kx8			5	0.95	4	12	8	
4	8		8K	CMOS	42/44	8	104	512x4	8Kx8			5	0.95	4	12	8	
4	8		8K	CMOS	64	8	43	512x4	8Kx8			5	0.8	3	5		
4	8		8K	CMOS	64	8	43	512x4	8Kx8			5	0.8	3	5		
4	8		8K	CMOS	64	8	107	512x4	8Kx8			5	0.95	17	12	8	
4	8		8K	CMOS	64	8	107	512x4	8Kx8			5	0.95	7	12	8	
4	8		8K	CMOS	64	8	107	512x4	8Kx8			5	0.95	17	12	8	
4	8		8K	CMOS	64	8	136	512x4	8Kx8			5	0.95	3	5		
4	8		8K	CMOS	64	8	139	497x4	8x8			5	0.8	5	12		
4	8		8K	CMOS	80	8	104	512x4	8Kx8			5	0.95			8	
4	8		8K	CMOS	80	8	104	512x4	8Kx8			5	0.95			8	
4	8		8K	CMOS	80	8	107	512x4	8Kx8			5	0.95	4	12	8	
4	8		8K	CMOS	80	8	107	512x4	8Kx8			5	0.95	4	12	8	
4	8		12K	CMOS	64	8	136	512x4	12Kx8			5	0.95	3	5		
4	8		12K	CMOS	64	8	136	512x4	12Kx8			5	0.95	3	5		
4	8		12K	CMOS	80	8	107	512x4	12Kx8			5	0.95	16		8	
4	8		12K	CMOS	80	8	139	512x4	12Kx8			5	0.95				
4	8		16K	CMOS	64	8	104	1Kx4	8Kx8			5	0.95	5	12		
4	8		16K	CMOS	64	8	136	512x4	12Kx8			5	0.95				
4	8		16K	CMOS	64	8	136	512x4	16Kx8			5	0.95				
4	8		16K	CMOS	80	8	104	1Kx4	16Kx8			5	0.95	3	5	8	
4	8		16K	CMOS	80	8	104	512x4	16Kx8			5	0.95			8	
4	8		16K	CMOS	80	8	107	512x4	16Kx8			5	0.95	16		8	
4	8		16K	CMOS	80	8	107	768x4	16Kx8			5	0.95	16			
4	8		16K	CMOS	80	8	136	512x4	16Kx8			5	0.95				
4	8		16K	CMOS	80	8	139	512x4	16Kx8			5	0.95	17			

I/O Ports	Peripherals (No./Resolution)			Comments	Device	Source	Line
No./Type	Timer/Counter	A/D Converter	D/A Converter				
33 lines	12-bit	6-bit x 6	8-bit x 3	Serial Interface, 30 Pins LCD, PLL and Prescaler	μPD17009	NEC	
32	2	6-bit x 6	8-bit x 3	Serial communication, LCD, PLL	μPD17P005	NEC	
32	2	6-bit x 6	8-bit x 3	Serial communication, LCD, PLL	μPD17005	NEC	
33 lines	12-bit	6-bit x 6	8-bit x 3	Serial Interface, 30 Pins LCD, PLL and Prescaler	μPD17010	NEC	
61 lines	12-bit	8-bit x 6	9-bit x 3	Serial communication, Prescaler, PLL	μPD17006	NEC	5
61				Serial communication, A/D and D/A converters, PLL	μPD17P006	NEC	
52 lines 9/in, 2/out	2 8-bit	8bitx20		Tone output, 8-bit SIO	SM578	Sharp	
					μPD75P056	NEC	
22 lines	1 8-bit			General-purpose or slave microcomputer	μPD75402	NEC	
22 lines	1 8-bit			General-purpose or slave microcomputer	μPD75P402	NEC	10
32 lines	1 8-bit				MSM5840	OKI	
32 lines	1 8-bit				MSM5840RS	OKI	
34 lines	3 8-bit				μPD75004	NEC	
52 lines	3 8-bit			8-Bit SIO, Four Comparators, LED direct drive	μPD75104	NEC	
32 lines	3 8-bit			LCD Controller/driver	μPD75304	NEC	15
34 lines	3 8-bit				μPD75006	NEC	
52 lines	3 8-bit			8-Bit SIO, Four Comparators, LED direct drive.	μPD75106	NEC	
28 lines	4 8-bit			8-Bit SIO, 14-Bit PWM.	μPD75206	NEC	
32 lines	3 8-bit			LCD Controller/driver	μPD75306	NEC	
34 lines	3 8-bit				μPD75P008	NEC	20
34 lines	3 8-bit				μPD75008	NEC	
52 lines	3 8-bit			EPROM version for uPD75104, uPD75106, uPD75108	μPD75P108	NEC	
	3 8-bit			8-bit SIO, four Comparators, LED direct drive.	μPD75108	NEC	
48 lines	4	1 8-bit		8-bit interval timer, 8-bit timer/event counter, 14-bit watch timer, 16-bit multifunction timer	μPD75P048	NEC	
48 lines	4	1 8-bit		8-bit interval timer, 8-bit timer/event counter, 14-bit watch timer, 16-bit multifunction timer	μPD75028	NEC	25
48 lines	4	1 8-bit		8-bit interval timer, 8-bit timer/event counter, 14-b it watch timer, 16-bit multifunction timer	μPD75048	NEC	
52 lines	3 8-bit				μPD75P108B	NEC	
48 lines	4 8-bit			8-bit SIO, 14-bit PWM.	μPD75208	NEC	
36 lines				LCD controller/driver	μPD75P328	NEC	
36 lines	3 8-bit			LCD controller/driver	μPD75328	NEC	30
32 lines	3 8-bit			EPROM version for uPD75308.	μPD75P308	NEC	
32 lines	3 8-bit			8-bit SIO, 14-bit PWM.	μPD75308	NEC	
52 lines					μPD75112	NEC	
52 lines				Programmable FIP controller/driver	μPD75212A	NEC	
32 lines				LCD controller/driver	μPD75312	NEC	35
					μPD75512	NEC	
48 lines	4 8-bit	1 8-bit			μPD75P036	NEC	
					μPD75216A	NEC	
				Programmable FIP controller/driver	μPD75P216A	NEC	
32 lines	3 8-bit			LCD controller/driver	μPD75P316A	NEC	40
32 lines				LCD controller/driver	μPD75P316	NEC	
32 lines	3 8-bit			LCD controller/driver	μPD75316	NEC	
					μPD75336	NEC	
					μPD75P516	NEC	
					μPD75516	NEC	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
4	8		24K	CMOS	64	8	141	768x4	24Kx8			5	0.95	6	4	32	
4	8		32K	CMOS	64	8	141	1Kx4	32Kx8			5	0.95	6	4	32	
4	8	11	1K	CMOS	24	8		64x4	1Kx4			4	4/dc			3	
4	8	11	1K	CMOS	28	8		64x4	1Kx4			4	4/dc		1	3	
4	8	11	1K	NMOS	40	8	49	64x4				4	4/10				
4	8	11	1K	NMOS	40	8	49	64x4				4	4/10				
4	8	11	2K	CMOS	28	8		128x4	2Kx4			4	4/dc				
4	8	11	2K	NMOS	24	8		160x4	2Kx8			4	4/10				
4	8	11	2K	NMOS	28	8		160x4	2Kx8				4/10				
4	9	9	8192	CMOS	64	4	94	256x4	8Kx9			4	2	3	2		
8	8	8	64K	CMOS	64	8/24	64	256x8	10Kx8			10	0.8	8	2	16	12
8	8	8	64K	CMOS	64	8/24	64	256x8	10Kx8			10	0.8	8	2	16	12
8	8	8	16384	CMOS	64	8	64	256x8	16Kx8			5	0.8	8	2		
8	8	8	16384	CMOS	80	8	64	512x8	16Kx8			5	0.8	8	2		
6MHz																	
0	4	14	16KB	CMOS	94	8/24	141	768x4	16KB			6	.67	7	4	32	
0	4	14	24KB	CMOS	80	8/24	141	1024x4	24K			6	.67	5	12	32	
0	4	14	24KB	CMOS	94	8/24	141	1024x4	24KB			6	.67	7	4	32	
0	4	15	32KB	CMOS	80	8/24	141	1024x4	32K			6	.67	5	12	32	
0	4	15	32KB	CMOS	80	8/24	141	1024x4	32K	32KB		6	.67	5	12	32	
0	4	15	32KB	CMOS	94	8/24	141	1024x4		32KB		6	.67	7	4	32	
0	4	15	32KB	CMOS	94	8/24	141	1024x4	32KB			6	.67	7	4	32	
4				CMOS	64	10	265	1K	40K			6	—/0.5				
4				CMOS	64	10	265	2K	120K			6	—/0.5				
4	4	8		CMOS	16	4/16	24	16x4	1Kx8			8	2				
4	4	8		CMOS	16	4/16	24	16x4	1Kx8			8	2				
4	4	8		CMOS	16	4/16	24	16x4	1Kx8			8	2				
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			8	2				
4	4	8		CMOS	22	4/16	24	16x4	1Kx8			8	2				
4	4	8		CMOS	22	4/16	35	16x4	1Kx8			8	2				
4	4	8		CMOS	28	4/16	24	112x4	2Kx8			8	8				
4	4	8		CMOS	28	4/16	24	112x4	2Kx8			8	8				
4	4	8		CMOS	28	4/16	24	112x4	4Kx8			8	8				
4	4	8		CMOS	28	16		104x4	1Kx16			8	2		1		
4	4	8		CMOS	28	16	35	64x4	768x16			8	2		1		

I/O Ports	Peripherals (No./Resolution)					
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source
28 lines	4 timers			Programmable FIP controller/driver	µPD75217	NEC
28 lines	4 timers			Programmable FIP controller/driver	µPD75P218	NEC
19 lines	1 8-bit			COP424C less 4 general-purpose inputs.	COP425C	National
23 lines	1 8-bit			COP324C has extended temperature range (–40°C to 85°C).	COP424C	National
				Has piggyback EPROM socket. Will accept: MM2716, NM27C16, MM2758A, MM2758B. 1K byte accessable.	COP402	National
				Has piggyback EPROM socket. Will accept: MM2716, NM27C16, MM2758A, MM2758B. 1K byte accessable.	COP402M	National
23 lines	1 8-bit			COP344C has extended temperature range (–40°C to 85°C).	COP444C	National
				CPU version of COP2440 series, COP342 is extended temperature range version. 24 pins. 19 I/O lines.	COP442	National
23 lines				CPU version of COP2440 series, COP341 is extended temperature range version. 28 pins.	COP441	National
52 lines 9/in, 12/out	2 8-bit	8bitx10	VFD Driver		SM5J6	Sharp
48 lines I/O, 8 In, 16 Out	3 8-bit	8-bitx8		8-bit SIO built in digital servo controller	SM8202	Sharp
48 lines I/O, 8 In, 16 Out	3 8-bit	8-bitx8		8-bit SIO built in digital servo controller	SM8203	Sharp
48 lines 8/in, 16/out	3 8-bit	8-bitx8		8-bit SIO, digital servo controller VCR systems	SM8205	Sharp
64 lines 8/in, 24/out	3 8-bit	8-bitx8		8-bit SIO, digital servo controller VCR systems	SM8204	Sharp
16 Input 24 I/O	(3) 8-bit (1) 14-bit (1) counter	8/8 bit		FIP Controller/Driver (2) 8-bit Serial Channels	µPD75236	NEC
16 Input 28I/O 20 Open Dr. I/O	(3) 8-bit (1) 14-bit	8/8-bit		Extensive I/O 8-bit Serial Channel	µPD75517	NEC
16 Input 24 I/O	(3) 8-bit (1) 14-bit (1) Counter	8/8-bit		FIP Controller/Driver (2) 8-bit Serial Channels	µPD75237	NEC
16 Input 28 I/O 20 Open Dr.I/O	(3) 8-bit (1) 14-bit	8/8-bit		Extensive I/O 8-bit Serial Channel	µPD75518	NEC
16 Input 28I/O 20 Open Dr.I/O	(3) 8-bit (1) 14-bit	8/8-bit		Extensive I/O 8-bit Serial Channel	µPD75P518	NEC
16 Input 24 I/O	(3) 8-bit (1) 14-bit (1) Counter	8/8 bit		FIP Controller/Driver (2) 8-bit Serial Channels	µPD75P238	NEC
16 Input 24 I/O	(3) 8-bit (1) 14-bit (1) Counter	8/8-bit		FIP Controller/Driver (2) 8-bit Serial Channels	µPD75238	NEC
					MN170401	Panasonic
					MN171202	Panasonic
11 I/O					µPD17P103	NEC
11 I/O					µPD17103	NEC
11 I/O				Low voltage	µPD17103L	NEC
16 I/O					µPD17P104	NEC
16 I/O					µPD17104	NEC
16 I/O				Low voltage	µPD17104L	NEC
21 I/O				Serial communication, timer, A/D converter	µPD17P137	NEC
21 I/O				Serial communication, timer, A/D converter	µPD17135A	NEC
21 I/O				Serial communication, timer, A/D converter	µPD17137A	NEC
18 lines	8-bit			Serial Interface, 4 Channel Comparator, 2.5 to 5.5 V	µPD17133	NEC
18 lines	8-bit			Serial Interface, 2.5 to 5.5 V	µPD17121	NEC

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
6MHz																	**(Cont'd)**
4	4	8		CMOS	28	16	35	111x4	2Kx16			8		2	1		
4	4	8		CMOS	48	16	35	336x4		6144x16		8	2	6	2		
4	4	8		CMOS	48	16	35	336x4	3968x16			8	2	6	1		
4	4	8		CMOS	48	16	35	336x4	6144x16			8	2	6	2		
4	4	8		CMOS	48	16	35	448x4	8192x16			8	2		1		
4	4	8		CMOS	52	4/16	24	222x4	4Kx8			8	2				
4	4	8		CMOS	64	4/16	35	4CU	16Kx8			8	2				
4	4	8		CMOS	64	4/16	35	672x4	24Kx8			8	2				
4	4	8		CMOS	80		92	512x4	8Kx8			6	1.3	4	2		
8 Bit																	
1MHz																	
8	8	8	12288	CMOS	64	8	74	256x8	12Kx8			8	1	7	1		
8	8	8	16384	CMOS	80	8	74	384x8	16Kx8			8	1	7	1		
8	8	8	8K	HCMOS	40			112x8									
8	8	16		CMOS	40	8/24	61	112	2106			0–1	1	2	1		
8	8	16	16K	CMOS	28	8/24	61	64	1089			0–1	1		2	1	
8	8	16	16K	CMOS	28	8/24	61	64	1089			0–1	1/	2	1		
8	8	16	64	HMOS	40	8/24	88	192x8				0.1–2	1–2	1	2		
8	8	16	64K	CMOS	40	8/24	61	112				0–1	1/	2	1		
8	8	16	64K	CMOS	40	8/24	61	112	2106			0–1	1/	2	1		
8	8	16	64K	HCMOS	40	8/24	62	96	2176			0–1	1	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176	8K			0–1	1/	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176	4160			0–1	1/	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176	4160			0–1	1/	4	1		
8	8	16	64K	HCMOS	68	8/24	79	768x8		24Kx8		0/1	2/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24x8			0 to 1	2/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24x8			0 to 1	2/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	32x8			0 to 1	2/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8				0/1	2/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8				0/1	2/10	21	1	7	59
8	8	16	2048	HMOS	28	8/24	59	112		1804		0.1–1	0.95–10	2	1		
8	8	16	2048	HMOS	28	8/24	59	112		1804		0.1–1	0.95–10				
8	8	16	4096	HMOS	28	8/24	8/24	104	3720			0.1–1	0.95–10	4	2		
8	8	16	4096	HMOS	28	8/24	59	104		3752		0.1–1	0.95–10	4	3		
8	8	16	4096	HMOS	28	8/24	61	64	1480			0.1–1	0.95–10	4	2		
8	8	16	4096	HMOS	40	8/24	59	64	2048			0.1–1	0.95–10	2	2		
8	8	16	4096	HMOS	40	8/24	59	64	2048			0.1–1	0.95/10	2	2		
8	8	16	4096	HMOS	40	8/24	59	112		3776		0.1–1	0.95–10	2	2		
8	8	16	4096	HMOS	40	8/24	59	112		3776		0.1–1	0.95–10	2	2		
8	8	16	4096	HMOS	40	8/24	59	112		3776		0.1–1	0.95–10	2	2		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
21 lines	8-bit			2.5 to 5 V	µPD17211	NEC	
41 lines	8-bit x 3	8-bit x 8		Serial Interface, Tone Generator	µPD17158	NEC	
27 lines		4-bit x 6	6-bit x 4	Serial Interface, Color Display Controller	µPD17002	NEC	
41 lines	8-bit x 3	8-bit x 8		Serial Interface, Tone Generator	µPD17156	NEC	
31 I/O	8-bit	4-bit x 8	6-bit x 3	Serial Port, Color Display Controller	µPD17051	NEC	
38 I/O				Serial communication, timer, A/D and D/A converters, LCD	µPD17102	NEC	
44 I/O				Serial communication, image display controller, timer, A/D and D/A converters	µPD17052	NEC	
44 I/O				Serial communication, timer, A/D and D/A converters, PLL	µPD17053	NEC	
36	2–12bit,2–18bit			LCD Driver	TMP47P820	Toshiba	
54 lines 8/in, 6/out	2 8-bit	8-bitx8		3 phase AC motor controller 8-bit serial I/O	SM8320	Sharp	
70 lines 14/in, 16/out	2 8-bit	8-bitx14	LED drive, low voltage operation		SM8312	Sharp	
	1 8-bit Timer				EF68HC05E2	Thomson Comp	
36 lines	8-bit			Low voltage, C ± –40°c to +85°C	CDP6805G2	Harris	
20 lines	8-bit			C ± –40°c to +85°C	CDP6805F2	Harris	
20 lines	1 8-bit			Low voltage, Prescaler	MC146805F2	Motorola	
16 lines	16-bit			SCI	MC6803U4	Motorola	
16lines	1 8-bit			Low voltage, Prescaler	MC146805E2	Motorola	
32 lines	1 8-bit			Low voltage, Prescaler	MC146805G2	Motorola	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HC05D2	Harris	
32 lines	1 16-bit			Low voltage, Prescaler, SPI, SCI	MC68HSC05C8	Motorola	
32 lines	1 16-bit			Low voltage, SPI, SCI	MC68HCL05C4	Motorola	
32 lines	1 16-bit			Low voltage, SPI, SCI	MC68HSC05C4	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68L11LKA0-1	Motorola	
43 lines I/O, 8 lines Input	16-bit	8-bitx 8		4 8-bit or 2 16-bit, PWM, USART, Custom ROM	MC68L11KA3-1	Motorola	
43 lines I/O, 8 lines Input	16-bit	8-bitx 8		4 8-bit or 2 16-bit, PWM, USART, 640x8 EEPROM, Custom ROM	MC68L11KA4-1	Motorola	
43 lines I/O, 8 lines Input	16-bit	8-bitx 8		4 8-bit or 2 16-bit, PWM, USART, 640x8 EEPROM, Custom ROM	MC68L11KA2-1	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68L11KA0-1	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68L11KA1-1	Motorola	
20 lines	8-bit			Prescaler	MC68705P3	Motorola	
20 lines	8-bit			Prescaler	MC68705P5	Motorola	
21 lines	8-bitx3	1 7-bit, 2 8-bit, 1 16-bit		Two Prescalers, SPI	MC6805S3	Motorola	
21 lines	2 8-bit, 1 16-bit	8-bit		Two Prescalers, SPI	MC68705S3	Motorola	
21 lines	8-bitx3	1 7-bit, 1 8-bit, 1 16-bit		Prescaler, SPI	MC68705S2	Motorola	
32 lines	8-bit	1 8-bit		Prescaler	MC6805R2	Motorola	
32 lines	8-bit			Prescaler	MC6805U2	Motorola	
32 lines	8-bit	1 8-bit		Prescaler	MC68705R3	Motorola	
32 lines	8-bit	1 8-bit		Prescaler	MC68705R5	Motorola	
32 lines	8-bit			Prescaler	MC68705U3	Motorola	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
1MHz																	**(Cont'd)**
8	8	16	4096	HMOS	40	8/24	59	112		3776		0.1–1	0.95–10	2	2		
8	8	16	4096	HMOS	40	8/24	59	112	3776			0.1–1	0.95–10	2	2		
8	8	16	4096	HMOS	40	8/24	59	112	3776			0.1–1	0.95–10	2	2		
8	8	16	8192	HCMOS	40	8/24	62	176	2096			0–1	1/	2	1		
8	8	16	8192	HCMOS	40	8/24	62	176	4160			0–1	1/	4	1		
2MHz																	
8				CMOS	44	8–16	62	1408	62K			2.1	0.5				
8				HCMOS	52	8–32		512x8	12Kx8								
8				HCMOS	52	16–24	192	176x8	6K			2.1					
8			64K	CMOS	40	8/24		128x8				3.5	1/4				
8			64K	CMOS	40	8/24		128x8	4Kx8			3.5	1/4				
8	8			BiCMOS	80		251	384x8		Ext		4.3	0.928	5	2		
8	8			CMOS	40	8/32	179	176x8	4Kx8			2.1	0.5				
8	8			CMOS	52	8/32	179	256x8				2.1	0.5				
8	8			CMOS	52	8/32	179	256x8				2.1	0.5				
8	8			CMOS	52	8/32	179	256x8		512x8		2	0.5				
8	8			CMOS	52	8/32	179	256x8		512x8		2.1	0.5				
8	8			CMOS	52	8/32	179	256x8		512x8		2.1	0.5				
8	8			CMOS	52	8/32	179	256x8		512x8		2.1	0.5				
8	8			CMOS	52	8/32	179	256x8	8Kx8	512x8		2.1	0.5				
8	8			CMOS	52	8/32	179	512x8				2.1	0.5				
8	8			CMOS	52	8/32	179	512x8				2.1	0.5/2				
8	8			CMOS	52	8/32	179	512x8				2.1	0.5/2				
8	8			CMOS	52	8/32	179	512x8		512x8		2.1	0.5/2				
8	8			CMOS	52	8/32	179	512x8		512x8		2.1	0.5/2				
8	8			CMOS	52	8/32	179	512x8	4Kx8			2.1	0.5/2				
8	8			CMOS	52	8/32	179	512x8	4Kx8			2.1	0.5				
8	8			CMOS	64	8/32	179	512x8	16Kx8			2.1	0.5				
8	8			CMOS	64	8/32	179	512x8	16Kx8			2.1	0.5				
8	8			CMOS	44	8/16	62	176x8	4160x8			2.1	0.5				
8	8			HCMOS	28	16/24	192	112x8	2K			0–2.1					
8	8			HCMOS	52	16–24	192	176x8	6K	2Kx8		0–2.1				3	
8	8	13	4K	CMOS	40	8/24	60	176x8	5Kx8	128x8		2.1					
8	8	13	4K	CMOS	40	8/24	60	352x8	16Kx8	0		2.1					
8	8	16							6Kx8	8Kx8		2.1					
8	8	16		CMOS					6Kx8	3Kx8		2.1					
8	8	16		CMOS				128x8	3Kx8	1Kx8		2.1					
8	8	16		CMOS	28			128x8	2Kx8	0		2.1					
8	8	16		CMOS	28			176x8	4Kx8	0		0–2.1					
8	8	16		CMOS	40			320x8	8Kx8	0		2.1					
8	8	16		CMOS	40			320x8	15Kx8	0		2.1					
8	8	16		CMOS	42			96x8	5Kx8	0		2.1					
8	8	16		CMOS	42			320x8	4Kx8	0		2.1					
8	8	16		CMOS	56			320x8	8Kx8	0		2.1					
8	8	16		CMOS	128			352x8	13Kx8	0		2.1					
8	8	16		HCMOS	20			112x8	2Kx8	0		2.1					
8	8	16		HCMOS	28			128x8	2Kx8	0		2.1					

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
32 lines	8-bit			Prescaler	MC68705U5	Motorola	
32 lines	8-bit	1 8-bit		Prescaler	MC6805R3	Motorola	
32 lines	8-bit	8-bit		Prescaler	MC6805U3	Motorola	
32	16-bit			Low voltage	MC68HC05C2	Motorola	
32 lines	16-bit			Low voltage, SPI, SCI	MC68HC05C4	Motorola	5
				16-Bit Timer 31 I/O	TMP68HC05C8	Toshiba	
					MC68HC711E9	Motorola	
					MC68HC05B8	Motorola	
	2 16-bit				80CL31	Philips	
	2 16-bit				**80CL51**	**Philips (3709)**	10
41 lines				Ext EPROM, LED Driver	MSC62G408B	OKI	
31 lines	16/8 bit				**TMP68HC05C4**	**Toshiba (3827)**	
22 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11A0**	**Toshiba (3827)**	
22 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11A0-3**	**Toshiba (3827)**	
38 lines	16/8 bit	1 8-bit		Watchdog Timer	TS68HC11A1	Thomson Comp	15
38 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11A1**	**Toshiba (3827)**	
22 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11A1-A**	**Toshiba (3827)**	
22 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11A1-3**	**Toshiba (3827)**	
38 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11A8**	**Toshiba (3827)**	
38 lines	16/8 bit	1 8-bit		Watchdog Timer	TMP68HC11E0	Toshiba	20
22 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11E0**	**Toshiba (3827)**	
22 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11E0-3**	**Toshiba (3827)**	
38 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11E1-A**	**Toshiba (3827)**	
38 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11E1-3**	**Toshiba (3827)**	
38 lines	16/8 bit	1 8-bit		Watchdog Timer	**TMP68HC11E1**	**Toshiba (3827)**	25
38 lines	16/8 bit	1 8-bit		8-Bit Counter 38 I/O, Watchdog Timer	**TMP68HC11E9**	**Toshiba (3827)**	
54 lines	16/8 bit	1 8-bit		8-Bit Counter 38 I/O, Watchdog Timer	**TMP68C711J6**	**Toshiba (3827)**	
54 lines	16/8 bit	1 8-bit		8-Bit Counter 38 I/O, Watchdog Timer	**TMP68HC11J6**	**Toshiba (3827)**	
31 lines	1 16-bit				TMP68HC05C4	Toshiba	
					MC68HC05P8	Motorola	30
32 lines	1 16-bit	1 8-bit		24 bidirectional lines, 8 input only lines	MC68HC05B6	Motorola	
32 lines				Single-chip CPU, SIOP	MC68HC05C5	Motorola	
32 lines				Single-chip CPU, SCI	MC68HC05D9	Motorola	
5 lines					MC68HC05SC11	Motorola	
5 lines				Smart Card MCU	MC68HC05SC21	Motorola	35
5 lines				Small Card MCU	MC68HC05SC24	Motorola	
21 lines		1 8-bit		Single-chip CPU, SIOP	MC68HC05P9	Motorola	
21 lines				Single-chip CPU, SIOP	MC68HC05P4	Motorola	
30 lines		1 8-bit			MC68HC05T1	Motorola	
30 lines		1 8-bit			MC68HC05T2	Motorola	40
16 lines		1 8-bit			MC68HC05T4	Motorola	
26 lines				Single-chip CPU, SPI	MC68HC05F6	Motorola	
28 lines		1 8-bit			MC68HC05T7	Motorola	
28 lines				Single-chip CPU, SPI, SCI	MC68HC05L10	Motorola	
14 lines				Single-chip CPU	MC68HC705J2	Motorola	45
21 lines				Single-chip CPU, SIOP	MC68HC705P9	Motorola	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
2MHz																	**(Cont'd)**
8	8	16		HCMOS	40			352x8	16Kx8	0		2.1					
8	8	16		HCMOS	40			352x8	16Kx8	0		2.1					
8	8	16		HCMOS	40		65	176x8	5Kx8	128x8		2.1					
8	8	16		HCMOS	40	8/24	62	176	2096			0–2.1	0.48/	4	1		
8	8	16		HCMOS	40	8–24		176	4160	2Kx8		0–2.1	1/	4	1		
8	8	16		HCMOS	42			320x8	4Kx8	0		2.1					
8	8	16		HCMOS	56			320x8	8Kx8	0		2.1					
8	8	16		HCMOS	68			512x8	16Kx8	0		2					
8	8	16		HCMOS	68			512x8	16Kx8	512x8		3					
8	8	16		HCMOS	80			256x8	8Kx8	0	2.1						
8	8	16	HMOS	40	8/24	72						0.1–2			2		6
8	8	16	60/64K	HCMOS	40	8/24	62	176	3840			0–2.1	0.48	4	1		
8	8	16	64	HMOS	40	8/24	88	128x8				01–2	1–2	1	2		
8	8	16	64	HMOS	40	8/24	88	128x8	2048x8			0.1–2	1–2	1	2		
8	8	16	64	HMOS	40	8/24	88	192x8		4096x8		0.1–2	1–2	1	2		
8	8	16	64K	HCMOS	20	8/24	62	128	2352			0–2.1		3	1		
8	8	16	64K	HCMOS	28	8/24	62	128	2112			0–2.1	0.48/	2	1		
8	8	16	64K	HCMOS	40	8/24	62	62	304			0–2.1	0.48/	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176				0–2.1	0.48/	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176	8K			0–2.1	0.48/	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176	7740			0–2.1	0.48/	4	1		
8	8	16	64K	HCMOS	40	8/24	62	176	7744			0–2.1	0.48	4	1		
8	8	16	64K	HCMOS	40	8/24	63	176	4160			0–2.1	0.48	4	1		
8	8	16	64K	HCMOS	40	8/24	63	176	4160			0–2.1	0.48	4	1		
8	8	16	64K	HCMOS	44	8/32	170	192x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	44	8/32	170	192x8	0	0		0/2	1/20		2	2	5
8	8	16	64K	HCMOS	44	8/32	170	192x8	4Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	44	8/32	170	192x8	4Kx8	0		0/2	1/20		2	2	5
8	8	16	64K	HCMOS	44	8/32	170	256x8	8Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/24	62	128	4K			0–2.1	0.48/	4	1		
8	8	16	64K	HCMOS	52	8/32	170	256x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	8Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	8Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	256x8	8Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	12Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	12Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	12Kx8	0		0/2	1/20		2	2	5
8	8	16	64K	HCMOS	52	8/32	170	512x8	128Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	68	8/24	62	176	6208			0–2.1	0.48/	3	1		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
31 lines	1 16-bit			Single-chip CPU, SPI, SCI	XC68HC705C9	Motorola	
31 lines	1 16-bit			Single-chip CPU, SCI	XC68HC705D9	Motorola	
32 lines	1 16-bit			Single-chip CPU, SIOP	XC68HC705C5	Motorola	
32	16-bit			Low voltage, SPI, SCI	MC68HC05C3	Motorola	
32 lines	1 16-bit			Low voltage, 2K EPROM, SPI, SCI	MC68HC05A6	Motorola	5
26 lines				Single-chip CPU, SPI	MC68H705F6	Motorola	
24 lines				Single-chip CPU	MC68HC705T7	Motorola	
54 lines				Single-chip CPU, SPI, SCI	MC68HC711J6	Motorola	
46 lines				Single-chip CPU, SPI, SCI	MC68HC711L6	Motorola	
39lines				Single-chip CPU, SIOP, SPI	MC68HC705L5	Motorola	10
16 lines				SCI	MC6800	Motorola	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HC05C0	Harris	
13 lines	16-bit			SCI	MC6803	Motorola	
29 lines	16-bit			SCI	MC6801	Motorola	
29 lines	16-bit			SCI	MC68701U4	Motorola	15
12 lines	16-bit			Low voltage	CDP68HC05J3	Harris	
21 lines	1 16-bit			Low voltage	MC68HC05P1	Motorola	
32 lines	1 16-bit			Low voltage, Prescaler, SPI, SCI	MC68HC705C8	Motorola	
32 lines	1 16-bit			Low voltage, Prescaler, 4160 EEPROM, SCI, SPI	MC68HC805C4	Motorola	
32 lines	1 16-bit			Low voltage, SPI, SCI	MC68HCL05C8	Motorola	20
32 lines	16-bit			Low voltage, SPI, SCI	MC68HC05C8	Motorola	
31 lines	16-bits			Low voltage, SPI, SCI	CDP68HC05C8	Harris	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HCL05C4	Harris	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HC05C4	Harris	
14 lines	16-bit	8-bit x 8		Serial Port	MC68L11D0	Motorola	25
14 lines	16-bit			Serial Port	MC68HC11D0	Motorola	
32 lines	16-bit	8-bit x 8		Serial Port	MC68L11D3	Motorola	
32 lines	16-bit	8-bit x 8		Serial Port	MC68HC11D3	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68HC11A8	Motorola	
32 lines	1 8-bit, 1–16-bit	1x16-bit		Low voltage	MC68HC05M4	Motorola	30
22 lines	16-bit	8-bit x 8		Serial Port	MC68HC11A0	Motorola	
22 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68HC11A1	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port, 2K EEPROM	MC68HC11E2	Motorola	
22 lines	16-bit	8-bit x 8		Serial Port	MC68L11A0	Motorola	
22 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68L11A1	Motorola	35
38 lines	16-bit	8-bit x 8		Serial Port	MC68HC11A7	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port	MC68L11A7	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68L11A8	Motorola	
22 lines	16-bit	8-bit x 8		Serial Port	MC68HC11E0	Motorola	
22 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68HC11E1	Motorola	40
22 lines	16-bit	8-bit x 8		Serial Port	MC68L11E0	Motorola	
22 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68L11E1	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port	MC68L11E8	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68L11E9	Motorola	
38 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68HC11E9	Motorola	45
38 lines	16-bit	8-bit x 8		Serial Port	MC68HC11E8	Motorola	
32 lines	16-bit			Low voltage, SPI	MC68HC05L6	Motorola	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
2MHz																	**(Cont'd)**
8	8	16	64K	HCMOS	68	8/24	79					0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79					0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79					0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79					0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	1Kx8		32Kx8		0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	1Kx8		32Kx8		0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	1Kx8	32Kx8			0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	1Kx8	32Kx8			0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8				0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8				0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8		24Kx8		0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8		24Kx8		0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8		24Kx8		0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8		24Kx8		0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8			0 to 3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8			0 to 3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8			0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8			0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8	640x8		0/3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8	640x8	0/2	0/2	1/20	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	32Kx8			0 to 3	0.7/14	21	1	7	59
8	8	16	64K	HCMOS	68	8/32	170	1Kx8				0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	0			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	0			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	0			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	16Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	16Kx8			0/2	1/20		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	16Kx8			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	512x8	16Kx8			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	768x8	0			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	768x8	0			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	768x8	24Kx8			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	68	8/32	170	768x8	24Kx8			0/3	0.6/12		2	2	5
8	8	16	64K	HCMOS	80	8/24	79	1280x8	32Kx8			0 to 2	1/20	20	2	7	

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68HCKA0-2	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HCKA1-2	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68HCKA0-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HCKA1-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		48-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC711KA2-2	Motorola	5
43 lines I/O, 8 Input	16-bit	8-bit x 8		48-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC711KA2-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART, 640x8 EEPROM	MC68HC11KA2-2	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART, 640x8 EEPROM	MC68HC11KA2-3	Motorola	
43 Lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68L11KA0-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68L11KA1-3	Motorola	10
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC711KA4-2	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC711KA4-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM	MC68L11LKA0-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, 640x8 EEPROM	MC68L11LKA1-3	Motorola	
43 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART, Custom ROM	MC68L11KA3-3	Motorola	15
43 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART, 640x8 EEPROM, Custom ROM	MC68L11KA4-3	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART	MC68HC11KA3-2	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART	MC68HC11KA3-3	Motorola	
43 lines I/O, 8-Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC11KA4-3	Motorola	
43 lines I/O, 8-Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC11KA4-2	Motorola	20
43 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit, PWM, USART, 640x8 EEPROM, Custom ROM	MC68L11KA2-3	Motorola	
54 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68HC11F1	Motorola	
30 lines	16-bit	8-bit x8		Serial Port, 512 EEPROM	MC68L11L1	Motorola	
30 lines	16-bit	8-bit x 8			MC68HC11L0	Motorola	
30 lines	16-bit	8-bit x 8		512 EEPROM	MC68HC11L1	Motorola	25
46 lines	16-bit	8-bit x8		Serial Port	MC68L11L5	Motorola	
46 lines	16-bit	8-bit x8		Serial Port, 512 EEPROM	MC68L11L6	Motorola	
46 lines	16-bit	8-bit x 8			MC68HC11L5	Motorola	
46 lines	16-bit	8-bit x 8		Serial Port, 512 EEPROM	MC68HC11L6	Motorola	
37 lines	16-bit	8-bit x 8		Serial Port	MC68HC11K0	Motorola	30
37 lines	16-bit	8-bit x 8		640 EEPROM	MC68HC11K1	Motorola	
62 lines	16-bit	8-bit x 8			MC68HC11K3	Motorola	
62 lines	16-bit	8-bit x 8		640 EEPROM	MC68HC11K4	Motorola	
54 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 Channel PWM, Math Co-Proc, 2 USART	MC68HC11M2-2	Motorola	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
2MHz																	**(Cont'd)**
8	8	16	64K	HCMOS	80	8/24	79	1280x8	32Kx8			0 to 3	0.7/14	20	2	7	
8	8	16	64K	HCMOS	80	8/24	79	1280x8	32Kx8	32Kx8		0 to 2	1/20	20	2	7	
8	8	16	64K	HCMOS	80	8/24	79	1280x8	32Kx8	32Kx8		0 to 3	0.7/14	20	2	7	
8	8	16	64K	HCMOS	84	8/32	170	512x8	24Kx8			0/2	1/20		2	2	5
8	8	16	64K	HMOS	40	8/24	88	128x8		2048x8		01–2	1–2	1	2		
8	8	16	64K	HMOS	40	8/24	88	192x8	4096x8			0.1–2	1–2	1	2		
8	8	16	127K	HCMOS	40	8/24	62	256	12096			0.2.1	0.48	4	1		
8	8	16	128K	HCMOS	40	8/24	62	256	12096			0–2.1	0.48	4	1		
8	8	16	2048	HMOS	28	8/24	59	64	1110			0.1–2	0.95–10	2	1		
8	8	16	2048	HMOS	28	8/24	59	64	1804			0.1–2	0.95–10	2	1		
8	8	16	4352	HCMOS	28	8/24	42	156	3700			1–2.5	–12		1		
8	8	16	4352	HMOS	20	8/24	42	30	1K			1–2.5	4–12		1		
8	8	16	4352	HMOS	20	8/24	42	30	504			1–2.5	4–12		1		
8	8	16	4352	HMOS	28	8/24	42	30	1016			0.1–2.5	4–12		1		
8	8	16	4352	HMOS	28	8/24	42	32		1088		1–2.5	4–12	1			
8	8	16	8192	HCMOS	48	8/24	64	176	4160			0–2.1	1/	3	1		
8	8	16	464K	HCMOS	48	8/24	62	176		8K		0–2.1	0.48/	3	1		
4MHz																	
8				CMOS	42			384B	16K								
8				CMOS	56			192B	8K			4					
8				CMOS	56			384B	16K			4					
8				CMOS	80			128B	4K			4.3					
8				CMOS	80			192B	6K			4.3					
8				CMOS	80			512B	8K			4.3					
8			8K	CMOS	52	8	69	96x8	4Kx8			4	2/9				
8			8K	CMOS	52	8/24	26	64x8	3.8Kx8			5.5	4.4/10.9				
8			64	CMOS	464	8	69	256x8	16Kx8			4	2/9				
8			64K	CMOS	64	8	71	384	16K			5	0.8				
8	8			BiCMOS	80		251	352x8	15Kx8			4.3	0.928	5	2		
8	8			BiCMOS	80		251	352x8	15Kx8			4.3	0.928	5	2		
8	8			CMOS	Die		114	192x8	8x8	8K EE		5	0.8				
8	8			CMOS	80	8/24	71	384x8	8Kx8			0.032/5	0.8/	8	8		
8	8			CMOS	80	8/24	71	512x8	16K			0.032/5	0.8/	8	8		
8	8			CMOS	80	8/24	71	512x8	16Kx8			0.032/5	0.8/	8	8		
8	8			CMOS	100	8/24	71	640x8	24Kx8			0.032/5	0.8/	8	8		
8	8		8K	CMOS	20	8/24	26	32x8	1.8Kx8			4	6.5/13				
8	8		8K	CMOS	28	8/24	26	32x8	1.8Kx8			4	6.5/13				
8	8		8K	CMOS	28	8/24	26	32x8	1.8Kx8			4	6.5/13				
8	8		8K	CMOS	40	8/24	26	64x8	3,8Kx8			4	6.5/13				
8	8		8K	CMOS	44	8/24	26	64x8	3.8Kx8			4	6.5/13				
8	8		8K	CMOS	44	8/24	26	96x8	2.5Kx8			5.5	4.4/10.9				
8	8		8K	CMOS	44	8/24	26	96x8	2.5Kx8			5.5	4.4/10.9				
8	8		8K	CMOS	48	8/24	26	64x8	3.8Kx8			4	6.5/13				
8	8		8K	CMOS	48	8/24	26	64x8	3.8Kx84			4	6.5/13				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
54 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 Channel PWM, Math Co-Proc, 2 USART	MC68HC11M2-3	Motorola	
54 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 Channel PWM, Math Co-Proc, 2 USART	MC68HC711M2-2	Motorola	
54 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 Channel PWM, Math Co-Proc, 2 USART	MC68HC711M2-3	Motorola	
38 lines	16-bit	10-bit			MC68HC11G7	Motorola	
29 lines	16-bit			SCI	MC68701	Motorola	5
29 lines	16-bit			SCI	MC6801U4	Motorola	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HCL05C7	Harris	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HC05C7	Harris	
20 lines	8-bit			Prescaler	MC6805P2	Motorola	
20 lines	8-bit			Prescaler	MC6805P6	Motorola	10
20 lines	8-bit			Low voltage	MC68HC04P4	Motorola	
12 lines	8-bit			Prescaler	MC6804J2	Motorola	
12 lines	8-bit			Prescaler	MC6804J1	Motorola	
20 lines	8-bit			Prescaler	MC6804P2	Motorola	
20 lines	8-bit			Prescaler	MC68704P2	Motorola	15
32	16-bit	8-bitx16	1	Low voltage, SCI	MC68HC05B4	Motorola	
32 lines	1 16-bit	8-bitx16	1	Low voltage, Prescaler, 6208 EEPROM, SCI	MC68HC805B6	Motorola	
28 I/O, 8 In Only	4 8-bit	8			M37471M8-SP	Mitsubishi	
28 I/O, 8 In Only	4 8-bit	8			M37471M4-FP	Mitsubishi	
28 I/O, 8 In Only	4 8-bit	8			M37471M8-FP	Mitsubishi	20
32 I/O, 8 In Only	3 8-bit, 1 16-bit				M50930-FP	Mitsubishi	
32 I/O, 8 In Only	3 8-bit, 1 16-bit				MF50933-FP	Mitsubishi	
32 I/O, 8 In Only	3 8-bit, 1 16-bit				M50932-FP	Mitsubishi	
				4 Kb version of M50740	M50741	Mitsubishi	
				Built-in timer and prescaler, LCD Driver, PLL, EPROM version	ST6154	SGS-Thomson	25
					M50959	Mitsubishi	
					M38002M4	Mitsubishi	
41 lines				Display driver	MSC62G408B	OKI	
41				Display driver	MSC62408B	OKI	
				Serial Interface, EEPROM	MSM62780	OKI	30
5 Input, 49 I/O	3 8-bit, 2 16-bit	8-bit x 8		Mask ROM, 2.5–5.5 V, LCD Controller Drive, UART	M38222M2	Mitsubishi	
5 Input, 49 I/O	3 8-bit, 2 16-bit	8-bit x 8		Mask ROM, 2.5–5.5 V, LCD Controller Drive, UART, EPROM	M38223E4	Mitsubishi	
5 Input	3 8-bit, 2 16-bit	8-bit x 8		Mask ROM, 2.5–5.5 V, LCD Controller Drive, UART	M38223M4	Mitsubishi	
1 Input, 43 I/O	3 8-bit, 2 16-bit	8-bit x 8		Mask ROM, 2.5–5.5 V, LCD Controller Drive, UART	M38254M6	Mitsubishi	
8 lines		1 8-bit		Built-in Watchdog, Timer and Prescaler	ST6014	SGS-Thomson	35
7 lines		1 8-bit		Built-in Watchdog Timer and Prescaler	ST6012	SGS-Thomson	
8 lines		1 8-bit		Built-in Watchdog, Timer and Prescaler	ST6013	SGS-Thomson	
		1 8-bit		Built-in Watchdog, 2 Timers and Prescaler Preamp.	ST6052	SGS-Thomson	
		1 8-bit		Built-in Watchdog, 2 Timers and Prescaler, LCD driver	ST6040	SGS-Thomson	
				Built-in Watchdog, Timer and Prescaler, LCD Driver, PSS, EPROM version	ST6124	SGS-Thomson	40
				Built-in watchdog, timer and prescaler, LCD Driver, PSS, EPROM version	ST6125	SGS-Thomson	
		1 8-bit		Built-in watchdog, 2 timers and prescaler LCD driver	ST6041	SGS-Thomson	
		1 8-bit		Built-in watchdog, 2 timers and prescaler Preamp.	ST6051	SGS-Thomson	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
8	8		16K	CMOS	80	8/24	71	512x8	16Kx8			0.032/5	0.8/	9	7	6	
8	8	8		CMOS	DIE		100	128x2	4Kx8	2Kx8		5	0.8				
8	8	8		CMOS	28	8	61	128x8	2Kx8			6.5	1.5/15	2	2		
8	8	8		CMOS	28	8	61	128x8	4Kx8			6.5	1.5/15	2	2		
8	8	8	4K	NMOS	40	8/16	90	64x8	1Kx8			6	1.4/2.8				
8	8	8	4K	NMOS	40	8/16	96	64x8				6	1.4/2.8				
8	8	8	8K	CMOS	20	8/24	26	32.8	1.8Kx8			4	6.5/13				
8	8	8	8K	CMOS	20	8/24	26	32x8	1.8Kx8			4	6.5/13				
8	8	8	64K	CMOS	40	8	61	256x8		8Kx8		7.5	1.3/13.1	4	2		
8	8	8	64K	CMOS	40/44	8	61	128x8				6.5	1.5/15	2	2		
8	8	8	64K	CMOS	40/44	8	61	128x8	4Kx8			6.5	1.5/15	2	2		
8	8	8	64K	CMOS	40/44	8	61	256x8				7.5	1.3/13.1	4	2		
8	8	8	64K	CMOS	40/44	8	61	256x8		8Kx8		7.5	1.3/13.1	4	2		
8	8	8	64K	CMOS	40/44	8	61	256x8	4Kx8			7.5	1.3/13.1	4	2		
8	8	8	64K	CMOS	40/44	8	61	256x8	8Kx8			7.5	1.3/13.1	4	2		
8	8	8	64K	CMOS	40–44	8	61	128x8	2Kx8			6.5	1.5/15	2	2		
8	8	16		CMOS	56			128B	4K			4					
8	8	16		CMOS	56			192B	8K			4					
8	8	16		CMOS	64	8	144	2.5K	64K			4.19	—/0.95				
8	8	16		CMOS	64	8	144	2.5K	128K			4.19	—/0.95				
8	8	16		HCMOS	28			368x8	4x8	0		4					
8	8	16		HCMOS	84			768x8	24Kx8	640x8		4					
8	8	16	2K	NMOS	40	8/24	122	124	2K			4	1/1.8	2	4	124	20
8	8	16	4K	NMOS	40	8/24	122	144	4K			4	1/1.8	2	4	124	20
8	8	16	8K	CMOS	40	8/24	122	256		8K		4	1/1.8	2	4	236	20
8	8	16	64	HCMOS	40	8/24	62	192	3866					6	1		
8	8	16	64K	CMOS	18	8/24	122	124	2K			4	1/1.8	2	4	124	20
8	8	16	64K	CMOS	28	8/24	65	368x8	4Kx8	0		4					
8	8	16	64K	CMOS	32	8/	69	128x8	4Kx8			0/4	1/	6	5		8
8	8	16	64K	CMOS	32	8/	69	192x8	8Kx8			0/4	1/	6	5		
8	8	16	64K	CMOS	32	8/	69	384x8	16Kx8			0/4	1/	6	5		
8	8	16	64K	CMOS	40	8/24	61	112				5		2	1		
8	8	16	64K	CMOS	40	8/24	122	256	6K			4	1/1.8	2	4	236	20
8	8	16	64K	CMOS	64	8/24	122	236	—			4	1/1.8	2	4	236	20
8	8	16	64K	CMOS	64	8/24	122	236	8K			4	1/1.8	2	4	236	20
8	8	16	64K	CMOS	64	8/24	122	236	8K			4	1/1.8	2	4	236	20
8	8	16	64K	CMOS	68			352x8	16Kx8	0	2.1						
8	8	16	64K	CMOS	68	8/24	65	480x8	0	0		4					
8	8	16	64K	CMOS	72	8/24	77	512x8	24Kx8			0/4	1/	7	2		
8	8	16	64K	CMOS	72	8/24	77	512x8	32Kx8			0/4	1/	7	2		
8	8	16	64K	HCMOS	40	8/24	62	176	7744			0–4	0.25	4	1		
8	8	16	64K	HCMOS	40	8/24	63	176	4160			0–4	0.25	4	1		
8	8	16	64K	HCMOS	68	8/24	79	1Kx8		32Kx8		0/4	0.25/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	1Kx8	32Kx8			0/4	0.25/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8				0/4	0.25/10	21	1	7	59

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
9 Input, 20 Output, 43 I/O	3 8-bit, 2 16-bit			Mask ROM, 2.5–5.5 V, LCD Controller Drive, UART	M38203M4	Mitsubishi	
				Serial I/O, EEPROM	MSM62720	OKI	
20	1 13-bit			28 PDIP	TMS70CT20	TI	
20	1 13-bit			28 PDIP	TMS70CT40	TI	
24 lines	1 8-bit				8048	Philips	5
24 lines	1 8-bit				8035	Philips	
6 lines		1 8-bit		Built-in Watchdog Timer and Prescaler	ST6010	SGS-Thomson	
7 lines		1 8-bit		Built-in Watchdog Timer and Prescaler	ST6011	SGS-Thomson	
32	2 21-bit,1 10-bit			UART, 40 CDIP, Reprogrammable	SE77C82	TI	
32	1 13-bit			40 PDIP and 44 PLCC package	TMS70C00	TI	10
32	1 13-bit			40 PDIP and 44 PLCC package	TMS70C40	TI	
32	2 21-bit,1 10-bit			UART, 40 PDIP and 44 PLCC package	TMS70C02	TI	
32	2 21-bit,1 10-bit			UART, 40 PDIP, 44 PLCC package	TMS77C82	TI	
32	2 21-bit,1 10-bit			UART, 40 PDIP and 44 PLCC package	TMS70C42	TI	
32	2 21-bit,1 10-bit			UART, 40 PDIP, 44 PLCC package	TMS70C82	TI	15
32	1 13-bit				TMS70C20	TI	
28 I/O, 8 In Only	4 8-bit	8			M37471M2	Mitsubishi	
28 I/O, 8 In Only	4 8-bit	8			M37471M4	Mitsubishi	
					MN187087	Panasonic	
					MN187187	Panasonic	20
20 lines				Single-chip CPU	XC68HC705E1	Motorola	
62 lines				Single-chip CPU, SPI, SCI	MC68HC711K4	Motorola	
32 I/O	2 8-Bit			Keyboard Controller	Z8602	Zilog	
32 I/O	2 8-Bit			Keyboard Controller	Z8614	Zilog	
32 I/O	2 8-Bit				Z86E23	Zilog	25
26 lines	8-bit		2	Low voltage, SPI, 8-bit PWMx2	CDP68HC05W4	Harris	
14 I/O	2 8-Bit				Z86C17	Zilog	
20 lines				Single-chip CPU, Internal PLL lock synthesizer	MC68HC05E1	Motorola	
22 I/O, 4 Input	4 8-bit	4 8-bit			M37470M2	Mitsubishi	
22 I/O, 4 Input	4 8-bit	4 8-bit			M37470M4	Mitsubishi	30
22 I/O, 4 Input	4 8-bit	4 8-bit			M37470M8	Mitsubishi	
16 lines	8-bit			Prescaler, C ± –40°C to +85°C	CDP6805E2	Harris	
24 I/O	2 8-Bit			TV/VCR Controller, OSD, Video RAM, 7 PWM	Z86227	Zilog	
43 I/O	2 8-Bit			TV/VCR Controller, Video RAM, 13 PWM	Z86C97	Zilog	
43 I/O	2 8-Bit			TV/VCR Controller, OSD, Video RAM, 13 PWM	Z86C27	Zilog	35
27 I/O	2 8-Bit			TV/VCR Controller, OSD, Video RAM, 9 PWM	Z86127	Zilog	
24 lines				Single-chip CPU, SCI	MC68HC05M9	Motorola	
36 lines				Single-chip CPU, SPI	MC68HC05E0	Motorola	
59 lines	8-bit	8-bit		PWM, MSK Modem	SM8411	Sharp	
60 lines	8-bit	8-bit		PWM, MSK Modem	SM8412	Sharp	40
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HSC05C8	Harris	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HSC05C4	Harris	
43 lines I/O, 8 Input	16-bit	8-bit x8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC711KA2-4	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC11KA2-4	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68HCKA0-4	Motorola	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
4MHz																	**(Cont'd)**
8	8	16	64K	HCMOS	68	8/24	79	768x8				0/4	0.25/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8		24Kx8		0/4	0.25/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8			0/4	0.25/10	21	1	7	59
8	8	16	64K	HCMOS	68	8/24	79	768x8	24Kx8	640x8		0/4	0.25/10	21	1	7	59
8	8	16	64K	HCMOS	80	8/24	79	1280x8	32Kx8			0 to 4	0.25/10	20	2	7	
8	8	16	64K	HCMOS	80	8/24	79	1280x8	32Kx8	32Kx8		0 to 4	0.25/10	20	2	7	
8	8	16	128K	HCMOS	40	8/24	62	256	12096			0–4	0.25	4	1		
8	8	16	512K	CMOS	40	8/24	61	112				1/5		2	1		
8	8	16	4352	HCMOS	20	8/24	42	30	1K			0–5.5	2.2/		1		
8	8	16	4352	HCMOS	20	8/24	42	122	1672			0–5.5	2.2/-	1	1		
8	8	16	4352	HCMOS	28	8/24	42	124		3740		0–5.5	2.2/-	1	1		
8MHz																	
8	8			CMOS	44	8/24		128x8	8Kx8				1				
8	8			CMOS	44	8/24		192x8	8Kx8				1				
8	8			ECL	64	20	32					10					
8	8		4K	CMOS		8–16		128				11					
8	8		4K	CMOS	42	8	97	128	2K			11	1.36/2.72				
8	8		4K	CMOS	52	8	69	320x8	4Kx8			10	0.8/3.2				
8	8		8K	CMOS	52	8/24	26	128x8	3.8Kx8			8	3.3/8.2				
8	8		8K	CMOS	80	8/24	26	192x8	7.8Kx8			8	3.3/8.2				
8	8		8K	CMOS	28	8/24	26	64.8	1.8Kx8			8	3.3/8.2				
8	8		64K	CMOS	64	8	69	128x8	4Kx8			8	1.0/4.5				
8	8		64K	CMOS	64	8	69	256x8	8K			8	1.0/4.5				
8	8		64K	CMOS	72	8	69	192x8	8Kx8			2/9	46				
8	8			CMOS	80			1Kx8	8Kx8			10	200	8			
8	8			CMOS	80			1Kx8	8Kx8			10	200	8			
8	8			CMOS	80			512x8	16Kx8			10	200	8			
8	8			CMOS	84			1Kx8				10	200	8			
8	8			CMOS	84			1Kx8				10	200	8			
8	8			CMOS	160	8/24	71	1Kx8	32Kx8			0.032/8	0.5/	9	5		
8	8			CMOS	160	8/24	71	640x8	20Kx8			0.032/8	0.5/	9	5		
8	8			HCMOS	48			256x8		2Kx8		8					
8	8		4K	CHMOS	40	8	97	128x8	2Kx8			11	1.4/2.8				
8	8		4K	CMOS	40		111					11	1.36/2.7	1	1		
8	8		4K	CMOS	40		111					11	1.36/2.7	1	1		
8	8		4K	CMOS	44		111					11	1.36	1	1		
8	8		4K	CMOS	44		111	64	1Kx8			11	1.36	1	1		
8	8		4K	CMOS	44		111	128	2Kx8			11	1.36	1	1		
8	8		4K	CMOS	44		111	256x8	4Kx8			11	1.36	1	1		
8	8		4K	HMOS	40	8		256x8				11	1.4/2.8				
8	8		4K	HMOS	40	8	96	256x8	4Kx8			11	1.4/2.8				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HCKA1-4	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC711KA4-4	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART	MC68HC11KA3-4	Motorola	
43 lines I/O, 8 Input	16-bit	8-bit x 8		4 8-bit or 2 16-bit PWM, USART, 640x8 EEPROM	MC68HC11KA4-4	Motorola	
54 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 Channel PWM, Math Co-Proc, 2 USART	MC68HC11M2-4	Motorola	5
54 lines I/O, 8 lines Input	16-bit	8-bit x 8		4 Channel PWM, Math Co-Proc, 2 USART	MC68HC711M2-4	Motorola	
31 lines	16-bit			Low voltage, SPI, SCI	CDP68HSC05C7	Harris	
13 lines	8-bit			Prescaler, C ± −40°C to +85°C	CDP6805E3	Harris	
12 lines	8-bit			Low voltage, Prescaler	MC68HC04J2	Motorola	
12 lines	8-bit			Low voltage, Prescaler	MC68HC04J3	Motorola	10
20 lines	8-bit			Low voltage	MC68HC704P4	Motorola	
					COP888CFMH	National	
					COP888CGMH	National	
				35% faster than 8x305	SL8X401	Lansdale	
					TMP80C39A	**Toshiba (3829)**	15
				Single-Chip 8-Bit Microcomputer.	M5MC49H	Mitsubishi	
				Dual Port RAM (192x8 bits)	M37409M2	Mitsubishi	
				Built-in watchdog, 2 timers and prescaler, A/D, LCD driver, PSS, SPI, Real time clock, 128 bytes of EEPROM, EPROM	ST6245	SGS-Thomson	
				Built-in watchdog, 2 timers and prescaler, A/D, LCD driver, PSS, SPI, Real time clock, 128 bytes of EEPROM, EPROM	ST6240	SGS-Thomson	
				Built-in watchdog, timer and prescaler, EPROM and OTP versions	ST6216	SGS-Thomson	20
				Timers, clock Sync. Serial I/O	SMC7464	S-MOS	
				Timers, Serial I/O (Sync/Async)	SMC7468	S-MOS	
					M50954	Mitsubishi	
44 lines	2 16-Bit			2 17-Bit Time Generators	**R65C29**	**Rockwell (3760)**	
44 lines	2 16-Bit			2 17-Bit Time Generators	**R65C39**	**Rockwell (3760)**	25
44 lines	2 16-Bit			2 17-Bit Time Generators	**R65C19**	**Rockwell (3760)**	
44 lines	2 16-Bit			2 17-Bit Time Generators	**R65C2901**	**Rockwell (3760)**	
44 lines	2 16-Bit			2 17-Bit Time Generators	**R65C2901J**	**Rockwell (3760)**	
41 I/O, 1 Input	3 8-bit, 2 16-bit			UART, LCD Driver	M37500M8	Mitsubishi	
41 I/O, 1 Input	3 8-bit, 2 16-bit			UART, LCD Driver	M37500M5	Mitsubishi	30
16 I/O, 11 In, 11 Out	1 16-bit	1 8-bit		8-bit pulse accumulator circuit, watchdog timer	TS68HC811E2	Thomson Comp	
24 lines				Low power operation. Can be used with external RAM and ROM.	80C49	Intel	
27 lines	1 8-bit			Ext ROM	MSM80C35	OKI	
27 lines	1 8-bit			Ext ROM	MSM80C39	OKI	
27 lines	1 8-bit			Ext ROM	MSM80C40	OKI	35
27 lines	1 8-bit				MSM80C48	OKI	
27 lines	1 8-bit				MSM80C49	OKI	
27 lines	1 8-bit				MSM80C50	OKI	
24 lines	1 8-bit			Can be used with external RAM and ROM.	8040AHL	Intel	
24 lines	1 8-bit			Can be used with external RAM and ROM.	8050AH	Intel	40

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
8	8		4K	HMOS	40	8/16	96	64x8				8	1.9				
8	8		4K	HMOS	40	8/16	96	64x8				11	1				
8	8		4K	HMOS	40	8/16	96	64x8	1Kx8			8	1.4/2.8				
8	8		4K	HMOS	40	8/16	96	128x8				8	1.9				
8	8		4K	HMOS	40	8/16	96	128x8				11	1.4/2.8				
8	8		4K	HMOS	40	8/16	96	128x8	2Kx8			11	1.4/2.8				
8	8		4K	NMOS		8/16		256x8	4Kx8			11	1.4/2.8				
8	8		8K	CMOS	20	8/24	26	64.8	1.8Kx8			8	3.3/8.2				
8	8		8K	CMOS	20	8/24	26	64.8	1.8Kx8			8	3.3/8.2				
8	8		8K	CMOS	20	8/24	26	64x8	3.8Kx8			8	3.3/8.2				
8	8		8K	CMOS	28	8/24	26	64x8	1.8Kx8			8	3.3/8.2				
8	8		8K	CMOS	28	8/24	26	64x8	3.8Kx8			8	3.3/8.2				
8	8		64K	CMOS	40	8/16	81	128x8	4Kx8			10	0.4	6	2		
8	8		64K	CMOS	44	8/16	83	256x8	8Kx8			10	0.4	15	3		
8	8		64K	CMOS	44	8/16	83	256x8	8Kx8			10	0.4	15	3		
8	8		64K	CMOS	64			1Kx8	24Kx8			10	0.4/122	14			
8	8		64K	CMOS	64			1Kx8	32Kx8			10	0.4/122	14			
8	8		64K	CMOS	64			1Kx8	32Kx8			10	0.4/122	14			
8	8		64K	CMOS	64			256x8	8Kx8			10	0.48/122	11			
8	8		64K	CMOS	64			384x8	16Kx8			10	0.4/122	11			
8	8		64K	CMOS	64			512x8	8Kx8			10	0.4/122	14			
8	8		64K	CMOS	64			512x8	16Kx8			10	0.4/122	14			
8	8		64K	CMOS	64	8/16	83	256x8	8x8			10	0.4	15	3		
8	8		64K	CMOS	64	8/16	83	256x8	8x8			10	0.4	15	3		
8	8		64K	CMOS	64	8/16	83	384x8	16Kx8			10	0.4	19	3		
8	8		64K	CMOS	64	8/16	83	384x8	16Kx8			10	0.4	19	3		
8	8		128Kx8	CMOS	64	8	135	260x8				8	0.5/6				
8	8	8		CHMOS	40			256x8	8Kx8					6			
8	8	8		CMOS	44		163	256x8	8Kx8			10	400	11	3		
8	8	8		CMOS	64		163	320x8	16Kx8			10	400	11	3		
8	8	8		CMOS	64		167	512x8	16KX8			10	400ns	10	4		
8	8	8		CMOS	64		167	512x8	16Kx8 EPROM			10	400ns	10	4		
8	8	8		CMOS	80		163					10	250	11	3		
8	8	8		CMOS	80		163	1Kx8	32Kx8			10	250	11	3		
8	8	8		CMOS	80		163	512x8	8Kx8			10	400	11	3		
8	8	8		CMOS	84		163	1Kx8				10	250	11	3		
8	8	8		CMOS	84		163	1Kx8	32Kx8			10	250	11	3		
8	8	8		CMOS	100		163	640x8	16Kx8			10	320	11	3		
8	8	8		CMOS	100		163	640x8	24Kx8			10	320	11	3		
8	8	8		HMOS	40		96	64X8	1Kx8				-/1.36	2			
8	8	8		HMOS	40		96	128x8	2Kx8				-/1.36	2			
8	8	8		HMOS-E	40		96	64x8	1Kx8				-/1.35	2			
8	8	8		HMOS-E	40		96	128x8	2Kx8				-/1.35	2			
8	8	8		HMOS-E	40		96	128x8	2Kx8				-/1.87	2			
8	8	8	4K	NMOS		8/16		256x8				11	1.36				
8	8	8	4K	NMOS		8/16		256x8	4Kx8			11	1.36				

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
24 lines	1 8-bit			CPU with power down mode. Can be used with external RAM or ROM.	M8035HL	Intel	
24 lines	1 8-bit			Can be used with external ROM and RAM	8035AHL	Intel	
24 lines	1 8-bit			8048H–1 has 11 MHz clock. Can be used with external RAM and ROM.	8048AH	Intel	
24 lines	1 8-bit			CPU with power down mode. Can be used with external RAM or ROM.	M8039HL	Intel	
24 lines	1 8-bit			Can be used with external ROM and RAM.	8039AHL	Intel	5
24 lines	1 8-bit			Can be used with external ROM and RAM.	8049AH	Intel	
					8050	Philips	
12 lines		1 8-bit		Built-in Watchdog, Timer and Prescaler, EPROM and OTP versions	ST6210	SGS-Thomson	
12 lines				Built-in Watchdog, Timer and Prescaler, EPROM and OTP versions	ST6211	SGS-Thomson	
12 lines				Built-in Watchdog, Timer and Prescaler, EPROM and OTP versions	ST6221	SGS-Thomson	10
20 lines		1 8-bit		Built-in Watchdog, Timer and Prescaler, EPROM and OTP versions	ST6215	SGS-Thomson	
20 lines				Built-in Watchdog, Timer and Prescaler, EPROM and OTP versions	ST6226	SGS-Thomson	
32 lines	1 8-bit x 2			Serial port	MSC65511	OKI	
32 lines	1 8-bit x 2, 1 16-bit			Serial port, ROM-OTP	MSM65P512	OKI	
32 lines	1 8-bit x 2			Serial port	MSM65512	OKI	15
53 I/O	1 16-bit, 2 8-Bit			Watchdog Timer	μPD78013	NEC	
53 I/O	1 16-bit, 2 8-Bit			Watchdog Timer	μPD78P014	NEC	
53 I/O	1 16-bit, 2 8-Bit			Watchdog Timer	μPD78014	NEC	
53 I/O	2 8-bit			Clock Timer, Watchdog Timer	μPD78001	NEC	
53 I/O	2 8-bit			Clock Timer, Watchdog Timer	μPD78002	NEC	20
53 I/O	1 16-bit, 2 8-Bit			Watchdog Timer	μPD78011	NEC	
53 I/O	1 16-bit, 2 8-Bit			Watchdog Timer	μPD78012	NEC	
8-bit x 7	2 8-bit, 1 16-bit			Serial Port, ROM-OTP	MSM65P513	OKI	
8-bit x 7	2 8-bit, 1 16-bit			Serial Port	MSM65513	OKI	
52 lines	2 8-bit, 1 16-bit	1 8-bit x 2		Serial Port, PWM, ROM-OTP	MSM65P524	OKI	25
52 lines	2 8-bit, 1 16-bit	1 8-bit x 2		Serial Port, PWM	MSM65524	OKI	
		1 8-bit		UART, Serial I/O, PWM, Real-Time I/O, ROM-less	MB89T713	Fujitsu	
					80C52	Intel	
28	8-bit, 16-bit	8-bit	8-bit		**TMP90C846**	**Toshiba (3826)**	
54	8bit			For VCR	**TMP91C642**	**Toshiba (3826)**	30
54	8bit x4 16bitx1	8bit			TMP91P640-10	Toshiba	
54	8bitx4 16bitx1	8bit			TMP91P640E-10	Toshiba	
31				DRAM Controller	**TMP90C051**	**Toshiba (3826)**	
64		8-bit	8-bit		**TMP90CM36**	**Toshiba (3826)**	
62		8-bit			**TMP90C848**	**Toshiba (3826)**	35
64		8-bit	8-bit		**TMP90CM37**	**Toshiba (3826)**	
66		8-bit	8-bit	Stepping Motor Control Port	**TMP90CM38**	**Toshiba (3826)**	
72				For VCR	**TMP90CH42**	**Toshiba (3826)**	
72				For VCR	**TMP90CK42**	**Toshiba (3826)**	
27	1 8-bit				P8748H	Intel	40
27	1 8-bit				P8749H	Intel	
27	1 8-bit				D8748H	Intel	
27	1 8-bit				D8749H	Intel	
27	1 8-bit				P8049KB	Intel	
24 lines	1 8-bit			ROMless version of INS8050L.	INS8040L	National	45
24 lines	1 8-bit				INS8050L	National	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8MHz																	**(Cont'd)**
8	8	8	4K	NMOS		8/16	96	64x8	1Kx8			11	1.36				
8	8	8	4K	NMOS	40	8/16		256x8				11	1.36				
8	8	8	4K	NMOS	40	8/16		256x8	4Kx8			11	1.36				
8	8	8	4K	NMOS	40	8/16		256x8	4Kx8			11	1.36				
8	8	8	4K	NMOS	40	8/16	90	128x8	2Kx8			11	1.4/2.8				
8	8	8	4K	NMOS	40	8/16	96	64x8				11	1.36				
8	8	8	4K	NMOS	40	8/16	96	128x8				11	1.4/2.8				
8	8	8	4K	NMOS	40	8/16	96	256x8				11	1.4/2.8				
8	8	8	4K	XMOS		8/16		256				11					
8	8	8	4K	XMOS	40	8/16		128x8	2Kx8			11	1.36				
8	8	8	4K	XMOS	40	8/16		256x8				11	1.36				
8	8	8	4K	XMOS	40	8/16		256x8	4Kx8			11	1.36				
8	8	8	4K	XMOS	40	8/16	96	64x8	1Kx8			11	1.36				
8	8	8	4K	XMOS	40	8/16	96	128x8	2Kx8			11	1.36				
8	8	8	4K	XMOS	40	8/16	97	128x8				11	1.36				
8	8	8	4K	XMOS	40	8/16	97	128x8				11	1.36				
8	8	15		CMOS	20	8/24	44	128x8		4Kx8		10	1	2	1	10	2
8	8	15		CMOS	28	8/24	44	128x8		4Kx8		10	1	2	1	10	2
8	8	15		CMOS	28	8/24	44	128x8	4Kx8			10	1	3	3	10	3
8	8	15		CMOS	28	8/24	44	128x8	4Kx8			10	1	3	3	10	3
8	8	15		CMOS	28	8/24	44	128x8	4Kx8			10	1	3	3	10	3
8	8	15		CMOS	28	8/24	53	192x8	4Kx8			10	1	9	1	8	3
8	8	15		CMOS	28	8/24	53	192x8	4Kx8			10	1	9	1	8	3
8	8	15		CMOS	28	8/24	53	192x8	4Kx8			10	1	9	1	8	3
8	8	15		CMOS	28	8/24	55	128x8	4Kx8			10	1	9	1	12	4
8	8	15		CMOS	28	8/24	55	128x8	4Kx8			10	1	9	9	9	3
8	8	15		CMOS	28	8/24	55	128x8	4Kx8			10	1	9	1	12	4
8	8	15		CMOS	28	8/24	55	256x8	8Kx8			10	1	13	1	10	6
8	8	15		CMOS	28	8/24	55	256x8	8Kx8			10	1	13	1	10	6
8	8	15		CMOS	28	8/24	55	256x8	8Kx8			10	1	13	1	10	6
8	8	15		CMOS	40/44	8/24	44	128x8		4Kx8		10	1	2	1	10	2
8	8	15		CMOS	40/44	8/24	44	128x8	4Kx8			10	1	3	3	10	4
8	8	15		CMOS	40/44	8/24	44	128x8	4Kx8			10	1	3	3	10	4
8	8	15		CMOS	40/44	8/24	44	128x8	4Kx8			10	1	3	3	10	4
8	8	15		CMOS	40/44	8/24	53	192x8	4Kx8			10	1	9	1	8	4
8	8	15		CMOS	40/44	8/24	53	192x8	4Kx8			10	1	9	1	8	4
8	8	15		CMOS	40/44	8/24	53	192x8	4Kx8			10	1	9	1	8	4
8	8	15		CMOS	40/44	8/24	55	128x8	4Kx8			10	1	9	1	12	4
8	8	15		CMOS	40/44	8/24	55	128x8	4Kx8			10	1	9	1	9	4
8	8	15		CMOS	40/44	8/24	55	128x8	4Kx8			10	1	9	1	12	4
8	8	15		CMOS	40/44	8/24	55	256x8	8Kx8			10	1	13	1	10	6
8	8	15		CMOS	40/44	8/24	55	256x8	8Kx8			10	1	13	1	10	6
8	8	15		CMOS	40/44	8/24	55	256x8	8Kx8			10	1	13	1	10	6
8	8	16		CMOS	64	8	144	12K	64K			8	—/1				
8	8	16		CMOS	64	8	144	16K	64K			8K	—/1				
8	8	16		CMOS	64	8	168	2K	64K			8.38	—/0.475				
8	8	16		CMOS	76	8	168	3.5K	192K			8.38	—/0.475				

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
24 lines	1 8-bit			Low power version of INS8048.	INS8048L	National	
24 lines	1 8-bit			ROMless INS8050UL	INS8040UL	National	
24 lines	1 8-bit			Microwire/Plus Serial Port	INS8050U	National	
24 lines	1 8-bit			Microwire/Plus Serial Port Low Power	INS8050UL	National	
24 LINES	1 8-BIT				8049	Philips	5
				Lowpower version of INS8035.	INS8035L	National	
24 lines	1 8-bit				8039	Philips	
24 lines	1 8-bit				8040	Philips	
				Piggy-back microcomputer, emulates 8048/49/50, socket for program module and EPROM.	NS87P50	National	
				Low power version of INS8049.	INS8049L	National	10
24 lines	1 8-bit			ROMless version of INS8050.	INS8040	National	
24 lines	1 8-bit				INS8050	National	
					INS8048	National	
				Low Power standby mode, on-chip battery charging	INS8049	National	
24 lines	1 8-bit			ROMless version of INS8049.	INS8039	National	15
24 lines	1 8-bit			Low power version of INS8039.	INS8039L	National	
16 lines	1 16-bit			OTP or UV Eraseable PROM	COP8782C	National	
20 lines	1 16-bit			OTP or UV Eraseable PROM	COP8781C	National	
20 lines	1 16-bit				COP681C	National	
20 lines	1 16-bit				COP881C	National	20
20 lines	1 16-bit			0 to 70 °C	COP981C	National	
20 lines	1 16-bit			Analog Comparator, Duplex UART	COP684CS	National	
20 lines	1 16-bit			Analog Comparator, Duplex UART	COP884CS	National	
20 lines	1 16-bit			Analog Comparator, Duplex UART, 0 to 70 °C	COP984CS	National	
20 lines	2 16-bit			Multi-input Wakeup	COP684CL	National	25
20 lines	2 16-bit	1 8-bit		Multi-Input Wakeup, 8 Chan A/D, 0 to 70 °C	COP984CF	National	
20 lines	2 16-bit			Multi-input Wakeup, 0 to 70°C	COP984CL	National	
20 lines	3 16-bit			2 Comparators, Duplex UART	COP684EG	National	
20 lines	3 16-bit			2 Comparators, Duplex UART	COP884EG	National	
20 lines	3 16-bit			2 Comparators, Duplex UART, 0 to 70°C	COP984EG	National	30
28 lines	1 16-bit			OTP or UV Eraseable PROM	COP8780C	National	
28 lines	1 16-bit				COP680C	National	
28 lines	1 16-bit				COP880C	National	
28 lines	1 16-bit			0 to 70 °C	COP980C	National	
32/28 lines	1 16-bit			Analog Comparator, Duplex UART	COP688CS	National	35
32/28 lines	1 16-bit			Analog Comparator, Duplex UART	COP888CS	National	
32/28 lines	1 16-bit			Analog Comparator, Duplex UART, 0 to 70°C	COP988CS	National	
26/32 lines	2 16-bit			Multi-input Wakeup	COP688CL	National	
30/32 lines	2 16-bit	1 8-bit		Multi-input wakeup, 8 Chan A/D, 0 to 70°C	COP988CF	National	
26/32 lines	2 16-bit			Multi-input Wakeup, 0 to 70°C	COP988CL	National	40
28/32 lines	3 16-bit			2 Comparators, Duplex UART	COP688EG	National	
28/32 lines	3 16-bit			2 Comparators, Duplex UART	COP888EG	National	
28/32 lines	3 16-bit			2 Comparators, Duplex UART, 0 to 70°C	COP988EG	National	
					MN187818	Panasonic	
					MN18788	Panasonic	45
					MN18888	Panasonic	
					MN1882413	Panasonic	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
8MHz																	**(Cont'd)**
8	8	16		CMOS	84	8	144	5K	80K			8.38	—/0.475				
8	8	16		CMOS	84	8	144	5K	128K			8.38	—/0.475				
8	8	16		CMOS	84	8	144	8K	128K			8.38	—/0.475				
8	8	16		CMOS	84	8	144	8K	256K			8.38	—/0.475				
8	8	16		CMOS	84	8	144	12K	192K			8.38	—/0.475				
8	8	16		CMOS	84	8	168	3.5K	192K			8.38	—/0.475				
8	8	16		CMOS	84	8	168	3K	128K			8.38	—/0.475				
8	8	16		CMOS	84	8	168	4.5K	256K			8.38	—/0.475				
8	8	16		CMOS	100	8	168	4.5K	256K			8.38	—/0.475				
8	8	16		CMOS	100	8	168	4.5K	256K			8.38	—/0.475				
8	8	16	1K	NMOS	18	8/24	122	93	1K			8	1/1.8	2	4	76	20
8	8	16	2K	NMOS	28	8/24	122	128	2K			8	1/1.8	2	4	124	20
8	8	16	64K	CMOS	18	8/24	122	124	1K			8	1/1.8	2	4	124	20
8	8	16	64K	CMOS	18	8/24	122	124	6K			8	1/1.8	2	4	125	20
8	8	16	64K	CMOS	18	8/24	122	124	6K			8	1/1.8	2	4	125	20
8	8	16	64K	CMOS	40	8/24	62	176x8	4Kx8			8	2/4				
8	8	16	64K	CMOS	40	8/24	62	208x8	8Kx8			8	2/4				
8	8	16	64K	CMOS	40	8/24	122	256	—			8	1/1.8	2	4	236	20
8	8	16	64K	CMOS	44	8/16	233	236x8	8Kx8			0/8	1.5/5	2	4	124	19
8	8	16	64K	CMOS	48	8/24	62	176x8	6Kx8	256x8		8	2/4				
8	8	16	64K	CMOS	64	8/24	77	256x8	12Kx8			0.25/8	1/16	7	1	16	12
8	8	16	64K	HMOS	40	8/24	111	128x8	4Kx8			12	4				
8	8	16	64K	NMOS	40	8/24	111	128x8	4Kx8			20	0.6/10	3	2		
8	8	16	64K	NMOS	40	8/24	111	256x8				18	0.7/10				
8	8	16	64K	NMOS	40	8/24	111	256x8	8Kx8			18	0.7/10				
8	8	16	64K	NMOS	40	8/24	255	128x8	4Kx8			15	0.8/3.2	3	2		
8	8	16	64K	NMOS	40	8/24	255	256x8	8Kx8			15	0.8/3.2	4	2		
8	8	16	64K	NMOS	68	8/24	111	256x8				15	0.8/10		2		
8	8	16	64K	NMOS	68	8/24	111	256x8	8Kx8			12	1/10				
8	8	16	120K	CMOS	44	8/16	233	124x8	4Kx8			0/8	1.5/5	2	4	124	19
8	8	16	120K	NMOS	40	8/24	231	124x8	4Kx8			0/8	1.5/5	2	6	124	20
8	8	16	124K	NMOS	40	8/24	231	124x8	2Kx8			0/8	1.5/5	2	6	124	20
8	8	16	128K	CMOS	44	8/16	233	124x8				0/8	1.5/5	2	4	124	19
8	16		16M	CMOS	84	8	91	576x8	8Kx8			10	0.2		29		
8	16		16M	CMOS	84	8	91	576x8	8Kx8			10	0.2		29		
8	16		16M	CMOS	84	8	91	576x8	8Kx8			10	0.2		29		
16	8	16	16M	CMOS	64	8/24	71	384x8	8Kx8			0/8	0.5/	8	7		
16	8	16	16M	CMOS	64	8/24	71	384x8	16Kx8			0/8	0.5/	8	7		
16	8	16	16M	CMOS	64	8/24	71	384x8	16Kx8	16Kx8		0/8	0.5/	8	7		
16	16	20	1M	NMOS		8/48	150						0.4/0.8		5	8	6
12MHz																	
8				CMOS	28	8/16	90	256x8				12					
8				CMOS	28	8/16	90	256x8	4Kx8			12					
8				CMOS	28	8/16	90	256x8	4Kx8			12					
8				CMOS	44	8	73	256x8	8Kx8			20	1/12.6				
8				CMOS	64			1K				12.5					

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
					MN1871215	Panasonic	
					MN1871616	Panasonic	
					MN1871610	Panasonic	
					MN1873214	Panasonic	
					MN1872410	Panasonic	5
					MN1882410	Panasonic	
					MN188166	Panasonic	
					MN1883210	Panasonic	
					MN18801A	Panasonic	
					MN18806	Panasonic	10
14 I/O	2 8-Bit				Z8604	Zilog	
22 I/O	2 8-Bit				Z8600	Zilog	
14 I/O	2 8-Bit				Z86L06	Zilog	
14 I/O	2 8-Bit				Z86L29	Zilog	
14 I/O	2 8-Bit			OSD, Closed Caption Decoder for TV, VCR	Z86128	Zilog	15
24 lines	1 16-bit			Built-in Watchdog, Prescaler, SPI	ST8004	SGS-Thomson	
24 lines	1 16-bit			Built-in Watchdog, Prescaler, SPI, SCI	ST8108	SGS-Thomson	
32 I/O	2 8-Bit			2 Comparators	Z86C89	Zilog	
32 lines	2 8-bit			UART	SM805	Sharp	
	1 16-bit	1		Built-in Watchdog, Prescaler, SCI	ST8206	SGS-Thomson	20
54 lines	2 8-bit	8-bit x 8		PWM	SM8320	Sharp	
	2 16-bit			Serial I/O Port Boolean Processor.	8051AH	Intel	
32 lines	2 16-bit			Serial I/O	SAB8051A	Siemens	
	2 16-bit			Serial I/O	SAB8032B	Siemens	
	3 16-bit			Serial I/O	SAB8052B	Siemens	25
	2 16-bit			NMOS version of 80C51	SCN8051	Philips	
	3 16-bit			Pin compatible with 8051 with twice the ROM and RAM; third timer.	SCN8052	Philips	
48 lines	3 16-bit	1 8-bit			**SAB80535**	**Siemens (3767)**	
				ROM Version of the SAB80535	SAB80515	Siemens	
32 lines	2 8-bit			UART	SM803	Sharp	30
32 lines	2 8-bit			UART	LH0811	Sharp	
32 lines	2 8-bit			UART	LH0801	Sharp	
24 lines	2 8-bit			UART	LU800V1	Sharp	
64 Lines	8 16-Bit				**W65C265S**	**WDC (3849)**	
64 lines	8 16-bit				**W65C265S-1**	**WDC (3849)**	35
64 lines	8 16-bit				**W65C265S-4**	**WDC (3849)**	
56 lines	4 8-bit	8-bit x 8	8-bit x 2	UART, PWM	M38022M2	Mitsubishi	
56 lines	4 8-bit	8-bit X 8	8-bit x 2	UART, PWM	M38022M4	Mitsubishi	
56 lines	4 8-bit	8-bit X 8	8-bit x 2	UART, PWM	M38022E4	Mitsubishi	
	3 16 -bit			Faster versions also available, refurbished	80186	Krueger	40
				1^{2}C and NBAP Protocols	SCC84C00	Philips	
				1^{2}C and NBAP Protocols	SCC84C20	Philips	
				1^{2}C and NBAP Protocols	SCC84C40	Philips	
				8K ROM, 256 bytes EEPROM, PACT (Programmable Acquisition and Control Timer)	TMS370C032	TI	
24 I/O, 3 In Only	3 16-bit	3	2		M37451SSP	Mitsubishi	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	8			CMOS	64			256B	8K			12.5					
8	8			CMOS	64			384B	16K			12.5					
8	8			CMOS	80			1K				12.5					
8	8			CMOS	80			1K				12.5					
8	8			CMOS	80			256B	8K			12.5					
8	8			CMOS	80			256B	8K			12.5					
8	8			CMOS	80			384B	16K			12.5					
8	8			CMOS	80			384B	16K			12.5					
8	8		64K		40	8/24		128x8	2Kx8			16	1/4				
8	8		64K	CMOS	40	8/24		128x8				16	1/4				
8	8		64K	CMOS	40	8/24		128x8		4Kx8		16	1/4				
8	8		64K	CMOS	40	8/24		128x8	4Kx8			16	1/4				
8	8		64K	CMOS	40	8/24		512x8				16	1/4				
8	8		64K	CMOS	40	8/24		512x8		16Kx8		20	1/4				
8	8		64K	CMOS	40	8/24		512x8		32Kx8		20	1/4				
8	8		64K	CMOS	40	8/24		512x8	16Kx8			20	1/4				
8	8		64K	CMOS	40	8/24		512x8	32Kx8			16	1/4				
8	8		64K	CMOS	40	8/24	255	256x8	8Kx8			12	1/4				
8	8		64K	CMOS	40	8/24	255	256x8	8Kx8			16	0.75/3				
8	8		64K	CMOS	40	8/24	255	256x8	16Kx8			12	1/4				
8	8		64K	HMOS	40	8/24	111	128x8				12	1/4				
8	8		64K	NMOS	40	8/24		128x8	4Kx8			12	1/4				
8	8		64K	NMOS	40	8/24		128x8	4Kx8			12	1/4				
8	8		64K	NMOS	40	8/24		256x8				12	1/4				
8	8		64K	NMOS	40	8/24		256x8	8Kx8			12	1/4				
8	8		64K	NMOS	40	8,16,24	111	256x8	32Kx8			16	0.75/10				
8	8		64K	NMOS	68	8,16,24	111	256x8	16Kx8			12	1/10				
8	8			CMOS	24	8/24		64x8		1Kx8		3.5 to 16		3	2		
8	8			CMOS	24	8/24		64x8		1Kx8		3.5 to 40		3	2		
8	8			CMOS	100	8	67	1344	32K			13	1/366				
8	8			CMOS	100	8	67	1344	64K			13	1/366				
8	8		2K	CMOS	24	8/24	255	64x8	2Kx8			16	0.75/3				
8	8		2K	CMOS	28	8/24	255	64x8	2Kx8			16	0.75/3				
8	8		32K	CMOS	20	8	44	64x8	1Kx8			20	1		3		
8	8		32K	CMOS	20	8	44	64x8	1Kx8			20	1		3		
8	8		32K	CMOS	20	8	44	64x8	1Kx8			20	1				
8	8		32K	CMOS	20	8	44	64x8	1Kx8			20	1		3		
8	8		32K	CMOS	24	8	44	64x8	1Kx8			20	1		3		
8	8		32K	CMOS	24	8	44	64x8	1Kx8			20	1				
8	8		32K	CMOS	28	8	44	64x8	1Kx8			20	1		3		
8	8		32K	CMOS	28	8	44	64x8	1Kx8			20	1		3		
8	8		32K	CMOS	28	8	44	64x8	1Kx8			20	1				
8	8		32K	CMOS	28	8	44	64x8	1Kx8			20	1		3		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
48 I/O, 3 In Only	3 16-bit	3	2		M37451M4-SP	Mitsubishi	
48 I/O, 3 In Only	3 16-bit	3	2		M37451M8-SP	Mitsubishi	
24 I/O, 8 In Only	3 16-bit	8	2		M37451SFP	Mitsubishi	
24 I/O, 8 In Only	3 16-bit	8	2		M37451SGP	Mitsubishi	
48 I/O, 8 In Only	3 16-bit	8	2		M37451M4-FP	Mitsubishi	5
48 I/O, 8 In Only		8	2		M37451M4-GP	Mitsubishi	
48 I/O, 8 In Only	3 16-bit	8	2		M37451M8-FP	Mitsubishi	
48 I/O, 8 In Only	3 16-bit	8	2		M37451M8-GP	Mitsubishi	
24 I/O lines	1 8-bit				SCN8049	Philips	
4 8-bit	2 16-bit	1 8-bit		Watchdog Timer	**80C550**	**Philips (3714)**	10
4 8-bit	2 16-bit	1 8-bit		Watchdog Timer	**87C550**	**Philips (3714)**	
4 8-bit	2 16-bit	1 8-bit		Watchdog Timer	**83C550**	**Philips (3714)**	
4 8-bit	3 16-bit				80C528	Philips	
4 8-bit	3 16-bit				**87C524**	**Philips (3712)**	
4 8-bit	3 16-bit				**87C528**	**Philips (3713)**	15
4 8-bit	3 16-bit				83C524	Philips	
4 8-bit	3 16-bit				83C528	Philips	
				Pin compatible with80C51; I^{2}C serial interface.	S83C652	Philips	
				Pin compatible with 80C51, has third timer, 87C52 is EPROM version.	**SC80C52**	**Philips (3708)**	
				Pin compatible with 80C51, I^{2}C serial interface, 16K ROM.	S83C654	Philips	20
	2 16-bit			Serial I/O Port Boolean Processor	8031AH	Intel	
4 8-bit, 32 I/O lines	2 16-bit			Serial I/O Port Boolean Processor	8031AH	Philips	
4 8-bit, 32 I/O lines	2 16-bit			Serial I/O Port Boolean Processor	8051AH	Philips	
4 8-bit, 32 I/O lines	3 16-bit			Serial I/O Port Boolean Processor	8032AH	Philips	
4 8-bit, 32 I/O lines	3 16-bit			Serial I/O Port Boolean Processor	8052AH	Philips	25
				SAB8032B + 32K	SAB8352-5	Siemens	
				SAB80535 + 16K ROM	SAB83515-4	Siemens	
19 lines	16-bit			EEPROM Available, LED drivers	**P87C750E**	**Philips (3721)**	
19 lines	16-bit			EEPROM Available, LED drivers	**P87C750P**	**Philips (3721)**	
				Low Power LCD Dot Matrix Driver	LC86104	Sanyo	30
				Low Power LCD Dot Matrix Driver	LC86108	Sanyo	
				80C51 Core architecture; EPROM version is 87C751; has I^{2}C serial interface.	S83C751	Philips	
		1 8-bit		80C51 core architecture, PWM, EPROM version is 87C752.	S83C752	Philips	
				Software Selectable I/O Options	COP622C	National	
				Software Selectable I/O Options.	COP822C	National	35
				EEPROM Version of COP822C	COP8722C	National	
				Software Selectable I/O Options	COP922C	National	
	1 16-bit			Software Selectable I/O Options	COP821C	National	
				EEPROM Version of COP821C	COP8721C	National	
	1 16-bit			Software Selectable I/O Options	COP620C	National	40
	1 16-bit			Software Selectable I/O Options	COP820C	National	
				EEPROM Version of COP820C	COP8720C	National	
	1 16-bit			Software Selectable I/O Options	COP920C	National	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	8		32K	CMOS	28	8	44	128x8	2Kx8			20	1				
8	8		32K	CMOS	28	8	44	128x8	2Kx8			20	1				
8	8		32K	CMOS	28	8	44	128x8	2Kx8			20	1				
8	8		32K	CMOS	28	8/24		64x8					1				
8	8		32K	CMOS	28	8/24		64x8					1		3		
8	8		64K	CMOS	40		110	256				12/16	1/0.75 min, 3 max	4	2		9
8	8		64K	CMOS	40	8/24	255	128x8	4Kx8			20	0.6/2.4				
8	8		64K	CMOS	44		110	256	16K			12/16	1/0.75 min, 3 max	4	2		9
8	8		64K	CMOS	44		111	128x8				12/16	1/0.75	3	2		
8	8		64K	CMOS	44		111	128x8	4Kx8			12/16	1/0.75	3	2		
8	8		64K	CMOS	44		111	256				12/16		4	2		
8	8		64K	NMOS	40	8/16	96	64x8	0	)	0	12	1.36/2.72	1	0		
8	8		64K	NMOS	40	8/24	1/11	128x8	0	0	0	12	1/4	2	0		
8	8		64K	NMOS	40	8/16	96	128x8	0	0	0	12	1.36/2.72	1	0		
8	8	8		CHMOS	40			256x8				16		6		8	
8	8	8		CHMOS	40			256x8	16Kx8					6			
8	8	8		CHMOS	40			256x8	16Kx8					6			
8	8	8		CHMOS	40			256x8	32Kx8					6			
8	8	8		CHMOS	40			256x8	32Kx8					6			
8	8	8		CHMOS	40		111	128x8	4Kx8					5			
8	8	8		CHMOS	40		111	128x8	16Kx8					5			
8	8	8		CHMOS	40		111	128x8	16Kx8					5			
8	8	8		CHMOS	40		111	256x8						7			
8	8	8		CHMOS	40		111	256x8						15			
8	8	8		CHMOS	40		111	256x8		8Kx8				7			
8	8	8		CHMOS	40		111	256x8		8Kx8				7			
8	8	8		CHMOS	40		111	256x8		8Kx8				7			
8	8	8		CHMOS	40		111	256x8		8Kx8				7			
8	8	8		CHMOS	40		111	256x8		8Kx8		20		7			
8	8	8		CHMOS	40		111	256x8		16Kx8		20		7			
8	8	8		CHMOS	40		111	256x8		16Kx8		20		7			
8	8	8		CHMOS	40		111	256x8		32Kx8				7			
8	8	8		CHMOS	40		111	256x8		32Kx8				7			
8	8	8		CHMOS	40		111	256x8		32Kx8		20		7			
8	8	8		CHMOS	40		111	256x8		32Kx8		20		7			
8	8	8		CHMOS	40		111	256x8	8Kx8					15			
8	8	8		CHMOS	40		111	256x8	32Kx8			20		6			
8	8	8		CHMOS	40		111	256x8	32Kx8			20		6			
8	8	8		CHMOS	48			256x8						5			
8	8	8		CHMOS	48			256x8						5			
8	8	8		CHMOS	48			256x8	8Kx8					5			
8	8	8		CHMOS	48			256x8	8Kx8					5			
8	8	8		CHMOS	100			256x8	8Kx8					10			
8	8	8		CMOS	28	8	73	128x8		4Kx8		20	1/12.6	7	3		
8	8	8		CMOS	28	8	73	128x8		4Kx8		20	1/12.6	7	3		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
	1 16-bit			Software Selectable I/O Options	COP640C	National	
	1 16-bit			Software Selectable I/O Options	COP840C	National	
	1 16-bit			Software Selectable I/O Options	COP940C	National	
	1 16-bit				COP820CP-X	National	
	1 16-bit				COP840CP-X	National	5
32 lines	3 16-bit			Ext ROM, SIO	MSM80C154	OKI	
				Available with EPROM (UV or OTP)	SC80C51	Philips	
32 lines	3 16-bit			SIO	MSM83C154	OKI	
32 lines	2 16-bit			Ext ROM	MSM80C31F	OKI	
32 lines	2 16-bit			Serial port	MSM80C51F	OKI	10
32 lines	3 16-bit			Ext EPROM to 16K	MSM85C154VS	OKI	
3	1				8035	Krueger	
4	2				8031	Krueger	
3	1				8039	Krueger	
				ARCNET Controller	COM20051	SMC	15
					80C54	Intel	
					87C54	Intel	
					80C58	Intel	
					87C58	Intel	
32	2 16-bit				87C51-20	Intel	20
32	3 16-bit				80C54-20	Intel	
32	3 16-bit				87C54-20	Intel	
32	3 16-bit				80C51FA	Intel	
32	3 16-bit				80C51GB	Intel	
32	3 16-bit				83C51FA	Intel	25
32	3 16-bit				83C51FB	Intel	
32	3 16-bit				87C51FA	Intel	
32	3 16-bit				87C51FB	Intel	
32	3 16-bit				87C51FA-20	Intel	
32	3 16-bit				83C51FB-20	Intel	30
32	3 16-bit				87C51FB-20	Intel	
32	3 16-bit				83C51FC	Intel	
32	3 16-bit				87C51FC	Intel	
32	3 16-bit				83C51FC-20	Intel	
32	3 16-bit				87C51FC-20	Intel	35
32	3 16-bit				87C51GB	Intel	
32	3 16-bit				80C58-20	Intel	
32	3 16-bit				87C58-20	Intel	
	2 16-bit			Communications Controller	80C152JB	Intel	
	2 16-bit			Communications Controller	80C152JD	Intel	40
	2 16-bit			Communications Controller	83C152JA	Intel	
	2 16-bit			Communications Controller	83C152JC	Intel	
3		4-ch/8-bit		Keyboard Controller	80C51SL-BG	Intel	
22	1 16-bit + Watchdog			256 Bytes Data EEPROM, Reprogrammable SPI	SE370C710	TI	
22	1 16-bit + Watchdog			SPI	TMS370C610	TI	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	8	8		CMOS	28	8	73	128x8		4Kx8		20	1/12.6	7	3		
8	8	8		CMOS	28	8	73	128x8	2Kx8			20	1/12.6	7	3		
8	8	8		CMOS	28	8	73	128x8	4Kx8			20	1/12.6	7	3		
8	8	8		CMOS	28	8	73	128x8	4Kx8			20	1/12.6	7	3		
8	8	8		CMOS	40		163	128x8	8Kx8			12.5	320	10	4		
8	8	8		CMOS	40		163	256x8				12.5	320	10	4		
8	8	8		CMOS	40		163	256x8				12.5	320ns	8	3		
8	8	8		CMOS	40		163	256x8	8Kx8			12.5	320	10	4		
8	8	8		CMOS	40		163	256x8	8Kx8			12.5	320ns	8	3		
8	8	8		CMOS	40		163	512x8				12.5	320	10	4		
8	8	8		CMOS	40		163	512x8	16Kx8			12.5	320	10	4		
8	8	8		CMOS	40/44	8	73	256x8		8Kx8		20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8		8Kx8		20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8		8Kx8		20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8		8Kx8		20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8		8Kx8		20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8	4Kx8			20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8	4Kx8			20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8	4Kx8			20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8	8Kx8			20	1/12.6	7	3		
8	8	8		CMOS	40/44	8	73	256x8	8Kx8			20	1/12.6	7	3		
8	8	8		CMOS	64		163					12.5	320	10	4		
8	8	8		CMOS	64		163					12.5	320	10	4		
8	8	8		CMOS	64		163	1Kx8				12.5	320ns	10	4		
8	8	8		CMOS	64		163	1Kx8	32Kx8			12.5	320	10	4		
8	8	8		CMOS	64		163	1Kx8	32Kx8			12.5	320ns	10	4		
8	8	8		CMOS	64		163	128x8				12.5	320	7	3		
8	8	8		CMOS	64		163	128x8	4Kx8			12.5	320ns	7	3		
8	8	8		CMOS	64		163	256x8				12.5	320	7	3		
8	8	8		CMOS	64		163	256x8				16	250	10	3		
8	8	8		CMOS	64		163	256x8	8Kx8			12.5	320	7	3		
8	8	8		CMOS	64		163	256x8	8Kx8			12.5	320ns	7	3		
8	8	8		CMOS	64		163	256x8	8Kx8			16	250	12	3		
8	8	8		CMOS	64		163	512x8				16	250	10	3		
8	8	8		CMOS	64		163	512x8	16Kx8			16	250	12	3		
8	8	8		CMOS	64		163	512x8	16Kx8			16	250NS	12	3		
8	8	8		CMOS	64		167	512x8				12.5	320ns	10	4		
8	8	8		CMOS	64		167	512x8	16Kx8			12.5	320	10	4		
8	8	8		CMOS	68	8	73	512x8		16Kx8		20	1/12.6	7	3		

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
22	1 16-bit + Watchdog			256 Bytes Data EEPROM, SPI	TMS370C710	TI	
22	1 16-bit + Watchdog			SPI	TMS370C311	TI	
22	1 16-bit + WD			PWM output, serial port 256 Bytes Data EEPROM	TMS370C010C	TI	
22	1 16-bit + WD			PWM output, serial port	TMS370C310	TI	
32	8-bitx4				**TMP90C802**	**Toshiba (3826)**	5
6	8-bitx4				**TMP90C803**	**Toshiba (3826)**	
32	8bitx4				TMP90C820A	Toshiba	
32	8-bitx4				**TMP90C802A**	**Toshiba (3826)**	
32	8bitx4				TMP90P802A	Toshiba	
6	8-bitx4				**TMP90CH03**	**Toshiba (3826)**	10
32	8-bitx4				**TMP90CH02**	**Toshiba (3826)**	
32	1 16-bit + Watchdog			256 Bytes Data EEPROM, Reprogrammable SPI, SCI	SE370C722	TI	
32	1 16-bit + Watchdog			SCI, SPI	TMS370C622	TI	
32	2 16-bit + Watchdog	1 8-bit		SCI	TMS370C642	TI	
32	1 16-bit + Watchdog			256 Bytes Data EEPROM, SCI, SPI	TMS370C722	TI	15
32	2 16-bit + Watchdog	1 8-bit		256 Bytes Data EEPROM, SCI	TMS370C742	TI	
32	1 16-bit + Watchdog			256 Bytes Data EEPROM, SCI, SPI	TMS370C020	TI	
32	1 16-bit + Watchdog			SCI, SPI	TMS370C320	TI	
32	2 16-bit + Watchdog	1 8-bit		SCI	TMS370C340	TI	
32	1 16-bit + Watchdog			SCI, SPI	TMS370C322	TI	20
32	2 16-bit + Watchdog	1 8-bit		SCI	TMS370C342	TI	
28	8bitx4 16bitx1	8bit		Stepping Motor Control, Watchdog Timer	**TMP90C041**	**Toshiba (3826)**	
28	8-bitx4 16-bitx1	8bit		Stepping Motor Control, Watchdog Timer	**TMP90C041-15**	**Toshiba (3826)**	
28	8bitx1 16bitx1	8bit		Stepping Motor Control, Watchdog Timer	**TMP90C141**	**Toshiba (3826)**	
54	8bitx4 16bitx1	8bit		Stepping Motor Control, Watchdog Timer	**TMP90CM40**	**Toshiba (3826)**	25
54	8bit x4 16bitx1	8bit			TMP90PM40	Toshiba	
38	8bitx4				**TMP90C401**	**Toshiba (3826)**	
56	8bitx4				**TMP90C400**	**Toshiba (3826)**	
38	8-bitx4				**TMP90C801**	**Toshiba (3826)**	
38	8bitx4 16bit1	8bit			**TMP90C845**	**Toshiba (3826)**	30
56	8-bitx4				**TMP90C800**	**Toshiba (3826)**	
56	8bit				TMP90P800	Toshiba	
54	8bitx4 16bitx1	8bit			**TMP90C844**	**Toshiba (3826)**	
38	8-bitx4 16-bit1	8bit			**TMP90CH45**	**Toshiba (3826)**	
54	8-bitx4 16-bitx1	8bit			**TMP90CH44**	**Toshiba (3826)**	35
36	8bitx4 16bitx1	8bit			TMP90PH44	Toshiba	
28	8bitx4 16bitx1	8 bit		Stepping Motor Control, Watchdog Timer	**TMP91C641**	**Toshiba (3826)**	
54	8bitx4 16bitx1	8 bit		Stepping Motor Control, Watchdog Timer	**TMP91C640**	**Toshiba (3826)**	
55	2 16-bit + Watchdog	1 8-bit		512 Bytes Data EEPROM, Reprogrammable SPI, SCI	SE370C756	TI	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

12MHz (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
8	8	8		HMOS	40		111	128x8						2			
8	8	8		HMOS	40		111	128x8	4Kx8					5			
8	8	8		HMOS	40		111	128x8	4Kx8					2	2		
8	8	8		HMOS	40		111	128x8	4Kx8					2			
8	8	8	56K	CMOS	68	8	73	256x8				20	1/12.6	7	3		
8	8	8	56K	CMOS	68	8	73	256x8				20	1/12.6	7	3		
8	8	8	56K	CMOS	68	8	73	512x8				20	1/12.6	7	3		
8	8	8	56K	CMOS	68	8	73	512x8				20	1/12.6	7	3		
8	8	8	112K	CMOS	40/44	8	73	256x8		8Kx8		20	1/12.6	7	3		
8	8	8	112K	CMOS	68	8	73	256x8	4Kx8			20	1/12.6	73	3		
8	8	8	112K	CMOS	68	8	73	256x8	8Kx8			20	1/12.6	7	3		
8	8	8	112K	CMOS	68	8	73	256x8	8Kx8			20	1/12.6	7	3		
8	8	8	112K	CMOS	68	8	73	512x8		16Kx8		20	1/12.6	7	3		
8	8	8	112K	CMOS	68	8	73	512x8	16Kx8			20	1/12.6	7	3		
8	8	15		CMOS	28	8/24	55	128x8	4Kx8			10	1	9	9	9	3
8	8	15		CMOS	28	8/24	55	128x8	4Kx8			10	1	9	1	12	4
8	8	15		CMOS	28	8/24	58	64x8	1Kx8			20	1				
8	8	15		CMOS	28	8/24	58	64x8	1Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	1Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	1Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	1Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	1Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	2Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	2Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	64x8	2Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	128x8	2Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	128x8	2Kx8			20	1		10		
8	8	15		CMOS	28	8/24	58	128x8	2Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	128x8	2Kx8			20	1		3		
8	8	15		CMOS	28	8/24	58	128x8	8Kx8			20	1		10		
8	8	15		CMOS	28	8/24	58	192x8				20	1		14		
8	8	15		CMOS	28	8/24	58	192x8	4Kx8			20	1		14		
8	8	15		CMOS	40/44	8/24	55	128x8	4Kx8			10	1	9	1	9	4
8	8	15		CMOS	40/44	8/24	55	128x8	4Kx8			10	1	9	1	12	4
8	8	16		CMOS	40	8/24		256Kx8				3.5/12	1/	4	2	4	27
8	8	16		CMOS	40	8/24		256Kx8	8Kx8			3.5/12	1/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8				3.5/12	1/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8				3.5/20	0.5	4	2	4	27
8	8	16		CMOS	40	8/24		256x8				3.5/20	0.5/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8				3.5/40	0.25/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8				3.5/40	0.25/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8	8Kx8			3.5/12	1/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8	8Kx8			3.5/20	0.5	4	2	4	27

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
32	2 16-bit				8031KB	Intel	
32	2 16-bit				80C51BHP	Intel	
32	2 16-bit				8051AHP	Intel	
32	2 16-bit				8051KB	Intel	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port	TMS370C150	TI	5
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port 256 Bytes Data EEPROM	TMS370C250	TI	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port	TMS370C156	TI	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port 512 Bytes Data EEPROM	TMS370C256	TI	
32	2 16-bit + Watchdog	1 8-bit		256 Bytes Data EEPROM, Reprogrammable SCI	SE370C742	TI	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port	TMS370C350	TI	10
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port 256 Bytes Data EEPROM	TMS370C052	TI	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port	TMS370C352	TI	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port 512 Bytes Data EEPROM	TMS370C756	TI	
55	2 16-bit + WD	1 8-bit		UART, PWM output, serial port	TMS370C356	TI	
20 lines	2 16-bit	1 8-bit		Multi-Input Wakeup, 8 Chan A/D	COP884CF	National	15
20 lines	2 16-bit			Multi-input Wakeup	COP884CL	National	
					COP820CB	National	
24 lines	1				COP821CB	National	
20 lines	1				COP822CB	National	
16 lines	1 16-bit				COP8620C	National	20
20 lines	1 16-bit				COP8621C	National	
16 lines	1 16-bit				COP8622C	National	
24 lines	1 16-bit				COP8640C	National	
20 lines	1 16-bit				COP8641C	National	
16 lines	1 16-bit				COP8642C	National	25
16 lines	1 16-bit				COP642C	National	
20 lines	1 16-bit				COP841C	National	
16 lines	1 16-bit				COP842C	National	
16 lines	1 16-bit				COP942C	National	
33 lines	2 16-bit				COP888CLMH	National	30
35 lines	3 16-bit				COP884CG	National	
35 lines	3 16-bit				COP888CG	National	
30/32 lines	2 16-bit	1 8-bit		Multi-input wakeup, 8 Chan A/D	COP888CF	National	
26/32 lines	2 16-bit			Multi-input Wakeup	COP888CL	National	
32 lines	3 16-bit			ROM-less Version of C501, 1 USART, 8051 Compatible	**SABC501-L**	**Siemens (3767)**	35
32 lines	3 16-bit			ROM Version of C501, 1 USART, 8051 Compatible	**SABC501-1R**	**Siemens (3767)**	
32 lines	3 16-bit			ROM-less Version of C501, 1 USART, 8051 Compatible, Extended temp range	SAFC501-L	Siemens	
32 lines	3 16-bit			ROM-less Version of C501, 1 USART, 8051 Compatible	**SABC501-L20**	**Siemens (3767)**	
32 lines	3 16-bit			ROM-less Version of C501, 1 USART, 8051 Compatible, Extended temp range	SAFC501-L20	Siemens	
32 lines	3 16-bit			ROM-less Version of C501, 1 USART, 8051 Compatible	SABC501-L40	Siemens	40
32 lines	3 16-bit			ROM-less Version of C501, 1 USART, 8051 Compatible, Extended temp range	SAFC501-L40	Siemens	
32 lines	3 16-bit			ROM Version of C501, 1 USART, 8051 Compatible, Extended temp range	SAFC501-1R	Siemens	
32 lines	3 16-bit			ROM Version of C501, 1 USART, 8051 Compatible	SABC501-1R20	Siemens	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	8	16		CMOS	40	8/24		256x8	8Kx8			3.5/20	0.5/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8	8Kx8			3.5/40	0.25/	4	2	4	27
8	8	16		CMOS	40	8/24		256x8	8Kx8			3.5/40	0.25/	4	2	4	27
8	8	16		CMOS	44	8/24		256Kx8				3.5/12	1/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8				3.5/12	1/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8				3.5/20	0.5/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8				3.5/20	0.5/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8				3.5/40	0.5/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8				3.5/40	0.25/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8	8Kx8			3.5/12	1/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8	8kx8			3.5/12	1/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8	8Kx8			3.5/20	0.5/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8	8Kx8			3.5/20	0.5/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8	8Kx8			3.5/40	0.5/	4	2	4	33
8	8	16		CMOS	44	8/24		256Kx8	8Kx8			3.5/40	0.25/	4	2	4	33
8	8	16	2K	CMOS	18	8/24	122	124		2K		12	1/1.8	2	4	124	20
8	8	16	2K	CMOS	18	8/24	122	124	2K	2K		12	1/1.8	2	4	124	20
8	8	16	4K	CMOS	28	8/24	122	256		4K		12	1/1.8	2	4	236	20
8	8	16	4K	NMOS	28	8/24	122	144	4K			12	1/1.8	2	4	124	20
8	8	16	16	CMOS	64	8/24	159	1Kx8	32Kx8			15	0.8	8	3	16	4
8	8	16	64K	CHMOS	40	8/24	96	128x8	4Kx8			16	-/1.36	2			
8	8	16	64K	CMOS	18	8/24	122	124	1K			12	1/1.8	2	4	124	20
8	8	16	64K	CMOS	18	8/24	122	124	2K			12	1/1.8	2	4	124	20
8	8	16	64K	CMOS	18	8/24	122	124	4K			12	1/1.8	2	4	124	20
8	8	16	64K	CMOS	18	8/24	122	124	4K			12	1/1.8	2	4	124	20
8	8	16	64K	CMOS	28	8/24	122	124	2K			12	1.5/2.8	2	1	124	20
8	8	16	64K	CMOS	28	8/24	122	124	4K			12	1/1.8	2	1	124	20
8	8	16	64K	CMOS	28	8/24	122	236	4K			12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	28	8/24	122	256	8K			12	1/1.8	2	1	236	20
8	8	16	64K	CMOS	40	8/24	111	256x8				20	.6/10				
8	8	16	64K	CMOS	40	8/24	122	236	—			20	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	236	—			20	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	236	4K			12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	236	8K			12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256	—			12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256		4K		12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256		8K		16	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256	4K			12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256	4K			12	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256	8K			16	1/1.8	2	4	236	20
8	8	16	64K	CMOS	40	8/24	122	256	16K			16	1/1.8	2	4	236	20

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
32 lines	3 16-bit			ROM Version of C501, 1 USART, 8051 Compatible, Extended temp range	SAFC501-1R20	Siemens	
32 lines	3 16-bit			ROM Version of C501, 1 USART, 8051 Compatible	SABC501-1R40	Siemens	
32 lines	3 16-bit			ROM Version of C501, 1 USART, 8051 Compatible, Extended temp range	SAFC501-1R40	Siemens	
32 lines	3 16-bit	10-bit x 8		ROM-less Version of C503, 1 USART, Power-down Mode, 80C52 Compatible	**SABC503-L**	**Siemens (3767)**	
32 lines	3 16-bit	10-bitx8		ROM-less Version of C503, 1 USART, Power-down Mode, 80C52 Compatible, Extended temp range	SAFC503-L	Siemens	5
32 lines	3 16-bit	10-bit x 8		ROM-less Version of C503, 1 USART, Power-down Mode, 80C52 Compatible	**SABC503-L20**	**Siemens (3767)**	
32 lines	3 16-bit	10-bitx8		ROM-less Version of C503, 1 USART, Power-down Mode, 80C52 Compatible, Extended temp range	SAFC503-L20	Siemens	
32 lines	3 16-bit	10-bit x 8		ROM-less Version of C503, 1 USART, Power-down Mode, 80C52 Compatible	SABC503-L40	Siemens	
32 lines	3 16-bit	10-bitx8		ROM-less Version of C503, 1 USART, Power-down Mode, 80C52 Compatible, Extended temp range	SAFC503-L40	Siemens	
32 lines	3 16-bit	10-bit x 8		ROM Version of C503, 1 USART, Power-down Mode, 80C52 Compatible	SABC503-1R	Siemens	10
32 lines	3 16-bit	10-bitx8		ROM Version of C503, 1 USART, Power-down Mode, 80C52 Compatible, Extended temp range	SAFC503-1R	Siemens	
32 lines	3 16-bit	10-bit x 8		ROM Version of C503, 1 USART, Power-down Mode, 80C52 Compatible	SABC503-1R20	Siemens	
32 lines	3 16-bit	10-bitx8		ROM Version of C503, 1 USART, Power-down Mode, 80C52 Compatible, Extended temp range	SAFC503-1R20	Siemens	
32 lines	3 16-bit	10-bit x 8		ROM Version of C503, 1 USART, Power-down Mode, 80C52 Compatible	SABC503-1R40	Siemens	
32 lines	3 16-bit	10-bitx8		ROM Version of C503, 1 USART, Power-down Mode, 80C52 Compatible, Extended temp range	SAFC503-1R40	Siemens	15
14 I/O	2 8-Bit				Z86E08	Zilog	
14 I/O	2 8-Bit				Z86C08	Zilog	
24 I/O	2 8-Bit				Z86E30	Zilog	
22 I/O	2 8-Bit			UART	Z8610	Zilog	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	μPD78C18	NEC	20
32 lines	2 16-bit			UART	80C51BH	Intel	
14 I/O	2 8-Bit				Z86C06	Zilog	
14 I/O	2 8-Bit				Z86C08	Zilog	
14 I/O	2 8-Bit				Z86C09	Zilog	
14 I/O	2 8-Bit			Memory Protect, 2 Comparators	Z86C19	Zilog	25
22 I/O	2 8-Bit				Z86C00	Zilog	
22 I/O	2 8-Bit				Z86C10	Zilog	
22 I/O	2 8-Bit			Memory Protect, 2 Comparators	Z86C30	Zilog	
22 I/O	2 8-Bit				Z86C20	Zilog	
				CMOS Version of the SAB8032B	SAB80C32	Siemens	30
32 I/O	2 8-Bit			UART	Z86C91	Zilog	
32 I/O	3 16-Bit			UART, 16x16 Multiply, 32x16 Divide	Z86C93	Zilog	
32 I/O	2 8-Bit			UART	Z86C11	Zilog	
32 I/O	2 8-Bit			UART, Memory Protect	Z86C21	Zilog	
32 I/O	2 8-Bit			2 Comparators	Z86C90	Zilog	35
32 I/O	2 8-Bit				Z86E40	Zilog	
32 I/O	2 8-Bit				Z86E21	Zilog	
32 I/O	2 8-Bit				Z86C40	Zilog	
32 I/O	2 8-Bit			Memory Protect, 2 Comparators	Z86C40	Zilog	
32 I/O	2 8-Bit				Z86C21	Zilog	40
32 I/O	2 8-Bit			UART, Memory Protect	Z86C61	Zilog	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	8	16	64K	CMOS	40	8/56		256x8		4Kx8		0/16	0.06	3	2		
8	8	16	64K	CMOS	44	8/16	233	236x8	8Kx8			0/12	1/3.3	2	4	124	19
8	8	16	64K	CMOS	64	8/24	65	512x8				12	333	12	7	32	3
8	8	16	64K	CMOS	64	8/24	122	256	—			20	1/1.8	2	4	236	20
8	8	16	64K	CMOS	64	8/24	122	256	16K			16	1/1.8	2	4	236	20
8	8	16	64K	CMOS	64/68	8–24	255	128x8	4Kx8			16	0.75/3				
8	8	16	64K	CMOS	68	8/24						1/18	0.6/				
8	8	16	64K	CMOS	68	8/24				8Kx8		0/12	1/				
8	8	16	64K	CMOS	68	8/24				32Kx8		1/18	0.6/				
8	8	16	64K	CMOS	68	8/24			32Kx8			1/18	0.6/				
8	8	16	64K	CMOS	68	8/24		256x8	32Kx8			0/18	0.67/	10	2		
8	8	16	64K	CMOS	68	8/24	96	256x8	8Kx8			1/12	1	10	2	32	32
8	8	16	64K	CMOS	68	8/24	96	256x8	8Kx8			1/12	1/	10	2	32	32
8	8	16	64K	CMOS	68	8/24	96	256x8	8Kx8			1/16	0.75/	10	2	32	32
8	8	16	64K	CMOS	68	8/24	96	256x8	8Kx8			1/16	0.75/	10	2	32	32
8	8	16	64K	CMOS	68	8/24	96	256x8	8Kx8			1/16	0.75/	10	2	32	32
8	8	16	64K	CMOS	68	8/24	111	256x8				1/18	0.66/	10	2	32	32
8	8	16	64K	CMOS	68	8/24	152	768	—			20	0.1/1	4	4	236	522
8	8	16	64K	CMOS	68	8/24	152	768	—			20	0.1/1	4	4	236	522
8	8	16	64K	CMOS	68	8/24	152	768	28K			20	0.1/1	4	4	236	522
8	8	16	64K	CMOS	68	8/24	152	768	28K			20	0.1/1	4	4	236	522
8	8	16	64K	CMOS	68	8/24	255	256x8	8Kx8			16	0.75/3				
8	8	16	64K	CMOS	80	8/	71	512x8	24x8			0/12.5	0.64/	8	6		28
8	8	16	64K	CMOS	80	8/24	77	1Kx8	32Kx8			0/16	0.72/	7	2		
8	8	16	64K	CMOS	84	8/24	111	256x8				0/12	1/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8				0/16	0.75/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8				0/18	0.6/	5	12	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8				1/12	1/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8				1/16	0.75	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8		8Kx8		0/12	1/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8		32Kx8		0/18	0.6/	5	12	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8	8Kx8			0/12	1/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8	8Kx8			0/12	1/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8	8Kx8			0/16	0.75/	5	7	32	91

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	 A/D Converter	 D/A Converter	Comments	Device	Source
32	2 16-bit			Serial Port	AT	ATMEL
32 lines	2 8-bit			UART	SM805A	Sharp
14 Input, 8 Output, 12 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM ouputs	μPD78213	NEC
52 I/O	2 8-Bit			UART, Memory Protect	Z86C96	Zilog
52 I/O	2 8-Bit			UART, Memory Protect	Z86C62	Zilog
				80C51 core architecture; has three additional 8-Bit Ports; EPROM version is 87C451	**SC83C451**	**Philips (3711)**
				Serial I/O, 1Kx8 XRAM	**SAB80C515A-T3**	**Siemens (3768)**
				Serial I/O	**SAB83C515H-3J**	**Siemens (3768)**
				Serial I/O, 1Kx8 XRAM	**SAB83C515AH-5J**	**Siemens (3768)**
				Serial I/O, 1Kx8 XRAM, Ext temp	SAB83C515A-5T3	Siemens
8 lines Input, 48 lines I/O	3 16-bit	10-bit x 8		Serial I/O, 1Kx8 x RAM	**SAB83C515A-5**	**Siemens (3768)**
8 lines Input, 48 lines 1/O	3 16-bit	8-bit x 8		Serial I/O	**SAB80C515**	**Siemens (3768)**
8 lines Input, 48 lines I/O	3 16-bit	8-bit x 8		Serial I/O	**SAB80C535**	**Siemens (3767)**
8 lines Input, 48 lines 1/O	3 16-bit	8-bit x 8		Serial I/O	**SAB80C515-16**	**Siemens (3768)**
8 lines Input, 48 lines I/O	3 16-bit	8-bit x 8		Serial I/O	**SAB80C535-16**	**Siemens (3767)**
8 lines Input, 48 lines I/O	3 16-bit	8-bit x 8		Serial I/O, Ext temp	SAB80C535-16-T40/85	Siemens
8 lines Input, 48 lines I/O	3 16-bit	10-bit x 8		Serial I/O, PWM x 4, 1K x RAM	**SAB80C515A**	**Siemens (3768)**
47 I/O	4 8-Bit				Z89C66	Zilog
47 I/O	4 8-Bit			Z8 Core, DSP Processor	Z89920	Zilog
47 I/O	4 8-Bit				Z89C65	Zilog
47 I/O	4 8-Bit	1 8-Bit		Z8 Core, DSP Processor	Z89120	Zilog
				80C51 core architecture, 10-Bit A/D, PWM, watch-dog timer, capture/compare, EPROM version is 87C552.	S83C552	Philips
48 I/O, 8 Input	1 8-bit, 3 16-bit	3 8-bit	2 8-bit	UART, PWM	M37451MC	Mitsubishi
60 lines	8-bit	8-bit		PWM, 2MSK Modems	SM8413	Sharp
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O, Ext temp	SAB80C537-T40/85	Siemens
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O, Ext temp	SAB80C537-16T40/85	Siemens
12 lines Input, 56 lines I/O	4 16-bit	10-bit x 12		2 Serial I/O, 2K x RAM, PWM x 21	**SAB80C517A**	**Siemens (3768)**
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O	**SAB80C537**	**Siemens (3768)**
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O	**SAB80C537-16**	**Siemens (3768)**
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O	**SAB83C517H-3J**	**Siemens (3768)**
12 lines Input, 56 lines I/O	4 16-bit	10-bit x 12		2 Serial I/O, 2K XRAM, PWM x 21	**SAB83C517AH-5J**	**Siemens (3768)**
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O	**SAB80C517**	**Siemens (3768)**
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O, Ext temp	SAB80C517-T40/85	Siemens
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O	SAB80C517-16	Siemens

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
12MHz																	**(Cont'd)**
8	8	16	64K	CMOS	84	8/24	111	256x8	8Kx8			0/16	0.75/	5	7	32	91
8	8	16	64K	CMOS	84	8/24	111	256x8	32Kx8			0/18	0.6/	5	12	32	91
8	8	16	64K	CMOS	84	8/24	122	1K	—			20	1/1.8	3	9	236	20
8	8	16	64K	CMOS	84	8/24	152	768	—			20	0.1/1	4	4	236	522
8	8	16	64K	CMOS	84	8/24	152	768	30K			20	0.1/1	4	4	236	522
8	8	16	64K	HMOS	40	8/24	96	128x8				16	-/1.36	2			
8	8	16	64K	HMOS	40	8/24	96	256x8				12	-/1.36	2			
8	8	16	64K	HMOS	40	8/24	96	256x8				12	-/1.36	2			
8	8	16	64K	MYMOS	40	8/24	96	128x8				1.2/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8				1.2/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8				1.2/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8				1.2/16	0.75/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8				1.2/20	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8				1.2/20	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8	4Kx8			1.2/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8	4Kx8			1.2/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8	4Kx8			1.2/16	0.75/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	128x8	4Kx8			1.2/20	0.6/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8				1/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8				1/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8				1/16	0.75/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8				1/20	0.6/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8	8Kx8			1/12	1/	3	2	41	
8	8	16	64K	MYMOS	40	8/24	96	256x8	8Kx8			1/12	1/	3	2	41	
8	8	16	64K	MYMOS	40	8/24	96	256x8	8Kx8			1/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8	8Kx8			1.2/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8	8Kx8			1.2/16	0.75/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8	8Kx8			1.2/20	0.6/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8	16Kx8			1/12	1/	3	2		
8	8	16	64K	MYMOS	40	8/24	96	256x8	16Kx8			1/16	0.75	3	2		
8	8	16	64K	NMOS	40	8/24	122	128	2K			12	1/1.8	2	4	124	20
8	8	16	64K	NMOS	40	8/24	122	128	4K			12.5	1/1.8	2	4	124	20
8	8	16	64K	NMOS	40	8/24	122	144	—			12	1/1.8	2	4	124	20
8	8	16	64K	NMOS	40	8/24	122	144	—			12	1/1.8	2	4	124	20
8	8	16	65K	HMOS	40	8/24	111	256x8				12	1/4				
8	8	16	65K	HMOS	40	8/24	111	256x8	8Kx8			12	1.4/2.8	4	2		
8	8	16	120K	CMOS	44	8/16	233	124x8	4Kx8			0/12	1/3.3	2	4	124	19
8	8	16	120K	NMOS	40	8/24	231	124x8	4Kx8			0/12	1/3.3	2	6	124	20
8	8	16	124K	NMOS	40	8/24	231	124x8	2Kx8			0/12	1/3.3	2	6	124	20
8	8	16	128K	CMOS	44	8/16	233	124x8				0/12	1/3.3	2	4	124	19
8	8	16	128K	CMOS	44	8/16	233	236x8				0/16	0.8/2.5	2	4	236	19
8	8	20	64K	CMOS	64	8/40	65	1Kx8		32Kx8		12	333	12	7	32	3

I/O Ports	Peripherals (No./Resolution)					
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source
12 lines Input, 56 lines I/O	4 16-bit	8-bit x 12		2 Serial I/O, Ext temp	SAB80C517-16T40/85	Siemens
12 lines Input, 56 lines I/O	4 16-bit	10-bit x 12		2 Serial I/O, 2K x RAM, PWM x 21	**SAB83C517A-5**	**Siemens (3768)**
16 I/O	3 16-Bit	1 8-Bit	1 8-Bit	UART, PWM, 16x16 Multiply, 32x16 Divide	Z86C95	Zilog
43 I/O	4 8-Bit				Z89C68	Zilog
43 I/O	4 8-Bit				Z89C67	Zilog
16 lines	2 16-bit			UART	80C31BH	Intel
16 lines	3 16-bit			UART	80C32AH	Intel
16 lines	3 16-bit			UART	8032AH	Intel
32 lines	2 16-bit			Serial I/O	SAB8031A	Siemens
32 lines	2 16-bit	8-bit x 8		Serial I/O	**SAB80535**	**Siemens (3767)**
32 lines	2 16-bit	8-bit x 8		Serial I/O, Ext temp	SAB80535-T40/85	Siemens
32 lines	2 16-bit			Serial I/O	**SAB8031A-16**	**Siemens (3767)**
32 lines	2 16-bit			Serial I/O	SAB8031A-T40/85	Siemens
32 lines	2 16-bit			Serial I/O	**SAB8031A-20**	**Siemens (3767)**
32 lines	2 16-bit			Serial I/O	**SAB8051A**	**Siemens (3767)**
32 lines	2 16-bit			Serial I/O, Ext temp	SAB8051A-T40/85	Siemens
32 lines	2 16-bit			Serial I/O	**SAB8051A-16**	**Siemens (3767)**
32 lines	2 16-bit			Serial I/O	SAB8051A-20	Siemens
32 lines	3 16-bit	8-bit x 8		Serial I/O	**SAB8032B**	**Siemens (3767)**
32 lines	3 16-bit	8-bit x 8		Serial I/O	SAB8032B-T40/85	Siemens
32 lines	3 16-bit	8-bit x 8		Serial I/O	**SAB8032B-16**	**Siemens (3767)**
32 lines	3 16-bit	8-bit x 8		Serial I/O	**SAB8032B-20**	**Siemens (3767)**
32 lines	3 16-bit	8-bit x 8		Serial I/O	**SAB80515**	**Siemens (3767)**
32 lines	3 16-bit	8-bit x 8		Serial I/O, Ext temp	SAB80515-T40/85	Siemens
32 lines	3 16-bit			Serial I/O, Ext temp	SAB8052B-T40/85	Siemens
32 lines	3 16-bit			Serial I/O	**SAB8052B**	**Siemens (3767)**
32 lines	3 16-bit			Serial I/O	**SAB8052B-16**	**Siemens (3767)**
32 lines	3 16-bit			Serial I/O	**SAB8052B-20**	**Siemens (3767)**
32 lines	3 16-bit			Serial I/O	SAB80513	Siemens
32 lines	3 16-bit			Serial I/O	SAB80513-16	Siemens
32 I/O	2 8-Bit			UART	Z8601	Zilog
32 I/O	2 8-Bit			UART	Z8611	Zilog
24 I/O	2 8-Bit			UART	Z8681	Zilog
24 I/O	2 8-Bit			UART	Z8691	Zilog
	3 16-bit	1 8-bit			8032	Intel
	3 16-bit	1 8-bit			8052AH	Intel
32 lines	2 8-bit			UART	SM803A	Sharp
32 lines	2 8-bit			UART	LH0811A	Sharp
32 lines	2 8-bit			UART	LH0801A	Sharp
24 lines	2 8-bit			UART	LU800AV1	Sharp
24 lines	2 8-bit			UART	LU805BV2	Sharp
14 Input, 12 Output, 8 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM outputs	µPD78P218A	NEC

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (ns)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	8	20	64K	CMOS	64	8/40	65	1Kx8	32Kx8			12	333	12	7	32	3
8	8	20	64K	CMOS	64	8/40	65	384x8	8Kx8			12	333	12	7	32	3
8	8	20	64K	CMOS	64	8/40	65	512x8		16Kx8		12	333	12	7	32	3
8	8	20	64K	CMOS	64	8/40	65	512x8	16Kx8			12	333	12	7	32	3
8	8	20	64K	CMOS	64	8/40	65	1Kx8				12	333	12	7	32	3
8	8	20	64K	CMOS	80	8/40	65	1Kx8				12	333	13	8	32	3
8	8	20	64K	CMOS	80	8/40	65	1Kx8		32Kx8		12	333	13	8	32	3
8	8	20	64K	CMOS	80	8/40	65	1Kx8	32Kx8			12	333	13	8	32	3
8	8	20	64K	CMOS	80	8/40	65	512x8				12	333	14	7	32	3
8	8	20	64K	CMOS	80	8/40	65	512x8	8Kx8			12	333	13	8	32	3
8	8	20	64K	CMOS	80	8/40	65	512x8	16Kx8			12	333	14	7	32	3
8	8	20	64K	CMOS	80	8/40	65	640x8				12	333	9	8	32	3
8	8	20	64K	CMOS	80	8/40	65	640x8				12	333	13	8	32	3
8	8	20	64K	CMOS	80	8/40	65	640x8		16Kx8		12	333	9	8	32	3
8	8	20	64K	CMOS	80	8/40	65	640x8	16Kx8			12	333	9	8	32	3
8	16			CMOS	84			1K	16K			16	—/0.25			8	
8	16			CMOS	84			1K	16K			16	—/0.25			8	
8	16			CMOS	84			1K	16K			16	—/0.25			8	
8	16		16M	CMOS	84	8/24	114	1.5Kx8				24	1.2/2.4				
8	16		16M	CMOS	84	8/24	114	256x8				24	1.2/2.4				
8	16		128K	CMOS	48	8/24	114	256x8	8Kx8			24	1.2/2.4				
8	16		128K	CMOS	68	8/24	114	256x8	8Kx8			24	1.2/2.4				
8	16		128K	CMOS	68	8/24	114	256x8	8Kx8			24	1.2/2.4				
8	16		128K	CMOS	68	8/24	114	512x8	16Kx8	512x8		24	1.2/2.4				
8	16	16	64K	CMOS	64	8/24	159	1Kx8	0			15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	1Kx8	0	32Kx8		15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	256x8	0			15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	256x8	0	16K		15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	256x8	4Kx8			15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	256x8	8Kx8			15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	256x8	16K			15	0.8	8	3	16	4
8	16	16	64K	CMOS	64	8/24	159	256x8	16Kx8			15	0.8	8	3	16	4
8	16	16	64K	CMOS	80	8/40	65	1Kx8				30	0.133/2.5	2	6		
8	16	16	64K	0.8um	64	8/40	113				640x8	32	0.125	4	5	16	255
8	16	16	64K	0.8um	64	8/40	113			32Kx8	640x8	32	0.125	4	5	16	255
8	16	16	64K	0.8um	64	8/40	113		32Kx8		640x8	32	0.125	4	5	16	255
8	16	16	64K	1.2um	64	8/40	112				512x8	16	0.25	11	5	16	255

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
14 Input, 12 Output, 28 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM outputs	µPD78218A	NEC	
14 Input, 12 Output, 28 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM	µPD78212	NEC	
14 Input, 12 Output, 28 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM outputs	µPD78P214	NEC	
14 Input, 12 Output, 28 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM outputs	µPD78214	NEC	
14 Input, 8 Output, 12 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, serial port, PWM outputs	µPD78217A	NEC	5
14 Input, 8 Output, 20 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input	1 8-bit, 2-output	Real time output port, UART, PWM, serial port	µPD78237	NEC	
14 Input, 12 Output, 36 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input	1 8-bit, 2-output	Real time output port, UART, PWM, serial port	µPD78P238	NEC	
14 Input, 12 Output, 36 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input	1 8-bit, 2-output	Real time output port, UART, PWM, serial port	µPD78238	NEC	
14 Input, 8 Output, 12 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, PWM, serial port	µPD78243	NEC	
14 Input, 12 Output, 36 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input	1 8-bit, 2-input	Real time output port, UART, PWM, serial port	µPD78232	NEC	10
14 Input, 12 Output, 28 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input		Real time output port, UART, PWM, serial port	µPD78244	NEC	
16 Input, 8 Output, 27 I/O	2 8-bit, 1 16-bit			Real time output port, UART, serial port, PWM, comparator inputs	µPD78220	NEC	
14 Input, 8 Output, 20 I/O	3 8-bit, 1 16-bit	1 8-bit, 8-input	1 8-bit, 2-output	Real time output port, UART, PWM, serial port	µPD78233	NEC	
16 Input, 20 Output, 35 I/O	2 8-bit, 1 16-bit			Real time output port, UART, serial port, PWM, comparator inputs	µPD78P224	NEC	
16 Input, 20 Output, 35 I/O	2 8-bit, 1 16-bit			Real time output port, UART, serial port, PWM, comparator inputs	µPD78224	NEC	15
70 lines		10-bit		Real-time pulse unit, 2 8-bit PWM channels	µPD78P334	NEC	
70 lines		10-bit		Real-time pulse unit, 2 8-bit PWM channels	µPD78330	NEC	
70 lines		10-bit		Real-time pulse unit, 2 8-bit PWM channels	µPD78334	NEC	
72 lines	3 16-bit	1		Built-in Watchdog, 2xSCI, SPI, MMU	ST9054	SGS-Thomson	
72 lines	3 16-bit	1		Built-in Watchdog, Prescaler, 2xSCI, SPI, MMU	ST90R50	SGS-Thomson	20
40 lines	1 16-bit			Built-in Watchdog, SCI, SPI	ST9020	SGS-Thomson	
56 lines	2 16-bit	1		Built-in Watchdog, SCI, SPI	9030	Rochester	
56 lines	2 16-bit	1		Built-in Watchdog, SCI, SPI	ST9030	SGS-Thomson	
56 lines	2 16-bit	1		Built-in Watchdog, SCI, SPI	ST9040	SGS-Thomson	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78C17	NEC	25
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78CP18	NEC	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78C10A	NEC	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78CP14	NEC	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78C11A	NEC	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78C12A	NEC	30
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78C14A	NEC	
40 I/O	2 8-bit, 1 16-bit	1 8-bit, 8-input		Two zero crossing detect inputs	µPD78C14	NEC	
31 lines	7 16-bit	1x8 8-bit		Multiply/Accumulate Unit, UART, Serial I/O	HPC43100	National	
6 Input, 44 I/O				Two PWM channels, one watchdog timer	µPD78350	NEC	
6 Input, 44 I/O				Two PWM channels, one watchdog timer	µPD78P352	NEC	35
16 Input, 44 I/O				Two PWM channels, one watchdog timer	µPD78352	NEC	
11 Input, 41 I/O		1 8-bit, 10-input		6-phase PWM channel, one watchdog timer	µPD78327	NEC	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
12MHz																	**(Cont'd)**
8	16	16	64K	1.2um	64	8/40	112			16Kx8	512x8	16	0.25	11	5	16	255
8	16	16	64K	1.2um	64	8/40	112		16Kx8		512x8	16	0.25	11	5	16	255
16	16	16		CHMOS	40			128x8	4Kx8				-/1.36	2			
16	16	16		CMOS	132		264	1Kx8	0	0		16.8					
16	16	16		HMOS	40			128x8	4Kx8				-/1.36	2			
16	16	16		HMOS	40			256x8	8Kx8				-/1.36	2			
8/16 Bit																	
4MHz																	
8	16	20	1M	CMOS	84	8/48	101	256				2–5	0.4/	12	5	4	12
8	16	20	1M	CMOS	84	8/48	101	256	16K			2–5	0.4/	12	5	4	12
8MHz																	
8	16		64K	CMOS		8/16		512	16K			10	0.4	16	1		
8	16		64K	CMOS	64	8/16	150	512x8		16Kx8		10	0.4	15	1		
8	16		64K	CMOS	64	8/16	150	512x8	16Kx8			10	0.4	15	1		
8	16		64K	CMOS	64	8/16	152	1024x8		32Kx8		10	0.4	15	1		
8	16		64K	CMOS	64	8/16	152	1024x8	32Kx8			10	0.4	15	1		
8	16		64K	CMOS	64	8/16	186	512	16K			10	0.4	16	1		
8	16	20	1M	CMOS	84	8/48	101	256				2–8	0.25/	12	5	4	12
8	16	20	1M	CMOS	84	8/48	101	256	16K			2–8	0.25/	12	5	4	12
16 Bit																	
8MHz																	
16				CMOS	28	24	20	128x16	510x13 and 512x23			8.3	0.24				
16	16	16		HMOS	68							10		28			
16	16	16		HMOS	68				8Kx8			10		28			
16	16	16	16M	CMOS	64	8/24	103	2Kx8				0/8	0.5/	16	3		
16	16	16	16M	CMOS	64	8/24	103	2Kx8		32K		0/8	0.5/	16	3		
16	16	16	16M	CMOS	64	8/24	103	2Kx8	32Kx8			0/8	0.5/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8				0/8	0.5/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8		16Kx8		0/8	0.5/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8	16Kx8			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80		103	2Kx8	32Kx8			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80		103	2Kx8	32Kx8			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80		103	512x8				0/8	0.5/	16	3		
16	16	16	16M	CMOS	80		103	512x8		16Kx8		0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	1Kx8	24K			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	1Kx8	24K			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8		32Kx8		0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8		48Kx8		0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8	48Kx8			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	512				0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	512		16Kx8		0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	512Kx8	16Kx8			0/8	0.5/	16	3		
16	16	16	16M	CMOS	80	8/24	103	512x8	16Kx8			0/8	0.5/	16	3		

I/O Ports	Peripherals (No./Resolution)					
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source
11 Input, 41 I/O	1 8-bit, 10-input	1 8-bit, 10-input		6-phase PWM channel, one watchdog timer	μPD78P328	NEC
11 Input, 41 I/O		1 8-bit, 10-input		6-phase PWM Channel, one watchdog timer	μPD78328	NEC
	2 16-bit				87C51	Intel
50 lines	2 16-bit	1 16-bit		Single-chip CPU, SPI, SCI	MC68HC16Z1	Motorola
	2 16-bit				8751BH	Intel
	3 16-bit				8752BH	Intel
24	2 16-bit			16-bit ALU, 2 UARTs	μPD70320-5	NEC
24	2 16-bit			16-bit ALU, 2 UARTs	μPD70322-5	NEC
48	16-bit x 4	10-bit x 8		16-bit ALU, SIO, PWM	MSM66G301	OKI
48	16-bit x 4	10-bit x 8		16-bit PWM x 2, Serial Port, Transition Detector x 4	MSM66P201	OKI
48	16-bit x 4	10-bit x 8		16-bit PWM x 2, Serial Port, Transition Detector x 4	MSM66201	OKI
48	16-bit x 4	10-bit x 8		16-bit PWM x 2, Serial Port, Transition Detector x 4	MSM66P207	OKI
48	16-bit x 4	10-bit x 8		16-bit PWM x 2, Serial Port, Transition Detector x 4	MSM66207	OKI
48	16-bit x 4	10-bit x 8		16-bit PWM x 2, Serial Port, Transition Detector x 4	MSM66301	OKI
24	2 16-bit			16-bit ALU, 2 UARTs	μPD70320-8	NEC
24	2 16-bit			16-bit ALU, 2 UARTs	μPD70322-8	NEC
				CMOS Version of 7720	μPD77C20	NEC
5 8-bit	2 16-bit	1 10-bit			80C196KB10	Intel
5 8-bit	2 16-bit	1 10-bit			83C196KB10	Intel
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703S4	Mitsubishi
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703E4	Mitsubishi
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703M4	Mitsubishi
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703S1	Mitsubishi
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703E2	Mitsubishi
53 lines	8 16-bit	8-bit x 4		PWM, UARTx2	M37703M2	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702M4	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702S4	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702S1	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702E2	Mitsubishi
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM, 2.5–5.5 V	M37702M3L	Mitsubishi
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM, 2.5–5.5 V	M37702M4L	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702E4	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2, 2.5–5.5 V	M37702E6L	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2, 2.7–5.5 V	M37702M6L	Mitsubishi
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM, 2.7–5.5 V	M37702S1L	Mitsubishi
	8 16-bit	8-bit x 8		PWM, UARTx2, 2.7–5.5 V	M37702E2L	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2, 3.5 V	M37702M2L	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702M2	Mitsubishi

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width Ext. Data (bits)	Bus Width Int. Data (bits)	Bus Width Address (bits)	Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory RAM	On-Chip Memory ROM	On-Chip Memory EPROM	On-Chip Memory Cache	Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts Int.	No. of Interrupts Ext.	No. of Registers Gen. Purp.	No. of Registers Other
8MHz																	**(Cont'd)**
16	16	16	64K	CMOS	64		102	512x8	16Kx16			10	0.2	10	3		
16	16	16	64K	CMOS	64		102	512x8	16Kx16			10	0.2	10	3		
16	16	20		CMOS	84	16	300					8	0.125/0.25			27	
16	16	20	1M	CMOS	84	16	300					8	0.125/0.25			26	
16	16	20	1M	CMOS	84	16	300					10	0.125/0.25			26	
16	16	20	1M	CMOS	84	16	300					10	0.1/0.2			27	
16	16	24	16M	CMOS	68	16/22						10	0.2/			5	47
16	32	24	16M	HMOS	64	16/80	56					10				16	
12MHz																	
16			4K	CMOS	40	16	60	144x16	1.5K/4K			14	0.26				
16	8		64K	CMOS	64	8	96	256x8				12	0.5/8.3				
16	8		64K	CMOS	64	8	96	256x8	8Kx8			12	0.5/8.3				
16	8		64K	CMOS	64	8	96	256x8	8Kx8			12	0.5/8.3				
16	16	16		CHMOS	52							12		28			
16	16	16		CHMOS	52							12		28			
16	16	16		CHMOS	52				8Kx8			12		28			
16	16	16		CHMOS	52				8Kx8			12		28			
16	16	16		CHMOS	52				8Kx8			12		28			
16	16	16		CHMOS	52				8Kx8			12		28			
16	16	16		HMOS	48							12		20			
16	16	16		HMOS	48							12		20			
16	16	16		HMOS	48							12		20			
16	16	16		HMOS	48							12		20			
16	16	16		HMOS	48							12		20			
16	16	16		HMOS	48					8Kx8		12		20			
16	16	16		HMOS	48					8Kx8		12		20			
16	16	16		HMOS	48				8Kx8			12		20			
16	16	16		HMOS	48			8Kx8				12		20			
16	16	16		HMOS	68							12		28			
16	16	16		HMOS	68					8Kx8		12		20			
16	16	16		HMOS	68					8Kx8		12		20			
16	16	16		HMOS	68				8Kx8			12		28			
16	16	16		HMOS	68				8Kx8			12		20			
16	16	16		HMOS	68				8Kx8			12		20			
16	16	16		HMOS	68			8Kx8						20			
16	16	24	16M	CMOS	68	16/22						12.5	0.16/			5	47
16	32	22	32M	CMOS	100							16.67			2	192	161
16MHz																	
8	16	16	64K	CMOS	68	8/40	109	640x8	16Kx8			16	0.25/5.4		8	16	
16	8		64K	CMOS	64	8	109	640x8				16	0.25/5.4				
16	8		64K	CMOS	64	8	109	640x8	16Kx8			16	0.25/5.4				
16	16	16		CHMOS	52							12/16		28			

I/O Ports No./Type	Peripherals (No./Resolution) Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
56 lines	8-bit x 2, 16-bit x 3			Serial and Parallel Ports	MSM67620	OKI	
56 lines	8-bit x 2, 16-bit x 3			Serial and Parallel Ports, ROM-OTP	MSM67P620	OKI	
	3 16-bit			High Performance Microcontroller with 2 stacks, interrupt controller, all on chip. Quadbus Architecture	RTX2001A-8	Harris	
	3 16-bit			High Performance Microcontroller with multiplier, 2 stacks, interrupt controller, all on chip. Quadbus Architecture	RTX2000-8	Harris	
	3 16-bit			High Performance Microcontroller with multiplier, 2 stacks, interrupt controller, all on chip. Quadbus Architecture	RTX2000-10	Harris	5
	3 16-bit			High Performance Microcontroller with, 2 stacks, interrupt controller, all on chip. Quadbus Architecture	RTX2001A-10	Harris	
				32-bit Address bus interface capability	SAB82C258A-1	Siemens	
				General purpose register machine, supports memory to memory operations	SCN68000	Philips	
				Harvard architecture, hardware multiplier, eight I/O ports	TMS320C10-14	TI	
					µPD78310A	NEC	10
					µPD78P312A	NEC	
					µPD78312A	NEC	
	4 16-bit				80C194	Intel	
	4 16-bit	10-bit			80C198	Intel	
	4 16-bit				83C194	Intel	15
	4 16-bit	10-bit			83C198	Intel	
5 8-bit	4 16-bit	10-bit			87C196KB	Intel	
	4 16-bit	10-bit			87C198	Intel	
5 8-bit	2 16-bit	1 10-bit			8095BH	Intel	
5 8-bit	2 16-bit	1 10-bit			8096BH	Intel	20
5 8-bit	2 16-bit	1 10-bit			8097BH	Intel	
5 8-bit	2 16-bit	1 10-bit			8097JF	Intel	
5 8-bit	2 16-bit	1 10-bit			8098	Intel	
5 8-bit	2 16-bit	1 10-bit			8795BH	Intel	
5 8-bit	2 16-bit	1 10-bit			8798	Intel	25
5 8-bit	2 16-bit	1 10-bit			8398	Intel	
5 8-bit	2 16-bit	1 10-bit			8395BH	Intel	
5 8-bit	2 16-bit	1 10-bit			80C196KB12	Intel	
5 8-bit	2 16-bit	1 10-bit			8797BH	Intel	
5 8-bit	2 16-bit	1 10-bit			8797JF	Intel	30
5 8-bit	2 16-bit	1 10-bit			83C196KB12	Intel	
5 8-bit	2 16-bit	1 10-bit			8396BH	Intel	
5 8-bit	2 16-bit	1 10-bit			8397JF	Intel	
5 8-bit	2 16-bit	1 10-bit			8397BH	Intel	
				32-bit Address bus interface capability	SAB82C258A-12	Siemens	35
8 lines				UART	AM29205-16	AMD	
55 lines		1x8 10-bit		16-bit ALU, 8085 bus compatible,UART, Serial Port	µPD78322	NEC	
					µPD78320	NEC	
					µPD78P322	NEC	
5 8-bit	4 16-bit	10-bit			80C196KB	Intel	40

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS–Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
16MHz																	**(Cont'd)**
16	16	16		CHMOS	52							12/16		28			
16	16	16		CHMOS	52							16		37			
16	16	16		CHMOS	52							16		37			
16	16	16		CHMOS	52							16		37			
16	16	16		CHMOS	52							16		37			
16	16	16		CHMOS	52							16		28			
16	16	16		CHMOS	52				8Kx8			12/16		28			
16	16	16		CHMOS	52				8Kx8			12/16		28			
16	16	16		CHMOS	52				8Kx8			16		28			
16	16	16		CHMOS	52				8Kx8			16		28			
16	16	16		CHMOS	52				8Kx8			16		28			
16	16	16		CHMOS	52				8Kx8			16		28			
16	16	16		CHMOS	52				8Kx8			16		28			
16	16	16		CHMOS	52				12Kx8			16		37			
16	16	16		CHMOS	52				12Kx8			16		37			
16	16	16		CHMOS	52				16Kx8			16		37			
16	16	16		CHMOS	52				16Kx8			16		37			
16	16	16	16M	CMOS	64	8/24	103	2Kx8		32K		0/16	0.25/	16	3		
16	16	16	16M	CMOS	64	8/24	103	2Kx8	32x8			0/16	0.25/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8				0/16	0.25/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8		16Kx8		0/16	0.25/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512X8	16KX8	32Kx8		0/16	0.25/	16	3		
16	16	16	16M	CMOS	80		103	2Kx8				0/16	0.25/	16	3		
16	16	16	16M	CMOS	80		103	2Kx8	32Kx8			0/16	0.25/	16	3		
16	16	16	16M	CMOS	80		103	512x8				0/16	0.25/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8		32Kx8		0/16	0.25/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8	32Kx8			0/16	0.25/	16	3		
16	16	16	16M	CMOS	80	8/24	103	512x8	16Kx8			0/16	0.25/	16	3		
16	16	20	16M	NMOS		8/48							0.8/—			8	11
16	16	24	16M	CMOS	68	16/22						16	0.12/			5	47
20MHz																	
16			4K	CMOS	40	16	60	256x16	4K			25	0.6				
16			4K	CMOS	68	16	60	256x16	4K			25	0.16				
16			4K	CMOS	68	16	60	256x16	4K			25	0.16				
16			64K	CMOS	144	16	256		128K			25					
16			128K	CMOS	68	16	133	1.5Kx16	256x8			40	0.1				
16			128K	CMOS	68	16	133	544x16	4K			40	0.6				
16			128K	CMOS	68	16	133	544x16	4K			50	0.6				
16			128K	CMOS	84	16	256	8.5Kx16	2Kx16			40	0.05				
16	16	16	16M	CMOS	64	8/24	103	2Kx8				0/25	0/16	16	3		
16	16	16	16M	CMOS	64	8/24	103	2Kx8		32K		0/25	0.16/	16	3		
16	16	16	16M	CMOS	64	8/24	103	2Kx8	32Kx8			0/25	0/16	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8				0/25	0.16/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8		16Kx8		0/25	0.16/	16	3		
16	16	16	16M	CMOS	64	8/24	103	512x8	16Kx8			0/25	0.16	16	3		
16	16	16	16M	CMOS	80			1Kx16				20	200				

I/O Ports	Peripherals (No./Resolution)						
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source	Line
5 8-bit	4 16-bit	10-bit			80C196KB16	Intel	
7 8-bit					80C196JQ	Intel	
7 8-bit					80C196JR	Intel	
7 8-bit					80C196KQ	Intel	
7 8-bit					80C196KR	Intel	5
	4 16-bit	10-bit			80C198-16	Intel	
5 8-bit	4 16-bit	10-bit			83C196KB	Intel	
5 8-bit	4 16-bit	10-bit			83C196KB16	Intel	
5 8-bit		10-bit			80C196KC	Intel	
	4 16-bit	10-bit			83C198-16	Intel	10
5 8-bit	4 16-bit	10-bit			87C196KB16	Intel	
5 8-bit		10-bit			87C196KC	Intel	
	4 16-bit	10-bit			87C198-16	Intel	
7 8-bit					87C196JQ	Intel	
7 8-bit					87C196KQ	Intel	15
7 8-bit					87C196JR	Intel	
7 8-bit					87C196KR	Intel	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703E4A	Mitsubishi	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703M4A	Mitsubishi	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703S1A	Mitsubishi	20
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703E2A	Mitsubishi	
53 lines	8 16-bit	8-bit x 4		UARTx2, PWM	M37703M2A	Mitsubishi	
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702S4A	Mitsubishi	
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702M4A	Mitsubishi	
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2, ROM-less M37702M2A	M37702S1A	Mitsubishi	25
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702E4A	Mitsubishi	
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM	M37702M4E	Mitsubishi	
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702M2A	Mitsubishi	
				Faster versions also available, refurbished	80286	Krueger	
				32-bit Address bus interface capability	SAB82C258A-16	Siemens	30
				EPROM program memory	TMS320E15-25	TI	
				Optimized for digital control systems applications	TMS320C14	TI	
				Optimized for digital control systems applications, EPROM program memory.	TMS320E14	TI	
					LR64501	LSI Logic	
				Expand on-chip RAM	TMS320C26	TI	35
				Repeat instruction single cycle multiplier/accumulator, 16 I/O ports, EPROM program memory	TMS320E25	TI	
				Repeat instruction single cycle multiplier/accumulator, 16 I/O ports	TMS320C25-50	TI	
				Next generation fixed point DSP	TMS320C50	TI	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703S4B	Mitsubishi	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703E4B	Mitsubishi	40
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703M4B	Mitsubishi	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703S1B	Mitsubishi	
53 lines	8 16-bit	8-bit x 4		UART, PWM	M37703E2B	Mitsubishi	
68 lines	8 16-bit	8-bit x 4		UARTx2, PWM	M37703M2B	Mitsubishi	
47	1 16-Bit, 1 8-Bit	10-Bit		Watchdog Timer	**TMP96C141**	**Toshiba (3830)**	45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS—Microcontrollers (Cont'd)

Bus Width			Direct Addressing Range (bytes)	Process Technology	No. of Pins	Instruction Length Min/Max (bits)	No. of Basic Instructions	On-Chip Memory				Clock Rate (MHz)	Instruction Cycle Time, Min/Max (us)	No. of Interrupts		No. of Registers	
Ext. Data (bits)	Int. Data (bits)	Address (bits)						RAM	ROM	EPROM	Cache			Int.	Ext.	Gen. Purp.	Other
20MHz																	**(Cont'd)**
16	16	16	16M	CMOS	80			1Kx16	32Kx16			20	200				
16	16	16	16M	CMOS	80		103	2Kx8				0/25	0.16/	16	3		
16	16	16	16M	CMOS	80		103	2Kx8	32Kx8			0/25	0.16/	16	3		
16	16	16	16M	CMOS	80		103	512x8				0/25	0.16/	16	3		
16	16	16	16M	CMOS	80		103	512x8		16Kx8		0/25	0.16/	16	3		
16	16	16	16M	CMOS	80	8/24	103	1Kx8	24K			0/25	0.16/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8		32Kx8		0/25	0.16	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8		48Kx8		0/25	0.16/	16	3		
16	16	16	16M	CMOS	80	8/24	103	2Kx8	48Kx8			0/25	0.16/	16	3		
16	16	16	16M	CMOS	80	8/24	103	512x8	16Kx8			0/25	0.16/	16	3		
16	16	16	256K	CMOS	100	32/64	78	1K	32K	32K		20	0.1/1	31	1	16	
16	16	18	16M	CMOS	100	16/32		2Kx8	8Kx8			1/20	0.1/	48	4	16	x
16	16	18	256K	CMOS	100	16/32		1Kx8				1/20	0.1/	32		16	x
16	16	18	256K	CMOS	100	16/32		1Kx8	8Kx8			1/20	0.1/	32		16	x
16	16	18	256K	CMOS	100	16/32	102	1Kx8				1/20	0.1/	15	1	32	98
16	16	18	256K	CMOS	100	16/32	102	1Kx8	32Kx8			1/20	0.1/	15	1	32	98
16	16	18	256K	CMOS	100	16/32	102	1Kx8	32Kx8			1/20	0.1/	15	1	32	98
16	16	18	256K	CMOS	100	16/32	102	1Kx8	32Kx8			1/20	0.1/	15	1	32	98
16	16	24	16M	CMOS	68	16/22						20	0.1/			5	47
16	16	24	16M	CMOS	100	16/32	85	2Kx8				1/20	0.1/1	15	1	32	98
16	16	24	16M	CMOS	100	16/32	85	2Kx8				1/20	0.1/1	20	8	16	
16	16	24	16M	CMOS	144	16/32	85	2Kx8	8Kx8			1/20	0.1/1	51	4	16	
16	16	24	16M	CMOS	144	16/32	85	2Kx8	8Kx8			1/20	0.1/1	15	1	32	98
16	16	24	16M	CMOS	144	16/32	85	2Kx8	8Kx8			1/20	0.1/1	51	4	16	
16/32 Bit																	
16MHz																	
16	32	24	16M	HCMOS	100	8/32						0/16	0.06/	12	1		16
16	32	24	16M	HCMOS	144	8/32	96	24Kx8				0/16	0.06/		7	16	
20MHz																	
16	32	24	16M	HCMOS	144	8/32	96	2Kx8				0/20	0.05/		7	16	
32 Bit																	
12MHz																	
32	32	32		HCMOS	132			2Kx8				16					
33MHz																	
32			16M	CMOS	180	32	114	32x8	4Kx32			33	0.06				
32	32		128M	CMOS	144	32	106					40	0.1				

I/O Ports	Peripherals (No./Resolution)					
No./Type	Timer/Counter	A/D Converter	D/A Converter	Comments	Device	Source
47	1 16-Bit, 1 8-Bit	10-Bit		Watchdog Timer	**TMP96CM40**	**Toshiba (3830)**
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702S4B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702M4B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702S1B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702E2B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM	M37702M3B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702E4B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM	M37702E6B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		UARTx2, PWM	M37702M6B	Mitsubishi
68 lines	8 16-bit	8-bit x 8		PWM, UARTx2	M37702M2B	Mitsubishi
66 I/O, 10 Input	2 16-bit	10-bit x 10		2 USARTs	SAB88C166-5	Siemens
110 lines	5 16-bit	10-bit x 16		2 USARTs, 4 Channel PWM	SAB83C167	Siemens
76 lines	5 16-bit	10-bit x 10		2 USARTs	SAB88C166	Siemens
76 lines	5 16-bit	10-bit x 10		2 USARTs	SAB83C166	Siemens
76 lines	5 16-bit	10-bit x 10		2 USARTs, Serial I/O	**SAB80C166**	**Siemens (3768)**
76 lines	5 16-bit	10-bit x 10	10-bit x 10	2 USARTs, Serial I/O, Ext temp	SAB83C166-T3	Siemens
76 lines	5 16-bit	10-bit x 10	10-bit x 10	2 USARTs, Serial I/O	**SAB83C166-5**	**Siemens (3768)**
76 lines	5 16-bit	10-bit x 10	10-bit x 10	2 USARTs, Serial I/O, Ext temp	SAB83C166-5T3	Siemens
				32-bit Address bus interface capability	SAB82C258A-20	Siemens
77 lines	5 16-bit			USART, Serial I/O	**SABC165-L**	**Siemens (3768)**
77 lines	5 16-bit			2 USARTs, Extended temp range	SAFC165-L	Siemens
111 lines	5 16-bit	10 bit x 16		2 USARTs, 4 Channel PWM	**SABC167-L**	**Siemens (3768)**
111 lines	5 16-bit	10-bit x 16		USART, Serial I/O, 4-Channel PWM	**SABC167-1R**	**Siemens (3768)**
111 lines	5 16-bit	10 bit x 16		2 USARTs, 4 Channel PWM, Extended temp range	SAFC167-L	Siemens
24 lines	2 16-bit			Low voltage capability, UART, JTAG, I2C, 8051	MC68307	Motorola
16 lines I/O, 7 Output	16-bit x 16			Serial Port	MC68332-16	Motorola
16 lines I/O, 7 Output	16-bit x 16				MC68332-20	Motorola
48 I/O	1 16-bit				TS68332	Thomson Comp
				32-Bit floating point DSP	TMS320C30	TI
				Graphics System	TMS34020	TI

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components

This section presents the major microprocessor system devices organized into system groups, ie 6800, 8080, 68000, etc. It includes those RAM's, ROM's and PROM's which are unique to a system. It omits most general purpose memories as they are listed in the Memory section. Similarly, buffers, line drivers, transceivers, UART's, etc. are covered briefly here as they are presented in depth in the Digital and Interface sections.

Bit Slice

Macrologic Bipolar

Function	Device	Source	Line
Buffer (16x4 First-in first-out memory. See also Memory-FIFO's)			
	9403AC	National	
	9403AM	† National	

Macrologic CMOS

Function	Device	Source	Line
Programmable Bit Rate Generator (See also Digital-CMOS-Miscellaneous-Bit Rate Generator)			
	HD4702	Harris	
	HD4702/883	Harris	

4 Bit Slice

2900

Function	Device	Source	Line
Microprocessor Slice			
	MAS2901	GEC Plessey	5
Microprocessor Slice, 4-Bit			
	AM29C01	AMD	
Microprocessor, Four 2901's and a 2902 Look-Ahead Carry in one device			
	4x2901B	IMI	
Microprocessor, 4-Bit Slice, Cascadable			
	AM2903AC	° AMD	
	AM2903AM	°† AMD	
	IDT39C01C	IDT	10
	2901-Cell	LSI Logic	
	IDM2901A-2	National	
	IDM2901AC	National	
	SFC2901B	SGS-Thomson	
	SFC2901C	SGS-Thomson	15
	SFC2903	SGS-Thomson	
	2901-Cell	SGS-Thomson	
	TS2901B	Thomson Comp	
	TS2901C	Thomson Comp	
Arithmetic Logic Unit (ALU), 4-Bit Slice, Cascadable			
	CY2901C	Cypress	20
	CY2901CM	† Cypress	
Arithmetic Logic Unit (ALU), 4-Bit Slice, 23 ns Read-Modify-Write Cycle, Cascadable			
	CY7C901-23C	Cypress	
Arithmetic Logic Unit (ALU), 4-Bit Slice, 27 ns Read-Modify-Write Cycle, Cascadable			
	CY7C901-27M	† Cypress	
Arithmetic Logic Unit (ALU), 4-Bit Slice, 31 ns Read-Modify-Write Cycle, Cascadable			
	CY7C901-31C	Cypress	
Arithmetic Logic Unit (ALU), 4-Bit Slice, 32 ns Read-Modify-Write Cycle, Cascadable			
	CY7C901-32M	† Cypress	25
Bus Transceivers (See also Interface-Line Transceivers)			
	AM2907M	† AMD	
	SFC2915A	SGS-Thomson	
	SFC2917	SGS-Thomson	
	TS2915A	Thomson Comp	
	TS2917A	Thomson Comp	30
Clock Generator and Driver			
	AM2925M	† AMD	
DMA Address Generator			
	AM2940C	° AMD	
	AM2940M	°† AMD	
DMA Address Generator/Programmable Timer/Counter			
	AM2942C	° AMD	
	AM2942M	°† AMD	35
Error Correction and Detection Circuit, 16-Bit			
	IDT39C60	IDT	
	IDT39C60-1	IDT	
	MC74F2960	Motorola	
Error Correction and Detection Circuit, 32-Bit			
	IDT49C460	° IDT	
	IDT49C460A	° IDT	40
	IDT49C460B	° IDT	
	IDT49C460C	° IDT	
Error Correction Multiple Bus Buffer, 4-Bit (datapath interface between AM2960, data bus, and RAM)			
	AM2904C	AMD	
	AM2904M	† AMD	
I/O Ports, 8-Bit Bidirectional			
	AM2952A	AMD	45
	IDT29FCT52AT	IDT	
	IDT29FCT52BT	IDT	
	IDT29FCT52C	IDT	
	IDT29FCT52CT	IDT	
	IDT29FCT52DT	IDT	50
	IDT29FCT53AT	IDT	
	IDT29FCT53BT	IDT	
	IDT29FCT53C	IDT	
	IDT29FCT53CT	IDT	
Look-Ahead Carry Generator			
	AM2902AC	° AMD	55
	IDT39C02A	IDT	
	IDM2902C	National	
	IDM2902M	† National	
	SFC2902A	SGS-Thomson	
	TS2902A	Thomson Comp	60
Memory Timing Controller with EDAC			
	MC74F2969	Motorola	
Memory Timing Controller without EDAC			
	MC74F2970	Motorola	
Microprogram Controller (25 MHz)			
	AM29C10A-1	° AMD	
Microprogram Sequencer, 4-Bit			
	AM2909AC	AMD	
	CY2909AC	Cypress	65
	CY2909AM	† Cypress	
	CY2911AC	Cypress	
	CY2911AM	† Cypress	
	CY7C909-30C	° Cypress	
	CY7C909-30M	°† Cypress	70
	CY7C909-40C	° Cypress	
	CY7C909-40M	°† Cypress	
	CY7C911-30C	° Cypress	
	CY7C911-30M	°† Cypress	
	CY7C911-40C	° Cypress	75
	CY7C911-40M	°† Cypress	
	IDM2909AC	National	
	IDM2911AC	National	
	SFC2909	SGS-Thomson	
	SFC2909A	SGS-Thomson	80
	SFC2911	SGS-Thomson	
	SFC2911A	SGS-Thomson	
	TS2909A	Thomson Comp	
	TS2911A	Thomson Comp	
Next Address Control Unit (use with 2911)			
	IDM29811C	National	85
	IDM29811M	† National	
Priority Encoder			
	IDM29902C	National	
	IDM29902M	† National	
Priority Interrupt Encoder, Vectored			
	SFC2914	SGS-Thomson	
	TS2914	Thomson Comp	90
RAM, 16-Word by 4-Bit			
	AM29705A	° AMD	
RAM (16x4) Two Outputs Ports			
	IDM29705AC	National	
Quad D Flip-Flop with Two Output Ports			
	SFC2919	SGS-Thomson	
	TS2919	Thomson Comp	
Quad D Register with Both Standard and Three-State Outputs (See also Digital-TTL-Flip-Flops)			
	SFC2918	SGS-Thomson	95
	TS2918	Thomson Comp	
8-Bit Bidirectional I/O Port			
	29F52C	National	
	29F52M	† National	
	29F53C	National	
	29F53M	† National	100
8-Bit Diagnostic Register with Serial Shadow Register			
	AM29818AC	AMD	
	L29C818	LogicDev	
16-Way Branch Control Unit (use with 2909)			
	IDM29803C	National	
	IDM29803M	† National	
64-Bit (16x4) Edge-Triggered Register, Three-State			
	IDM29903C	National	105

16 Bit Slice

2900

Function	Device	Source	Line
Microprocessor, 16-Bit Slice, Cascadable			
	CY7C9101-30C	Cypress	
	CY7C9101-35M	† Cypress	
	CY7C9101-40C	Cypress	
	CY7C9101-45M	† Cypress	
	CY7C9101M	°‡ Cypress	110

1 Bit

14500

Function	Device	Source	Line
Microprocessor, Industrial Control Unit			
	MC14500B	Motorola	
Latch, 8-Bit	MC14597BC	Motorola	
	MC14598BC	Motorola	
	MC14599BC	Motorola	

4 Bit

1400

Function	Device	Source	Line
Microcomputer			
	MN1400	Panasonic	115
	MN1402	Panasonic	
	MN1403	Panasonic	
	MN1404	Panasonic	
	MN1405	Panasonic	
	MN1430	Panasonic	120
	MN1432	Panasonic	
	MN1435	Panasonic	
	MN1450	Panasonic	
	MN1453	Panasonic	
	MN1454	Panasonic	125
	MN1455	Panasonic	
	MN1498	Panasonic	
Microcomputer, Evaluator			
	MN1499	Panasonic	
	MN1499A	Panasonic	

1500

Function	Device	Source	Line
Microcomputer			
	MN1541	Panasonic	130
	MN1542	Panasonic	
	MN1544	Panasonic	
	MN1562	Panasonic	
	MN1564	Panasonic	
Microcomputer, Evaluator			
	MN1599	Panasonic	135
I/O Expander	MN1591	Panasonic	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR–System Components (Cont'd)

Function	Device	Source
4 Bit (Cont'd)		
2100		
Program Development Device	SE2400P	TI
COP200		
Microcontroller, RAM, ROM, I/O	COP224C	National
	COP225C	National
	COP226C	National
	COP244C	National
	COP245C	National
COP400		
Microcontroller, Piggyback EPROM	COP402M	National
Microcontroller, Piggyback with EPROM Socket	COP420P	National
	COP420R	National
	COP440R	National
	COP444CP	National
	COP444LP	National
	COP444LR	National
Microcontroller, RAM, ROM, I/O	COP313C	National
	COP313CH	National
	COP313L	National
	COP324C	National
	COP325C	National
	COP326C	National
	COP342	National
	COP344C	National
	COP345C	National
	COP413C	National
	COP413CH	National
Microcontroller, ROMless	COP402	National
	COP404	National
	COP404C	National
Microcontroller (with ROM)	COP210C	† National
	COP211C	† National
	COP310C	National
	COP310L	National
	COP311C	National
	COP311L	National
	COP320	National
	COP320L	National
	COP321	National
	COP321L	National
	COP322	National
	COP322L	National
	COP340	† National
	COP341	† National
	COP344L	National
	COP345L	National
	COP410C	National
	COP410L	National
	COP411C	National
	COP411L	National
	COP414L	National
	COP420	National
	COP420L	National
	COP421	National
	COP421L	National
	COP422	National
	COP422L	National
	COP440	National
	COP441	National
	COP442	National
	COP444L	National
	ETC9410	SGS-Thomson
		(Continued)

Function	Device	Source
Microcontroller (with ROM) (Cont'd)	ETC9411	SGS-Thomson
	ETC9420	SGS-Thomson
	ETC9421	SGS-Thomson
	ETC9422	SGS-Thomson
	ETC9444	SGS-Thomson
	ETC9445	SGS-Thomson
	ETL9410	SGS-Thomson
	ETL9411	SGS-Thomson
	ETL9413	SGS-Thomson
	ETL9420	SGS-Thomson
	ETL9421	SGS-Thomson
	ETL9422	SGS-Thomson
	ETL9444	SGS-Thomson
	ETL9445	SGS-Thomson
	ET9413	SGS-Thomson
	ET9420	SGS-Thomson
	ET9421	SGS-Thomson
	ET9422	SGS-Thomson
Microcontroller (512x8 ROM, 32x4 RAM)	COP314L	National
Converter (8-Bit A/D)	COP431	National
	COP432	National
	COP434	National
	COP438	National
LCD Display Controller	COP472-3	National
Liquid Crystal Display Controller	COP472	National
Vacuum Fluorescent Display Driver	COP370	National
	COP470	National
51000		
Microcomputer, RAM, ROM, I/O	KS51000	Samsung
	KS51200	Samsung
	KS52000	Samsung
OLMS40		
Microcomputer, I/O, Display Outputs, Timer	MSM58421	OKI
	MSM58422	OKI
Microcomputer, ROM, RAM, Timer/Counter, I/O	MSM5842	OKI
	MSM5845	OKI
Microprocessor, Real-Time Clock Calendar	MSM5832	OKI
	MSM58321	OKI
	L5832	SGS-Thomson
Column Data Register for LCD	MSM5839	OKI
LCD Driver, 5-Digit	MSM58292	OKI
LED Driver, 4-Digit	MSM58282	OKI
Row Scanning Controller for LCD DOT Matrix Driver	MSM5838	OKI
SM Series		
Microcomputer, Multi-LCD Display, On-Chip LCD Driver	SM5K1	Sharp
Microcomputer, Multi-VFD Display, On-Chip VFD Driver	LU5EPOP	Sharp
	SM5K5	Sharp
Microcomputer, Serial Input/Output	SM551	Sharp
	SM552	Sharp

Function	Device	Source
TLCS470		
Microcomputer (OTP, LED driver, 36 I/O, dual clock)	TMP47P800	Toshiba
Microcomputer (OTP, VFT, D/A, A/D, 53 I/O, dual clock)	TMP47P860	Toshiba
	TMP47P870	Toshiba
Microcomputer, 8K ROM, A/D, Watchdog Timer	TMP47C860	Toshiba
Microcontroller, 4-Bit (A/D converter, 12Kx8 ROM, 512x4 RAM)	**TMP47C1237**	**Toshiba (3824)**
	TMP47C1238A	**Toshiba (3824)**
Microcontroller, 4-Bit (A/D converter, 16Kx8 ROM, 512x4 RAM)	**TMP47C1637**	**Toshiba (3824)**
	TMP47C1638A	**Toshiba (3824)**
Microcontroller, 4-Bit (DTMF generator, LCD driver)	**TMP47C858**	**Toshiba (3824)**
Microcontroller, 4-Bit (DTMF generator, 4Kx8 ROM, 768x4 RAM)	**TMP47C457**	**Toshiba (3824)**
Microcontroller, 4-Bit (DTMF generator, 8Kx8 ROM, 1Kx4 RAM)	**TMP47C853**	**Toshiba (3824)**
	TMP47C857	Toshiba
Microcontroller, 4-Bit (LCD driver, 12Kx8 ROM, 768x4 RAM)	**TMP47C1220**	**Toshiba (3824)**
Microcontroller, 4-Bit (LCD driver, 16Kx8 ROM, 768x4 RAM)	**TMP47C1620**	**Toshiba (3824)**
Microcontroller, 4-Bit (LED driver, 12Kx8 ROM, 768x4 RAM, 8-Bit A/D)	**TMP47C1260**	**Toshiba (3824)**
Microcontroller, 4-Bit (LED driver, 16Kx8 ROM, 768x4 RAM, 8-Bit A/D)	TMP47C1660	Toshiba
Microcontroller, 4-Bit (VFT driver, D/A, 12Kx8 ROM, 768x4 RAM)	**TMP47C1270A**	**Toshiba (3824)**
Microcontroller, 4-Bit (16Kx8 ROM, VFT driver, 768x4 RAM)	**TMP47C1670A**	**Toshiba (3824)**
Microcontroller, 4-Bit (4Kx8 ROM, 256x4 RAM, A/D converter)	**TMP47C434**	**Toshiba (3824)**
Microcontroller, 4-Bit (6Kx8 ROM, 384x4 RAM, A/D converter)	**TMP47C634**	**Toshiba (3824)**
	TMP47C635	**Toshiba (3824)**
Microcontroller, 4-Bit (6Kx8 ROM, 384x4 RAM, LCD, Timer/Counter)	**TMP47C620**	**Toshiba (3824)**
Microcontroller, 4-Bit (6Kx8 ROM, 896x4 RAM)	**TMP47C655**	**Toshiba (3824)**
Microcontroller, 4-Bit (8-Bit A/D, LED driver, 6Kx8 ROM, 384x4 RAM)	**TMP47C662A**	**Toshiba (3824)**
Microcontroller, 4-Bit (8-Bit A/D, 8Kx8 ROM, 512x4 RAM)	**TMP47C862A**	**Toshiba (3824)**
Microcontroller, 4-Bit (8Kx8 ROM, 1Kx4 RAM)	**TMP47C855**	**Toshiba (3824)**
Microcontroller, 4-Bit (8Kx8 ROM, 512Kx4 RAM, DTMF receiver)	**TMP47C850**	**Toshiba (3824)**
Microcontroller, 4-Bit (8Kx8 ROM, 512x4 RAM, LCD, Timer/Counter)	**TMP47C820**	**Toshiba (3824)**
Microcontroller, 6Kx8 ROM, 384x4 RAM, 4-Bit A/D Converter, VFT Drivers, Watchdog Timer	**TMP47C670**	**Toshiba (3824)**
Microcontroller, 6Kx8 ROM, 384x4 RAMA/D, Watchdog Timer	**TMP47C660**	**Toshiba (3824)**
Microcontroller, 8K ROM, 512x4 RAM, LED Driver, Watchdog Timer	**TMP47C800**	**Toshiba (3824)**
Microcontroller, 8Kx8 ROM, 512x4 RAM, 4-Bit A/D, VFT Drivers, Watchdog Timer	**TMP47C870**	**Toshiba (3824)**

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

4 Bit (Cont'd)

TLCS47

Function	Device	Source
Microcomputer (single-chip, 2K ROM)	HMCS402C	Hitachi
	HMCS402CL	Hitachi
	HMCS412AC	Hitachi
	HMCS412C	Hitachi
	HMCS44C	Hitachi
	HMCS44CL	Hitachi
	HMCS45C	Hitachi
	HMCS45CL	Hitachi
Microcomputer (single-chip, 2K ROM, LCD driver)	LCD-III	Hitachi
Microcomputer (single-chip, 4K ROM)	HMCS404AC	Hitachi
	HMCS404C	Hitachi
	HMCS404CL	Hitachi
	HMCS414AC	Hitachi
	HMCS414C	Hitachi
	HMCS414CL	Hitachi
	HMCS46C	Hitachi
	HMCS46CL	Hitachi
	HMCS47C	Hitachi
	HMCS47CL	Hitachi
Microcomputer (single-chip, 4K ROM, LCD driver)	LCD-IV	Hitachi
Microcomputer (single-chip, 4K ROM, 256x4 RAM)	HMCS424	Hitachi
Microcomputer (single-chip, 8K ROM)	HMCS408AC	Hitachi
	HMCS408C	Hitachi
Microcomputer (single-chip, 2K ROM)	HMCS412CL	Hitachi
Microcomputer, 32x4 RAM, 23 I/O Lines (evaluation chip)	**TMP42C00**	**Toshiba (3822)**
Microcomputer, 512 byte ROM, 11 I/O Lines	**TMP42C40**	**Toshiba (3822)**
	TMP4240	Toshiba
Microcomputer, 512 byte ROM, 23 I/O Lines	**TMP42C50**	**Toshiba (3822)**
	TMP4250	Toshiba
Microcomputer, 1K ROM, Zero Cross Detector	**TMP42C66**	**Toshiba (3822)**
Microcomputer, 1K ROM, 11 I/O Lines	**TMP42C60**	**Toshiba (3822)**
	TMP4260	Toshiba
Microcomputer, 1K ROM, 23 I/O Lines	**TMP42C70**	**Toshiba (3822)**
	TMP4270	Toshiba
Microcomputer, 2K ROM	**TMP47C200B**	**Toshiba (3823)**
Microcomputer, 2K ROM, PWM	**TMP47C231A**	**Toshiba (3823)**
Microcomputer, 2K ROM, VFT Drivers	**TMP47C210A**	**Toshiba (3823)**
Microcomputer, 4K ROM	**TMP47C400B**	**Toshiba (3823)**
Microcomputer, 4K ROM, A/D, Watchdog Timer	**TMP47C440A**	**Toshiba (3823)**
Microcomputer, 4K ROM, A/D, Watchdog Timer, VFT Driver	**TMP47C441A**	**Toshiba (3823)**
Microcomputer, 4K ROM, I/O	**TMP47C460A**	**Toshiba (3823)**
Microcomputer, 4K ROM, LCD Drivers, Dual Clock	**TMP47C425A**	**Toshiba (3823)**
Microcomputer, 4K ROM, RAM, DTMF	**TMP47C451B**	**Toshiba (3823)**
	TMP47C452B	**Toshiba (3823)**
Microcomputer, 4K ROM, VFT Drivers	**TMP47C410A**	**Toshiba (3823)**
	TMP47C475A	**Toshiba (3823)**
Microcontroller, 4-Bit (D/A converter, LCD)	**TMP47C446A**	**Toshiba (3823)**
Microcontroller, 4-Bit (D/A converter, LED)	**TMP47C233A**	**Toshiba (3823)**
	TMP47C433A	**Toshiba (3823)**
Microcontroller, 4-Bit (DTMF, LCD)	**TMP47C456A**	**Toshiba (3823)**

TMS2000

Function	Device	Source
ROMless TMS2000 Family Evaluator	SE2100P	TI
	SE2400P	TI

μCOM-75

Function	Device	Source
Microcomputer	μCOM-75	NEC
Microcomputer, General Purpose Driver	μPD7508A	NEC
	μPD75106	NEC
	μPD75206	NEC
	μPD75308	NEC
Microcomputer, Vacuum Fluorescent Driver	μPD7508A	NEC

Miscellaneous

Function	Device	Source
Microcomputer, 4-Bit (12K ROM)	LC66512B	Sanyo
Microcomputer, 4-Bit (16K ROM)	LC66516B	Sanyo
Microcomputer, 4-Bit (6K ROM)	LC66506B	Sanyo
Microcomputer, 4-Bit (8K ROM)	LC66508B	Sanyo

8 Bit

740

Function	Device	Source
Microprocessor, External ROM	M50734	Mitsubishi
Microprocessor, Piggy-Back for M50740/M50741	M50740-PGYS	Mitsubishi
Microprocessor, Piggy-Back for M50742	M50742-PGYS	Mitsubishi
Microprocessor, Piggy-Back for M50743	M50743-PGYS	Mitsubishi
Microprocessor, Piggy-Back for M50745	M50745-PGYS	Mitsubishi
Microprocessor, Piggy-Back for M50753	M50753-PGYS	Mitsubishi
Microprocessor, Piggy-Back for M50757/M50752	M50752-PGYS	Mitsubishi
Microprocessor, RAM, External ROM	M50740ASP	Mitsubishi
Microprocessor, RAM, ROM	M50740	Mitsubishi
	M50740A	Mitsubishi
	M50742	Mitsubishi
	M50743	Mitsubishi
	M50745	Mitsubishi
	M50747	Mitsubishi
	M50752	Mitsubishi
	M50753	Mitsubishi
	M50754	Mitsubishi
	M50757	Mitsubishi
Microcontroller, 8K ROM, RAM	M50932	Mitsubishi
	M50943	Mitsubishi

1650

Function	Device	Source
Microcomputer	PIC16C54	Microchip
	PIC16C55	Microchip
	PIC16C56	Microchip
	PIC16C57	Microchip
	PIC1652	Microchip
	PIC1654	Microchip
	PIC1670	Microchip

1800

Function	Device	Source
Microprocessor	CDP1802A	† Harris
	CDP1802A/3	Harris
	CDP1802AC	† Harris
	CDP1802AX	Harris
	CDP1802BC	† Harris
	HB1802A	† Hughes
	HB1802AC	† Hughes
	HC1802A	Hughes
	HC1802AC	Hughes
Microprocessor, Counter/Timer	CDP1806AC	† Harris
Microprocessor, RAM, Counter/Timer	CDP1805AC	† Harris
Keyboard Encoder	CDP1871A	Harris
	CDP1871AC	Harris
Latch/Decoder Memory Interface	CDP1881	Harris
	CDP1881C	Harris
	CDP1882	Harris
	CDP1882C	Harris
	CDP1883	Harris
Multiply-Divide Circuit	CDP1855	† Harris
	CDP1855C	† Harris
N-Bit Decoder (for I/O interface)	CDP1853	† Harris
	CDP1853C	† Harris
	HB1853	† Hughes
	HB1853C	† Hughes
	HC1853	Hughes
	HC1853C	Hughes
Programmable I/O Interface	CDP1851	† Harris
	CDP1851C	† Harris
Programmable Interrupt Controller	CDP1877	Harris
	CDP1877C	Harris
RAM (32x8) (See also Memory-RAM's)	CDP1824	† Harris
	CDP1824C	† Harris
	HB1824	† Hughes
	HC1824	Hughes
	HC1824C	Hughes
RAM (64x8) (See also Memory-RAM's)	CDP1826C	Harris
RAM (128x8) (See also Memory-RAM's)	CDP1823	† Harris
	CDP1823C	† Harris
RAM (256x4) (See also Memory-RAM's)	CDP1822	† Harris
	CDP1822C	† Harris
	HB1822C	† Hughes
	HC1822C	Hughes
Real-Time Clock (time and calendar information in BCD format from seconds to months)	CDP1879	† Harris
	CDP1879C-1	† Harris
ROM (512x8) (See also Memory-ROM's)	HB1831	† Hughes
	HB1831C	† Hughes

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

8 Bit

1800 (Cont'd)

Function	Device	Source	Line
ROM (512x8) (See also Memory-ROM's) (Cont'd)	HB1832	† Hughes	
	HB1832C	† Hughes	
	HC1831	Hughes	
	HC1831C	Hughes	
	HC1832	Hughes	5
	HC1832C	Hughes	
ROM (1024x8) (See also Memory-ROM's)	HB1833	† Hughes	
	HB1833C	† Hughes	
	HB1834	† Hughes	
	HB1834C	† Hughes	10
	HC1833	Hughes	
	HC1833C	Hughes	
	HC1834	Hughes	
	HC1834C	Hughes	
ROM (2048x8) (See also memory-ROMs)	HB1835	† Hughes	15
	HB1835C	† Hughes	
	HC1835	Hughes	
	HC1835C	Hughes	
UART	CDP1854A	† Harris	
	CDP1854A/3	Harris	20
	CDP1854AC	† Harris	
	CDP1854AC/3	Harris	
	CDP1854AC3	Harris	
	CDP1854A3	Harris	
	CDP65C51-1	Harris	25
	CDP6853	Harris	
Dual Counter/Timer (two 16-Bit programmable down counters independently controlled by separate control registers)	CDP1878	† Harris	
	CDP1878C	† Harris	
4-Bit Buffer/Separator (for memory interface)	HB1856	† Hughes	
	HB1856C	† Hughes	30
	HC1856	Hughes	
	HC1856C	Hughes	
4-Bit Bus Buffer/Separator (for I/O interface)	CDP1857	Harris	
	CDP1857C	Harris	
	HB1857	† Hughes	35
	HB1857C	† Hughes	
	HC1857	Hughes	
	HC1857C	Hughes	
4-Bit Latch with Dual 1 of 4 Decoders	HB1858	† Hughes	
	HB1858C	† Hughes	40
	HC1858	Hughes	
	HC1858C	Hughes	
4-Bit Latch with 1 of 4 Decoder	HB1859	† Hughes	
	HB1859C	† Hughes	
	HC1859	Hughes	45
	HC1859C	Hughes	
7-Bit Latch with Decoder for 8Kx8 Memories	CDP1883C	Harris	
8-Bit Input/Output Port	CDP1852	† Harris	
	CDP1872	† Harris	
	CDP1872C	† Harris	50
	CDP1874C	† Harris	
	CDP1875C	† Harris	
	HB1852	† Hughes	
	HB1852C	† Hughes	
	HC1852	Hughes	55
	HC1852C	Hughes	

2650

Function	Device	Source	Line
Advanced Video Display Controller	2674	Lansdale	
	2674T	Lansdale	
	SCN2674	Philips	
Asynchronous Communications Interface	SCN2641	Philips	60
Display Character and Graphics Generator	SC2670AC3	Philips	
	SC2670BC3	Philips	
Programmable Communication Interface	SCN2651C	Philips	
	SCN2661A	Philips	
	SCN2661B	Philips	65
Programmable Video Timing Controller	SCN2672A	Philips	
Dual Universal Asynchronous Receiver/Transmitter	SCN2681T	Philips	
Quad Transceivers (See also Interface-Line Transceivers)	MC8T26A	Motorola	
	MC8T28	Motorola	
	DS8T26A	National	70
	DS8T28	National	
Hex Buffers/Inverters (See also Digital-TTL-Buffers/Inverters 8T95, 8T96, 8T97, 8T98)	MC8T95	Motorola	
	MC8T96	Motorola	
	MC8T97	Motorola	
	MC8T98	Motorola	75

3870

Function	Device	Source	Line
Microcomputer, Piggyback EPROM, Emulates all MK3870 Devices	MK38P70/02	SGS-Thomson	
Microcomputer, ROM, PLL, Shadow RAM, I/O, A/D	M8910	SGS-Thomson	
Microcomputer, ROM, 64-Byte Executable RAM, 64-Byte Scratchpad RAM, Timer, I/O	MK2870	SGS-Thomson	
	MK38P70	SGS-Thomson	
	MK3870/10	SGS-Thomson	80
	MK3870/12	SGS-Thomson	
	MK3870/20	SGS-Thomson	
	MK3870/22	SGS-Thomson	
	MK3870/30	SGS-Thomson	
	MK3870/32	SGS-Thomson	85
	MK3870/40	SGS-Thomson	
	MK3870/42	SGS-Thomson	
	M2870	SGS-Thomson	
	M2872	SGS-Thomson	
	M2876	SGS-Thomson	90
	M38ADP70	SGS-Thomson	
	M38P74	SGS-Thomson	
	M38P78	SGS-Thomson	
	M38SB72	SGS-Thomson	
	M38SH72	SGS-Thomson	95
	M3870	SGS-Thomson	
	M3872	SGS-Thomson	
	M3875	SGS-Thomson	
	M3876	SGS-Thomson	
	M3878	SGS-Thomson	100

6000

Function	Device	Source	Line
Microcomputer, Piggyback EPROM, emulate S6010, S6011, S6012	S60P12	SGS-Thomson	
Microcomputer, ROM, 64 Byte RAM, A/D, I/O, Timer	S6010	SGS-Thomson	
	S6011	SGS-Thomson	
Microcomputer, ROM, 64 Byte RAM, A/D, I/O, Timer, Watchdog Timer	S6012	SGS-Thomson	
Microcomputer, ROM, 64 Byte RAM, A/D, LCD drivers, 2 Timer, I/O	S6040	SGS-Thomson	105
Microcomputer, ROMless emulate S6040	S60R40	SGS-Thomson	

6300

Function	Device	Source	Line
Microcomputer (single-chip, 4K ROM, 128 byte RAM, 29 I/O, 1.5 MHz)	HD63A01V1	Hitachi	
	HD6301V1	Hitachi	
Microcomputer (2K ROM, 128 byte RAM, 31 I/O, 1 MHz)	HD6305U0	Hitachi	
Microcomputer (4K EPROM)	HD63P01M1	Hitachi	110
Microcomputer (4K EPROM, 1 MHz)	HD63P05Y0	Hitachi	
	HD63P05Y1	Hitachi	
Microcomputer (4K EPROM, 1.5 MHz)	HD63PA05Y0	Hitachi	
	HD63PA05Y1	Hitachi	
Microcomputer (4K EPROM, 2 MHz)	HD63PB05Y0	Hitachi	115
Microcomputer (4K ROM, 128 byte RAM, 29 I/O, 2 MHz)	HD63B01V1	Hitachi	
Microcomputer (4K ROM, 192 byte RAM, 53 I/O, 1 MHz)	HD6301X0	Hitachi	
Microcomputer (4K ROM, 96 byte RAM, 20 I/O, 0.125 MHz)	HD63L05F1	Hitachi	
Microcomputer (4K ROM,128 byte RAM, 55 I/O, 1 MHz)	HD6305X0	Hitachi	
Microcomputer (8K ROM, 256 byte RAM, 31 I/O, 8K memory expansion, 1 MHz)	HD6305Y1	Hitachi	120
Microcomputer (8K ROM, 256 byte RAM, 55 I/O, 1 MHz)	HD6305Y0	Hitachi	
Microcomputer (16K ROM, 256 byte RAM, 53 I/O, 1 MHz)	HD6301Y0	Hitachi	
Microcomputer (16K ROM, 256 byte RAM, 53 I/O, 2 MHz)	HD63B01Y0	Hitachi	
Microcomputer (128 byte RAM, 13 I/O, 1 MHz)	HD6303R	Hitachi	
Microcomputer (128 byte RAM, 13 I/O, 1.5 MHz)	HD63A03R	Hitachi	125
Microcomputer (128 byte RAM, 13 I/O, 2 MHz)	HD63B03R	Hitachi	
Microcomputer (128 byte RAM, 31 I/O, 16K memory expansion, 1.5 MHz)	HD63A05X2	Hitachi	
	HD63B05X2	Hitachi	
	HD6305X2	Hitachi	
Microcomputer (192 byte RAM, 24 I/O, 1 MHz)	HD6303X	Hitachi	130
Microcomputer (192 byte RAM, 24 I/O, 1.5 MHz)	HD63A03X	Hitachi	
Microcomputer (192 byte RAM, 24 I/O, 2 MHz)	HD63B03X	Hitachi	
Microcomputer (256 byte RAM, 24 I/O, 1 MHz)	HD6303Y	Hitachi	
Microcomputer (256 byte RAM, 24 I/O, 1.5 MHz)	HD63A03Y	Hitachi	
Microcomputer (256 byte RAM, 24 I/O, 2 MHz)	HD63B03Y	Hitachi	135
Microcomputer (256 byte RAM, 24 I/O, 3 MHz)	HD63C03Y	Hitachi	
Microcomputer (256 byte RAM, 31 I/O, 16K memory expansion, 1.5 MHz)	HD63A05Y2	Hitachi	
	HD63B05Y2	Hitachi	
	HD6305Y2	Hitachi	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

8 Bit

6300 (Cont'd)

Function	Device	Source	Line
Microcomputer (4K EPROM, 2 MHz)	HD63PB05Y1	Hitachi	
Microcomputer (4K ROM, 128 byte RAM, 31 I/O, 12K memory expansion, 1 MHz)	HD6305X1	Hitachi	
Microcomputer (4K ROM, 192 byte RAM, 31 I/O, 1 MHz)	HD6305V0	Hitachi	
Microcomputer (4K ROM, 192 byte RAM, 53 I/O, 2 MHz)	HD63B01X0	Hitachi	

6500

Function	Device	Source	Line
Microcomputer	6500/1	Commodore	5
	W65C134S-4	**WDC (3849)**	
Microcomputer, 8-Bit	R65F11	Rockwell	
	R65F12	Rockwell	
Microprocessor	G65SC02	CMD Micro	
	65CE02	Commodore	10
	6502	Commodore	
	6503	Commodore	
	6504	Commodore	
	6505	Commodore	
	6506	Commodore	15
	6507	Commodore	
	6512	Commodore	
	6513	Commodore	
	6514	Commodore	
	6515	Commodore	20
	NCR65CX02-Cell	NCR	
	NCR65C02	NCR	
	6502-Cell	NCR	
	RP65C02	Ricoh	
	RP65C02G	Ricoh	25
	R6500	**Rockwell (3760)**	
	R6501Q	**Rockwell (3760)**	
	R6502	**Rockwell (3759)**	
	R6511Q	**Rockwell (3760)**	
	L6506	SGS-Thomson	30
	W65C02S	**WDC (3849)**	
Microprocessor, Clock, RAM, I/O	**R6500/1**	**Rockwell (3760)**	
	R6500/11	**Rockwell (3760)**	
	R6500/12	**Rockwell (3760)**	
	R6500/13	**Rockwell (3760)**	35
	R6500/15	**Rockwell (3760)**	
Microprocessor, Communications	G65SC150	CMD Micro	
	G65SC151	CMD Micro	
Microprocessor, I/O	6510	Commodore	
Microprocessor, RAM, I/O	6508	Commodore	40
Microprocessor with Memory Management	6509	Commodore	
Microprocessor, 7-Bit (bidirectional I/O, IRQ, RDY)	8501	Commodore	
Microprocessor, 7-Bit (bidirectional I/O, IRQ, RDY, NMI)	8502	Commodore	
Asynchronous Communications Interface Adapter	G65SC51	CMD Micro	
	6551	Commodore	45
	R65C51	**Rockwell (3759)**	
	R6551	**Rockwell (3759)**	
Communications, Dual Asynchronous Communications Interface Adapter (DACIA)	**R65C52**	° **Rockwell (3759)**	
CRT Controller	6545-1	Commodore	
Dot-Matrix Printer Controller	R6592	Rockwell	50
Emulator Device	R6500/1E	Rockwell	
Peripheral Interface Adapter	G65SC21	CMD Micro	
	G65SC22	CMD Micro	
	6522	Commodore	
	6526	Commodore	55
	R65C21	**Rockwell (3759)**	
	R65C22	**Rockwell (3759)**	
	R6520	**Rockwell (3759)**	
	R6522	**Rockwell (3759)**	
	W65C22S	**WDC (3849)**	60
Peripheral Interface Adapter/Timer	**R65C24**	**Rockwell (3759)**	
Peripheral Interface Adapter, 4 MHz	**W65C22S-4**	**WDC (3849)**	
Peripheral Interface Adapter, 5 MHz	**W65C22S-5**	**WDC (3849)**	
Peripheral Interface Adapter, 6 MHz	**W65C22S-6**	**WDC (3849)**	
Peripheral Interface Adapter, 7 MHz	**W65C22S-7**	**WDC (3849)**	65
Peripheral Interface Adapter, 8 MHz	**W65C22S-8**	**WDC (3849)**	
Peripheral Interface Adapter, 9 MHz	**W65C22S-9**	**WDC (3849)**	
Peripheral Interface Adapter, 10 MHz	**W65C22S-10**	**WDC (3849)**	
RAM, ROM, I/O and Interval Timer	6530	Commodore	
	R6530	Rockwell	70
RAM(128x8), I/O, and Timer	6532	Commodore	
RAM(128x8), I/O, and Timer	**R6532**	**Rockwell (3759)**	
RAM(128x8), ROM, I/O, and Counter/Timer	R6531	Rockwell	
Sound Interface Device	6582	Commodore	
Tri-Port Interface	6525	Commodore	75
Single Port Interface	6529	Commodore	

6800

Function	Device	Source	Line
Microcomputer	MC6801	Motorola	
	MC6801-1	Motorola	
	MC6801C	Motorola	
	MC6801U4	Motorola	80
	EF6801	SGS-Thomson	
	EF6805P2	SGS-Thomson	
	EF6805P4	SGS-Thomson	
	EF6805P6	SGS-Thomson	
	EF6805U2	SGS-Thomson	85
Microcomputer, A/D Converter, Serial Peripheral Interface, Three Timers	MC6805S2	Motorola	
	MC6805S3	Motorola	
Microcomputer, Clock, Timer, RAM, ROM, I/O	MC6804J1	Motorola	
	MC6804J2	Motorola	
	MC6804P2	Motorola	90
	EF68HC04P3	SGS-Thomson	
	EF6804J2	SGS-Thomson	
	EF6804P2	SGS-Thomson	
Microcomputer Emulator, 8-Bit (piggyback device)	CDP68EM05C4	Harris	
	CDP68EM05D2	Harris	95
Microcomputer (EPROM)	MC68705P5	Motorola	
	MC68705R3	Motorola	
Microcomputer, (EPROM), ROM, Clock, Timer, A/D, I/O	MC68705R3	Motorola	
Microcomputer (external ROM)	MC6803	Motorola	
	MC6803U4	Motorola	100
	EF68A03	SGS-Thomson	
	EF68B03	SGS-Thomson	
	EF6803	SGS-Thomson	
	EF6803U4	SGS-Thomson	
Microcomputer, RAM, ROM, Clock, Timer, A/D, I/O	MC6805R2	Motorola	105
Microcomputer, RAM, ROM, EEPROM, Timer, I/O	MC68HC811E2	Motorola	
Microcomputer, RAM, ROM, I/O	MC6805P2	Motorola	
	MC6805P6	Motorola	
	MC6805U2	Motorola	
	MC6805U3	Motorola	110
	EF6805U3	SGS-Thomson	
Microcomputer, RAM, ROM, I/O, A/D	MC6805R3	Motorola	
Microcomputer, RAM, ROM, I/O, Timer	MC68HC805C4	Motorola	
Microcomputer, RAM, ROM, I/O, 2 Serial Interfaces, Timer	CDP68HC05C4	Harris	
	CDP68HC05D2	Harris	115
	MC68HC05C4	Motorola	
	MC68HC05C8	Motorola	
Microcomputer, RAM, ROM, Timer, I/O	CDP6805G2	Harris	
Microcomputer, RAM, Timer, I/O	CDP6805E2	Harris	
	HD63A03R	Hitachi	120
	HD63B03R	Hitachi	
Microcomputer, 8-Bit (4K OTP ROM, 176 bytes RAM)	MC68HC705C4	Motorola	
Microcomputer, 8-Bit (4K OTP ROM, 192 bytes RAM)	MC68HC711D3	Motorola	
Microcomputer, 8-Bit (7.6K OTP ROM, 304 bytes RAM)	MC68HC705C8	Motorola	
Microprocessor	MC6800	Motorola	125
	NCR68C05	NCR	
	EF6805R2	SGS-Thomson	
Microprocessor (CMOS), RAM, Timer, I/O	CDP6805E3	Harris	
Microprocessor (external clock)	MC6809E	Motorola	
	EF68A09E	SGS-Thomson	130
	EF68B09E	SGS-Thomson	
	EF6809E	SGS-Thomson	
Microprocessor (external clock, 192 x 8 RAM)	HD63A03X	Hitachi	
	HD63B03X	Hitachi	
Microprocessor (internal clock)	HD68A09	Hitachi	135
	HD68B09	Hitachi	
	HD6809	Hitachi	
	MC6809	Motorola	
	EF68A09	SGS-Thomson	
	EF68B09	SGS-Thomson	140
	EF6809	SGS-Thomson	
Microprocessor (internal clock, 128x8 RAM)	MC6802	Motorola	
	EF68A02	SGS-Thomson	
	EF68B02	SGS-Thomson	
	EF6802	SGS-Thomson	145
Microcontroller, 8-Bit (176 bytes RAM, 7744 bytes ROM)	CDP68HC05C8	Harris	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
8 Bit			
6800		**(Cont'd)**	
Microcontroller, 8-Bit (15K ROM, 352 bytes RAM)	MC68HC05C9	Motorola	
Microcontroller, 8-Bit (2K ROM, 128 bytes RAM)	MC68HC05P1	Motorola	
Microcontroller, 8-Bit (2K ROM, 128 bytes RAM, 16-Bit timer, watchdog)	MC68HC05P7	Motorola	
Microcontroller, 8-Bit (32K ROM, 1K RAM, A/D, three 16-Bit timers)	HD6475328	Hitachi	
Microcontroller, 8-Bit (4K ROM, 128 bytes RAM)	MC68HC05M4	Motorola	5
Microcontroller, 8-Bit (4K ROM, 176 bytes RAM)	MC68HC05B4	Motorola	
Microcontroller, 8-Bit (6K EEPROM, 176 bytes RAM)	MC68HC805B6	Motorola	
Microcontroller, 8-Bit (6K OTP ROM, 176 bytes RAM)	MC68HC705B5	Motorola	
Microcontroller, 8-Bit (6K ROM, 176 bytes RAM)	MC68HC05B6	Motorola	
	MC68HC05L7	Motorola	10
	MC68HC05L9	Motorola	
Microcontroller, 64 Bytes RAM, 1040 Bytes User ROM	MC68HC05J1	Motorola	
Advanced Data Link Controller	MC6854	Motorola	
	EF68A54	SGS-Thomson	
	EF68B54	SGS-Thomson	15
	EF6854	SGS-Thomson	
	EF68A54	Thomson Comp	
	EF6854	Thomson Comp	
Asynchronous Communications Interface Adapter (ACIA)	HD63A50	Hitachi	
	HD6350	Hitachi	20
	HD68A50	Hitachi	
	HD6850	Hitachi	
	MC6850	Motorola	
	EF68A50	SGS-Thomson	
	EF68B50	SGS-Thomson	25
	EF6850	SGS-Thomson	
	EF68A50	Thomson Comp	
	EF68B50	Thomson Comp	
	EF6850	Thomson Comp	
Clock Generator	8701	Commodore	30
Clock Generator, 2-Phase	MC6870	Motorola	
Clock (real time) Plus RAM	CDP6818	Harris	
	146818	**Krueger (3663)**	
	MC146818A	Motorola	
CRT Controller	HD68A45	Hitachi	35
	HD68B45	Hitachi	
	HD6845	Hitachi	
	6845R	Hitachi	
	6845S	Hitachi	
Data Acquisition System, 8 Channel, 8-Bit Conversion	7581	MicroPwr	40
DMA Controller	HD68A44	Hitachi	
	HD68B44	Hitachi	
	HD6844	Hitachi	
	MC6844	Motorola	
General Purpose Interface Adapter (IEEE 488 bus)	MC68A488	Motorola	45
	HEF4738	Philips	
Parallel Interface	CDP6823	Harris	
Peripheral Interface Adapter, (PIA)	HD6321	Hitachi	
	HD68A21	Hitachi	
	HD68B21	Hitachi	50
	HD6821	Hitachi	
	MC146823	Motorola	
	MC6821	Motorola	
	EF68A21	SGS-Thomson	
	EF68B21	SGS-Thomson	55
	EF6821	SGS-Thomson	
	EF68A21	Thomson Comp	
	EF68B21	Thomson Comp	
	EF6821	Thomson Comp	
Port Replacement Unit for MC68HC11, PIA	MC68HC24	Motorola	60
Port Replacement Unit (replaces M68HC11 MCU I/O ports when in expanded or test mode)	MC68HC27	Motorola	
	XC68HC27	Motorola	
Programmable Timer	HD63A40	Hitachi	
	HD6340	Hitachi	
	HD68A40	Hitachi	65
	HD68B40	Hitachi	
	HD6840	Hitachi	
	MC6840	Motorola	
	MC6840M	† Motorola	
	EF68A40	SGS-Thomson	70
	EF68B40	SGS-Thomson	
	EF6840	SGS-Thomson	
	EF68A40	Thomson Comp	
	EF68B40	Thomson Comp	
	EF6840	Thomson Comp	75
RAM, Dual Port	MC68HC34	Motorola	
ROM, I/O, Timer	EF6846	SGS-Thomson	
Synchronous Address Multiplexer	SN74LS783	Motorola	
	SN74LS785	Motorola	
Synchronous Serial Data Adapter (SSDA)	HD68A52	Hitachi	80
	HD6852	Hitachi	
	MC6852	Motorola	
	EF6852	Thomson Comp	
Video Converter	TS8306	SGS-Thomson	
	TS8307	SGS-Thomson	85
	TS8308	SGS-Thomson	
	TS8328	SGS-Thomson	
	TS8408	SGS-Thomson	
	TS8428	SGS-Thomson	
	UA1005	SGS-Thomson	90
Video Display Generator	MC6847	Motorola	
Single Chip Color Palette	EF9369	SGS-Thomson	
7000			
Microcomputer, RAM, I/O (microlanguage processor)	TMS70C00	TI	
Microcomputer, RAM, ROM, I/O (microlanguage processor)	TMS70C20	TI	
	TMS70C40	TI	95
8048			
Microcomputer (erasable PROM)	M8748	† Intel	
	8748-8	Intel	
	8748H	Intel	
	8749H	Intel	
	8749H-8	Intel	100
Microcomputer (external ROM)	M8035L	† Intel	
	80A35	Intel	
	80A39	Intel	
	80C35	Intel	
	80C39	Intel	105
	8035AHL	Intel	
	8039AHL	Intel	
	8039HL	Intel	
	8040AHL	Intel	
	INS8035	National	110
	INS8035L	National	
	INS8039	National	
	INS8039L	National	
	INS8040	National	
	INS8040L	National	115
	MSM80C35	OKI	
	MSM80C39	OKI	
	MSM80C40	OKI	
	SCN8039A	Philips	
	SCN8040	Philips	120
Microcomputer (mask programmed ROM)	M8048H	† Intel	
	M8049H	Intel	
	80A48L	Intel	
	80A49	Intel	
	80C48	Intel	125
	80C49	Intel	
	8048	Intel	
	8048AH	Intel	
	8048H	Intel	
	8049AH	Intel	130
	8049H	Intel	
	8049HL	Intel	
	8050AH	Intel	
	INS8048	National	
	INS8048L	National	135
	INS8049	National	
	INS8049L	National	
	INS8050	National	
	INS8050L	National	
	MSM80C48	OKI	140
	MSM80C49	OKI	
	MSM80C50	OKI	
	SCN8049A	Philips	
	SCN8050A	Philips	
Microcomputer, Piggyback EPROM	NS87P50	National	145
Microcomputer, RAM, ROM, I/O	M5L8035	Mitsubishi	
	M5L8039-11	Mitsubishi	
	M5L8040H	Mitsubishi	
	M5L8042	Mitsubishi	
	M5L8048	Mitsubishi	150
	M5L8049	Mitsubishi	
	M5L8049-6	Mitsubishi	
	M5M80C39-6	Mitsubishi	
	M5M80C49	Mitsubishi	
Microcomputer, ROM, RAM, I/O	8020H	Intel	155
	8021H	Intel	
Microcomputer (ROM, RAM, I/O, on-board A/D)	8022	Intel	
Microprocessor, 8-Bit (1Kx8 ROM, 64x8 RAM, 8-Bit Interval Timer/Event Counter)	**TMP80C48A**	**Toshiba (3829)**	
	TMP80C48A-6	**Toshiba (3829)**	
Microprocessor, 8-Bit (128Kx8 RAM, 8-Bit Interval Timer/Event Counter)	**TMP80C39A-6**	**Toshiba (3829)**	160
Microprocessor, 8-Bit (2Kx8 ROM, 128Kx8 RAM, 8-Bit Interval Timer/Event Counter)	**TMP80C49A**	**Toshiba (3829)**	
	TMP80C49A-6	**Toshiba (3829)**	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

8 Bit

8048 (Cont'd)

Function	Device	Source	
Microprocessor, 8-Bit (256Kx8 RAM, 8-Bit Interval Timer/Event Counter)	TMP80C40A	Toshiba	
	TMP80C40A-6	**Toshiba**	**(3829)**
Microprocessor, 8-Bit (4Kx8 ROM, 256Kx8 RAM, 8-Bit Interval Timer/Event Counter)	**TMP80C50A**	**Toshiba**	**(3829)**
	TMP80C50A-6	**Toshiba**	**(3829)**
Microprocessor, 8-Bit (64x8 RAM, 8-Bit Interval Timer/Event Counter)	**TMP80C35A**	**Toshiba**	**(3829)**
	TMP80C35A-6	**Toshiba**	**(3829)**
Microcontroller, 8-Bit (has 8048 instruction set)	PCD3346	Philips	
Bidirectional Bus Driver. See 8216, 8226, etc. under 8080	8216	Intel	
	8226	Intel	
	µPB8216	NEC	
	µPB8226	NEC	
CRT Controller. See 8275, etc. under 8080.	8275	Intel	
	SCN2672	Philips	
Decoder, 1 of 8. See 8205, etc. under 8080.	8205	Intel	
Floppy Disk Controller. See 8271, etc. under 8080.	8271	Intel	
	8271-6	Intel	
	µPD765A	NEC	
	FDC1797-02	SMC	
GPIB Talker/Listener	8291	Intel	
I/O Expander for 8048 Family	M8243	† Intel	
	8243	Intel	
	M5L8243	Mitsubishi	
	M5M82C43	Mitsubishi	
	µPD82C43	NEC	
	µPD8243	NEC	
	MCM82C43	OKI	
	TMP82C43	**Toshiba**	**(3829)**
Priority Interrupt Control. See 8214, etc. under 8080.	8214	Intel	
Programmable Communication Interface (USART) See 8251, etc. under 8080.	8251A	° Intel	
	µPD71051	NEC	
	µPD8251	NEC	
	µPD8251A	NEC	
	µPD8251AF	NEC	
	71051	NEC	
	MSM82C51A	OKI	
Programmable Interrupt Controller. See 8259, etc. under 8080.	8259	° Intel	
	8259-5	° Intel	
	8259A	° Intel	
	8259A-2	° Intel	
	8259A-8	° Intel	
	µPD8259	NEC	
	µPD8259-2	NEC	
	µPD9259A	NEC	
Programmable Interval Timer. See 8253, etc. under 8080.	µPD8253-2	NEC	
	µPD8253-5	NEC	
Programmable Peripheral Interface. See 8255, etc. under 8080.	8255A	° Intel	
	µPD8255	NEC	
	µPD8255A-5	NEC	
PROM (erasable), I/O	8755A	Intel	
	µPD8755A	NEC	
RAM, I/O, Timer	HS81C55RH	‡ Harris	
	HS81C56RH	‡ Harris	
	M8155H	† Intel	
	8155	Intel	
	8155-2	Intel	
	8155H	Intel	
	8155H-2	Intel	
	8156	Intel	
	8156-2	Intel	
	8156H	Intel	
	8156H-2	Intel	
	µPD8155	NEC	
	µPD8156	NEC	
	MSM81C55	OKI	
ROM, I/O	HS83C55RH	‡ Harris	
	8355	Intel	
	8355-2	Intel	
	MSM83C55	OKI	
SDLC/HDLC Protocol Controller. See 8273, etc. under 8080.	8273	Intel	
	µPD7201A	NEC	
Universal Peripheral Interface (slave microprocessor)	M8741A	† Intel	
	8041AH	Intel	
	8041AH-2	Intel	
	8042	Intel	
	8641A	Intel	
	8741A	Intel	
	8742	Intel	
	M5L8041A	Mitsubishi	
Octal Bus Transceiver	M8286	† Intel	
	M8287	† Intel	

8051

Function	Device	Source	
Microcomputer and HDLC/SDLC Serial Interface	8044	Intel	
	8744	Intel	
Microcomputer (erasable PROM)	M8751H	°† Intel	
	8751	° Intel	
Microcomputer (external ROM)	80C31	° Intel	
	8031AH	° Intel	
	SCC80C31	**Philips**	**(3707)**
	SCN8031	Philips	
	SAB80C32	**Siemens**	**(3767)**
	SAB80C535	**Siemens**	**(3767)**
	SAB8032B	Siemens	
Microcomputer (mask programmed ROM)	M80C51	°† Intel	
	80C51	° Intel	
	8051AH	° Intel	
	8052AH	Intel	
	MCM80C51	OKI	
	SCC80C51	**Philips**	**(3707)**
	SCN8051	Philips	
	SAB8052B	**Siemens**	**(3767)**
Microcontroller, (extended temp. range –40 to + 85°C)	SAB8031A-T40/85	Siemens	
	SAB8051A-T40/85	Siemens	
Microcontroller, (extended temp. range –40 to + 100°C)	SAB8032B-T40/100	Siemens	
	SAB8052B-T40/100	Siemens	
Microcontroller, (extended temp. range –40 to + 110°C)	SAB8031A-T40/110	Siemens	
Microcontroller, (extended temp. range –40 to + 85°C)	SAB80C535-T40/85	Siemens	
	SAB80515-T40/85	Siemens	
	SAB80535-T40/85	Siemens	
Microcontroller, (extended temp. range –40 to 110°C)	SAB8051A-T40/110	Siemens	
Microcontroller, (extended temp. range –40 to + 110°C)	SAB80515-T40/110	Siemens	
Microcontroller, (extended tmp. range –40 to 110°C)	SAB80535-T40/110	Siemens	
Microcontroller, I/O Expanded (mask programmable ROM)	**SC80C451**	**Philips**	**(3711)**
	SC83C451	**Philips**	**(3711)**
Microcontroller, Serial Bus	SCC83C351	Philips	
Microcontroller System	DS2251	Dallas	
	DS2251T	Dallas	
	DS2252	Dallas	
	DS2252T	Dallas	
Microcontroller, 4 PWM outputs	SAB80515	Siemens	
Microcontroller, 8 input A/D	SAB80535	Siemens	
Microcontroller, 8-Bit	80515	AMD	
	P83C52	Philips	
	SC80C31	**Philips**	**(3707)**
	80C31	**Philips**	**(3707)**
	80C31BH	**† Philips**	**(3707)**
	80C31BH-16	**† Philips**	**(3707)**
	80C51	**Philips**	**(3707)**
	80C51BH	**† Philips**	**(3707)**
	80C51BH-16	**† Philips**	**(3707)**
Microcontroller, 8-Bit (A/D, capture/compare timer, PWM)	S83C552	Philips	
Microcontroller, 8-Bit (A/D, 6Kx8 ROM, 256x8 RAM)	**80CL580**	**ℓ Philips**	**(3717)**
	83CL580	**Philips**	**(3717)**
Microcontroller, 8-Bit (A/D, 8Kx8 ROM, 256x8 RAM)	**S87C552**	**Philips**	**(3715)**
	80C552	Philips	
	80C562	Philips	
	83C552	Philips	
	83C562	Philips	
	87C552	**Philips**	**(3715)**
Microcontroller, 8-Bit (ROMless)	**P80C32**	**Philips**	**(3708)**
	80C32	**Philips**	**(3708)**
Microcontroller, 8-Bit (ROMless version)	P80C528	Philips	
	P80C550	**Philips**	**(3714)**
	80C451	**Philips**	**(3711)**
	80C592	**Philips**	**(3718)**
Microcontroller, 8-Bit (ROMless version, 128x8 RAM)	SCN8031AH	Philips	
	SCN8039	Philips	
Microcontroller, 8-Bit (ROMless version, 256x8 RAM)	SCN8032AH	Philips	
	SCN8040	Philips	
Microcontroller, 8-Bit (UART, 256x8 RAM)	**80C575**	**Philips**	**(3716)**
Microcontroller, 8-Bit (UART, 8Kx8 EPROM, 256x8 RAM)	**87C575**	**Philips**	**(3716)**
Microcontroller, 8-Bit (UART, 8Kx8 ROM, 256x8 RAM)	**83C575**	**Philips**	**(3716)**
Microcontroller, 8-Bit (1Kx8 EPROM, 64x8 RAM)	**87C750**	**Philips**	**(3721)**
Microcontroller, 8-Bit (16Kx8 EPROM)	**P87C592**	**Philips**	**(3718)**
	87C592	**Philips**	**(3718)**
Microcontroller, 8-Bit (16Kx8 ROM)	**83C592**	**Philips**	**(3718)**
Microcontroller, 8-Bit (16Kx8 ROM, 256x8 RAM)	**S87C654**	**Philips**	**(3720)**
	83C654	Philips	
	87C654	**Philips**	**(3720)**
	87C654-16	**† Philips**	**(3720)**

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
8 Bit			
8051 (Cont'd)			
Microcontroller, 8-Bit (2Kx8 EPROM)	**87C51**	**Philips (3707)**	
	87C51-16	**† Philips (3707)**	
	87C751	Philips	
	87C751-16	† Philips	
	87C752	Philips	5
	87C752-16	† Philips	
Microcontroller, 8-Bit (2Kx8 EPROM, 64x8 RAM)	S87C751	Philips	
	S87C752	Philips	
Microcontroller, 8-Bit (2Kx8 ROM)	83C751	Philips	
	83C752	Philips	10
Microcontroller, 8-Bit (2Kx8 ROM, 128x8 RAM)	SCN80C49	Philips	
Microcontroller, 8-Bit (2Kx8 ROM, 64x8 RAM)	S83C751	Philips	
Microcontroller, 8-Bit (20 MHz)	SAB8032B-20	Siemens	
Microcontroller, 8-Bit (32Kx8 EPROM)	**P87C528**	**Philips (3713)**	
Microcontroller, 8-Bit (32Kx8 ROM)	P83C528	Philips	15
Microcontroller, 8-Bit (4Kx8 EPROM)	**P87C550**	**Philips (3714)**	
	87C451	**Philips (3711)**	
Microcontroller, 8-Bit (4Kx8 EPROM, 128x8 RAM)	**SC87C451**	**Philips (3711)**	
	SC87C51	**Philips (3707)**	
Microcontroller, 8-Bit (4Kx8 ROM)	**P83C550**	**Philips (3714)**	20
	83C451	**Philips (3711)**	
Microcontroller, 8-Bit (4Kx8 ROM, 128x8 RAM)	SCN8051AH	Philips	
	SC80C31B	**Philips (3707)**	
	SC80C51B	**Philips (3707)**	
	S83C851	Philips	25
	80CL410	**Philips (3710)**	
	80C851	Philips	
	83CL410	**Philips (3710)**	
	83C851	Philips	
Microcontroller, 8-Bit (4Kx8 ROM, 256x8 RAM)	SCN8050	Philips	30
Microcontroller, 8-Bit (8Kx8 EPROM)	**P87C52**	**Philips (3708)**	
	87C52	Philips	
	87C52-16	**† Philips (3708)**	
Microcontroller, 8-Bit (8Kx8 ROM)	**P80C52**	**Philips (3708)**	
	80C52	**Philips (3708)**	35
Microcontroller, 8-Bit (8Kx8 ROM, 256x8 RAM)	SCN8052AH	Philips	
	S83C652	Philips	
	S87C652	**Philips (3719)**	
	80C652	Philips	
	83C652	Philips	40
	87C652	**Philips (3719)**	
Microcontroller (16 MHz, external ROM)	SAB8031A-16	Siemens	
	SAB8032B-16	Siemens	
Microcontroller, 16 MHz (mask programmed ROM)	**SAB80C52-16**	**Siemens (3767)**	
	SAB8051A-16	Siemens	45
	SAB8052B-16	**Siemens (3767)**	
Microcontroller, 20 MHz (external ROM)	SAB8031A-20	Siemens	
Microcontroller, 20 MHz (Mask programmed ROM)	SAB8051A-20	Siemens	
Microcontroller (32K RAM)	DS5000	Dallas	
Bus Compatible Digital Pulse Width Modulator.	IXDP610	IXYS	50
CAN Controller, Stand-Alone	PCA82C200	Philips	
8080			
Microcomputer, 8-Bit (external ROM)	SAB8031A	Siemens	
Microcomputer, 8-Bit (mask programmable ROM)	SAB8051A	Siemens	
Microprocessor	M8080A	† Intel	
	8080A	Intel	55
	8080A-1	Intel	
	8080A-2	Intel	
	IL8080A	**Lansdale (3664)**	
	8080A	Rochester	
Analog Input, MUX, A/D Converter	ADC0816C	National	60
Arithmetic Processing Unit	AM9511A-1	AMD	
	M8231A	† Intel	
	8231A	Intel	
Asynchronous Communication Element	**8250**	**Krueger (3663)**	
	INS8250	National	65
Asynchronous Communications Element	SSI73M450	SiliconSys	
Bidirectional Bus Driver	8216	Intel	
	8226	Intel	
Bidirectional Bus Driver (See also Digital-Miscellaneous-Bus Drivers, Interface-Line Transceivers.)	HS82C08RH	‡ Harris	
	M8216	† Intel	70
	M8226	† Intel	
	IL8216	**Lansdale (3664)**	
	IL8226	Lansdale	
	DP7304	† National	
	DP8216	National	75
	DP8216M	† National	
	DP8226	National	
	DP8226M	† National	
	DP8304	National	
	DS8833	National	80
	DS8835	National	
	INS8216	National	
	INS8226	National	
	µPB8216	NEC	
	µPB8226	NEC	85
Bus Controller	8218	Intel	
Clock Generator and Driver	M8224	† Intel	
	8224	Intel	
	DP8224	National	
	INS8224	National	90
Communication Interface, Programmable	8251	Krueger	
CRT Controller	8275	Intel	
	8276	Intel	
Data Acquisition System, 8 Channel, 8-Bit Conversion	AD7581A	AD	
	AD7581B	AD	95
	AD7581C	AD	
	AD7581J	AD	
	AD7581K	AD	
	AD7581L	AD	
	7581	MicroPwr	100
Data Ciphering Processor	AM9518	AMD	
Data-Encryption Device (encrypts and decrypts data according to NBS standard)	8294	Intel	
Decoder, 1 of 8 (See also Digital-TTL-Decoders, 3222, 74LS138, etc.)	8205	Intel	
	DM74LS138	National	
	INS82LS05	National	105
	SN74LS138	° TI	
Display Controller	INS8247	National	
	INS8248	National	
Dynamic RAM Controller	82C03	Intel	
	82C08	Intel	110
	8202A	Intel	
	8203	Intel	
Error Detection & Correction Chip	8206	Intel	
Floating Point Processor	8232	Intel	
Floppy Disk Controller	8271	Intel	115
	µPD765A	NEC	
GPIB Controller	8292	Intel	
GPIB Talker/Listener Interface	8291A	Intel	
GPIB Transceiver	8293	Intel	
GPIB Universal Interface	µPD7210	NEC	120
I/O Expander for 8041A/8741A	8243	Intel	
I/O Latch (see also Digital-CMOS and TTL, Latches)	INS82C06	National	
I/O Port	HS82C12RH	‡ Harris	
	M8212	† Intel	
	8212	Intel	125
	DP8212	National	
	DP8212M	† National	
	INS8212	National	
	µPB8212	NEC	
	MSM82C12	OKI	130
Input/Output Port	**IL8212**	**Lansdale (3664)**	
Interupt Controller, Programmable	8259	Krueger	
Interval Timer, Programmable	8254	Krueger	
Interval Timer,Programmable	8253	Krueger	
Keyboard Display Controller	8279	Intel	135
	8279-5	Intel	
	µPD8279-5	NEC	
	KR9600	SMC	
	KR9601	SMC	
	KR9602	SMC	140
Keyboard Encoder (See also Interface-Keyboard Encoders)	INS8245	National	
	INS8246	National	
Multi-Universal Asynchronous Receiver Transmitter	8256	Intel	
	TIM8228	TI	
	TIM8238	TI	145
Multifunction Microprocessor Support Controller	8256AH	Intel	
Peripheral Interface, Programmable	8255	Krueger	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
8 Bit			
8080		**(Cont'd)**	
Programmable Communication Interface (USART) (See also Interface-Transmitters, Receivers)			
	M8251A	°† Intel	
	8251A	° Intel	
	µPD8251	NEC	
	µPD8251A	NEC	
	71051	NEC	5
	MSM82C51A	OKI	
	SCN2651C	Philips	
	SCN2661A	Philips	
	SCN2661B	Philips	
	SCN2661C	Philips	10
Programmable Counter			
	µPD71054	NEC	
Programmable Direct Memory Access Controller			
	AM9517A-5	° AMD	
	M8257	† Intel	
	8257	Intel	
	8257-5	Intel	15
	µPD71055	NEC	
	µPD8257	NEC	
	µPD8257-5	NEC	
Programmable Interrupt Controller			
	8259A	° Intel	
	8259A-2	° Intel	20
	8259A-8	° Intel	
	µPD8259	NEC	
	µPD8259-2	NEC	
	µPD9259A	NEC	
Programmable Interval Timer			
	µPD8253-2	NEC	25
	µPD8253-5	NEC	
Programmable Peripheral Interface			
	M8255A	°† Intel	
	82C55A	° Intel	
	8255A	° Intel	
	µPD8255	NEC	30
	µPD8255A-5	NEC	
	MSM82C55A	OKI	
	MSM8255A	OKI	
RAM(128x8) with 16-Bit I/O			
	INS8154	National	
SDLC/HDLC Protocol Controller			
	8273	Intel	35
	µPD7201A	NEC	
Serial Data Communications Controller			
	8274	° Intel	
Synchronous Receiver/Transmitter (BiSync, SDLC)			
	µPD7201A	NEC	
System Controller and Bus Driver			
	M8228	† Intel	
	8228	Intel	40
	8238	Intel	
	IL8228	**Lansdale (3664)**	
	DP8228	National	
	DP8228M	† National	
	DP8238	National	45
	DP8238M	† National	
	INS8228	National	
	INS8238	National	
Universal Peripheral Interface (slave microprocessor)			
	8041AH	Intel	
	8041AH-2	Intel	50
	8641A	Intel	
	8741A	Intel	
Octal Bus Transceiver			
	M8286	† Intel	
	M8287	† Intel	
8085A			
Microprocessor			
	HS80C85RH	‡ Harris	55
	M8085A	°† Intel	
	M8085AH	°† Intel	
	8085AH	° Intel	
	8085AH-2	° Intel	
	M5L8085A	Mitsubishi	60
	M5M80C85A	Mitsubishi	
	µPD8085A-2	NEC	
	µPD8085AH	NEC	
	CA80C85B	† Newbridge	
	MSM80C85A	OKI	65
Microprocessor Bus Controller			
	8219	Intel	
	CA82C88	† Newbridge	
Bidirectional Bus Driver. See 8216, 8226, etc. under 8080.	8216	Intel	
	8226	Intel	
	M5L8226	Mitsubishi	70
	µPB8216	NEC	
	µPB8226	NEC	
Bus Driver, Bi-Directional			
	M5L8216	Mitsubishi	
Clock Generator and Driver			
	M5L8284A	Mitsubishi	
	CA82C84A	† Newbridge	75
Communication Interface Programmable			
	8251	Krueger	
Converter, A/D (8-Bit)			
	M58990	Mitsubishi	
CRT Controller. See 8275, etc. under 8080.			
	8275	Intel	
Data Acquisition System, 8 Channel, 8-Bit Conversion			
	AD7581A	AD	
	AD7581B	AD	80
	AD7581C	AD	
	AD7581J	AD	
	AD7581K	AD	
	AD7581L	AD	
	7581	MicroPwr	85
Decoder, 1 of 8. See 8205, etc. under 8080.			
	8205	Intel	
DMA Controller			
	TMP82C37A-5	**Toshiba (3829)**	
	TMP82C37B-8	**Toshiba (3829)**	
Dynamic RAM Controller			
	82C03	Intel	
	8202A	Intel	90
	8203	Intel	
Erasable PROM, I/O			
	M8755A	† Intel	
	8755A	Intel	
	µPD8755A	NEC	
	MSM8755	OKI	95
Floppy Disk Controller. See 8271, etc. under 8080.			
	8271	Intel	
	µPD765A	NEC	
GPIB Controller			
	8292	Intel	
GPIB Talker/Listener Interface			
	8291A	Intel	
I/O Expander	8243	Intel	100
	µPD82C43	NEC	
	µPD8243	NEC	
I/O Port	M5L8212	Mitsubishi	
Interrupt Controller Programmable			
	8259	Krueger	
Interval Timer, Programmable			
	8253	Krueger	105
	8254	Krueger	
	M5M82C54P	Mitsubishi	
Keyboard/Display Controller, Programmable			
	M5L8279-5	Mitsubishi	
Peripheral Interface, Programmable			
	8255	Krueger	
Programmable Communication Interface (USART)			
	8251A	° Intel	110
	µPD8251	NEC	
	µPD8251A	NEC	
	71051	NEC	
	MSM82C51A	OKI	
	TMP82C51A-10	**Toshiba (3829)**	115
	TMP82C51A-2	**Toshiba (3829)**	
Programmable Communications Interface (USART)			
	M5L8251A-5	Mitsubishi	
Programmable Direct Memory Access Controller			
	C82C37A	Harris	
	C82C37A-12	Harris	
	C82C37A-5	Harris	120
	HS82C37ARH	°‡ Harris	
	M82C37A-12/B	† Harris	
	M82C37A-5/B	Harris	
	M82C37A/B	Harris	
	82C37A	° Harris	125
	M8257	† Intel	
	8237A	° Intel	
	8237A-4	° Intel	
	8237A-5	° Intel	
	8257	Intel	130
	8257-5	Intel	
	M5L8257-5	Mitsubishi	
	µPD71055	NEC	
	µPD8237A-5	NEC	
	µPD8257	NEC	135
	µPD8257-5	NEC	
	CA82C37A	† Newbridge	
	MSM82C57	OKI	
	TMP8237A	Toshiba	
	VL82C37A	VLSI Tech	140
Programmable Interrupt Controller			
	M8259A	°† Intel	
	8259A	° Intel	
	8259A-2	° Intel	
	8259A-8	° Intel	
	M5L8259A	Mitsubishi	145
	M5M82C59A	Mitsubishi	
	µPD8259	NEC	
	µPD8259-2	NEC	
	µPD9259A	NEC	
	CA82C59A	† Newbridge	150
	TMP82C59A-2	**Toshiba (3829)**	
Programmable Interval Timer			
	8253-5	AMD	
	M8253	°† Intel	
	82C54	° Intel	
	8253	° Intel	155
	8253-5	° Intel	
	8254	° Intel	
	M5L8253-5	Mitsubishi	
	µPD8253-2	NEC	
	µPD8253-5	NEC	160
	CA82C54	† Newbridge	
	MSM82C53-5	OKI	
	TMP82C54-2	**Toshiba (3829)**	
Programmable Keyboard/Display Interface			
	TMP82C79-2	**Toshiba (3829)**	
Programmable Peripheral Interface			
	8255A-5	Intel	165
	M5L8255A-5	Mitsubishi	
	M5M82C55A	Mitsubishi	
	µPD8255A-2	NEC	
	µPD8255A-5	NEC	
	CA82C55A	† Newbridge	170
	TMP82C255A-10	**Toshiba (3829)**	
	TMP82C255A-2	**Toshiba (3829)**	
	TMP82C265A-10	**Toshiba (3829)**	
	TMP82C265A-2	**Toshiba (3829)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
8 Bit			
8085A (Cont'd)			
Programmable Peripheral Interface (Cont'd)	**TMP82C55A-10**	**Toshiba (3829)**	
	TMP82C55A-2	**Toshiba (3829)**	
PROM (erasable), I/O	8755A	Intel	
	µPD8755A	NEC	
RAM, I/O, Timer	HS81C55RH	‡ Harris	5
	HS81C56RH	‡ Harris	
	M8155	† Intel	
	8155	Intel	
	8155-2	Intel	
	8156	Intel	10
	8156-2	Intel	
	M5L8155	Mitsubishi	
	M5L8156	Mitsubishi	
	M5M81C55	Mitsubishi	
	M5M81C56	Mitsubishi	15
	µPD8155	NEC	
	µPD8156	NEC	
	MSM81C55	OKI	
	MSM8155	OKI	
RAM (1024x8) (See also: Memory-RAMs)	M8185	† Intel	20
RAM (1024x8) (See also: Memory-RAMs)	8185	Intel	
	8185-2	Intel	
ROM, I/O	HS83C55RH	‡ Harris	
	8355	Intel	
	8355-2	Intel	25
	MSM83C55	OKI	
SCSI Interface Controller	CA53C80	† Newbridge	
SDLC/HDLC Protocol Controller. See 8273, etc. under 8080.	8273	Intel	
	µPD7210	NEC	
Secured 8-Bit Microcontroller with Cryptographic Calculation Unit	83C852	Philips	30
Serial Controller Interface	CA82C52	† Newbridge	
Universal Peripheral Interface (slave microprocessor)	8041A	Intel	
	8741A	Intel	
Octal Bus Transceiver, Inverting	M8287	† Intel	
	8287	Intel	35
	M5L8287	Mitsubishi	
Octal Bus Transceiver, Non-Inverting	M8286	† Intel	
	8286	Intel	
	M5L8286	Mitsubishi	
Octal Latch, Inverting	M5L8283	Mitsubishi	40
Octal Latch, Non-Inverting	M5L8282	Mitsubishi	
8086/88			
Asynchronous Communications Element	SSI73M450	SiliconSys	
Bus Arbiter	M5L8289	Mitsubishi	
Bus Compatible Digital Pulse Width Modulator	IXDP610	IXYS	
Bus Controller	M5L8288	Mitsubishi	45
Communication Interface, Programmable	8251	Krueger	
Dynamic RAM Controller Interface Circuit	DP84432	National	

Function	Device	Source	Line
Interupt Controller, Programmable	8259	Krueger	
Interval Timer, Programmable	8253	Krueger	
	8254	Krueger	50
Peripheral Interface, Programmable	8255	Krueger	
Programmable Interval Timer	CA82C54	† Newbridge	
Soft Microcontroller	DS2340	Dallas	
	DS2340T	Dallas	
8088			
UART with FIFO (Refurbished)	16550	Krueger	55
COP800			
Microcontroller, RAM, ROM, I/O	COP820	National	
	COP821	National	
	COP822	National	
	COP840	National	
	COP841	National	60
INS8060			
Programmable Communication Interface (See also Interface Transmitters-Receivers)	INS8250	National	
RAM(128x8) and I/O	INS8154	National	
4-Bit Latch	DM74LS175	National	
8-Bit I/O Port	DP8212	National	
	INS8212	National	65
NSC800			
Microprocessor	NSC800	National	
	NSC800-1	National	
	NSC800-4	National	
Bidirectional Transceiver	MM82PC08	National	
Bidirectional Transceiver (CMOS)	MM82PC08	National	70
Intelligent I/O, 3 Programmable Ports	NSC831	National	
	NSC831-1	National	
	NSC831-4	National	
RAM, I/O, Timer	NSC810	National	
	NSC810-1	National	75
	NSC810-4	National	
UART	NSC858	National	
8-Bit I/O Port	MM82PC12	National	
8X300			
FIFO RAM Controller	SL8X60	Lansdale	
I/O Port, Asynchronous, Field Programmable Address	SL8X376	Lansdale	80
I/O Port, Latched Bidirectional	SL8X371	Lansdale	
I/O Port, Synchronous, Field Programmable Address	SL8X372	Lansdale	
	S8T33	† Philips	

Function	Device	Source	Line
TLCS90			
Microcontroller (256x8 RAM, 8-bit A/D, stepping motor driver, watchdog timer)	**TMP90C841A**	**Toshiba (3826)**	
Microcontroller (8Kx8 ROM, 256x8 RAM, 8-bit A/D, stepping motor driver, watchdog timer)	**TMP90C840A**	**Toshiba (3826)**	85
Z8			
Microcomputer	EF68HC04J3	SGS-Thomson	
	EF68HC04P2	SGS-Thomson	
	Z8681	‡ SGS-Thomson	
	Z8681A	‡ SGS-Thomson	
	Z86C08-MCU	Zilog	90
	Z86C10-MCU	Zilog	
	Z86C20-MCU	Zilog	
	Z86C21-MCU	Zilog	
	Z86E21-MCU	Zilog	
	Z8681-MCU	Zilog	95
	Z8800-MCU	Zilog	
Microcomputer, FORTH Interpreter	Z8874-MCU	Zilog	
Microcomputer, ROMless, DMA Controller	Z8801-MCU	Zilog	
Microcomputer (ROMless, 12 MHz)	Z86R91A	† SGS-Thomson	
Microcomputer, ROMless, 24 I/O Lines, UART	Z86C91-MCU	Zilog	100
	Z8691-MCU	Zilog	
Microcomputer (ROMless, 8 MHz)	Z86R91	† SGS-Thomson	
Microcomputer, Tiny Basic	Z8671	SGS-Thomson	
Microcomputer, 2K bytes of ROM, 128 bytes of RAM, 22 I/O Lines	Z8600-MCU	Zilog	
Microcomputer (2K ROM, 12 MHz)	Z8600A	† SGS-Thomson	105
Microcomputer, 4K EPROM	Z86E11A	† SGS-Thomson	
Microcomputer (4K EPROM, OTP, 12 MHz)	Z8611E	† SGS-Thomson	
Microcomputer (4K ROM, 12 MHz)	Z8610A	† SGS-Thomson	
Microcomputer (8 MHz)	Z84C00H	† SGS-Thomson	
Microcomputer (8K EPROM, OTP, 12 MHz)	Z8621E	† SGS-Thomson	110
Microcomputer (8K EPROM, 12 MHz)	Z86E21A	† SGS-Thomson	
Microcomputer, 8K ROM, DMA Controller	Z8820-MCU	Zilog	
Microcomputer (8K ROM, 12 MHz)	Z8620A	† SGS-Thomson	
Microcomputer (8K ROM, 8 MHz)	Z8620	† SGS-Thomson	
Microcomputer (16 MHz)	TS68000-16	°† SGS-Thomson	115
Microcomputer, 2K ROM	Z8601	‡ SGS-Thomson	
	Z8601A	‡ SGS-Thomson	
Microcomputer (2K ROM, 8 MHz)	Z8600	† SGS-Thomson	
Microcomputer, 4K EPROM	Z86E11	† SGS-Thomson	
Microcomputer, 4K ROM	Z8611	‡ SGS-Thomson	120
	Z8611A	‡ SGS-Thomson	
Microcomputer (4K ROM, 8 MHz)	Z8610	† SGS-Thomson	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

8 Bit

Z8 (Cont'd)

Function	Device	Source	Line
Microcomputer (8K EPROM, 8 MHz)			
	Z86E21	† SGS-Thomson	
Microcomputer, 8K ROM			
	Z8621	‡ SGS-Thomson	
	Z8621A	‡ SGS-Thomson	
Microcomputer, 8K ROM, DMA Controller			
	Z8822-MCU	Zilog	

Z80

Function	Device	Source	Line
Microprocessor			
	Z8400	GoldStar	5
	µPD70008	NEC	
	µPD70008A	NEC	
	µPD780	NEC	
	µPD780-1	NEC	
	µPD780-2	NEC	10
	Z180-MPU	Zilog	
	Z80180-MPU	Zilog	
	Z84C00-CPU	Zilog	
	Z8400-CPU	Zilog	
Microprocessor and Clock Generator Controller			
	TMPZ84C02-6	Toshiba	15
Microprocessor (2.5 MHz)			
	Z8400	SGS-Thomson	
Microprocessor (4 MHz)			
	Z84C00A	‡ SGS-Thomson	
	Z8400A	‡ SGS-Thomson	
	TMPZ84C00A-10	**Toshiba (3828)**	
Microprocessor (6 MHz)			
	Z84C00B	‡ SGS-Thomson	20
	Z8400B	‡ SGS-Thomson	
	TMPZ84C00A-6	**Toshiba (3828)**	
Microprocessor (8 MHz)			
	Z8400H	‡ SGS-Thomson	
	TMPZ84C00A-8	**Toshiba (3828)**	
Microprocessor, 16-Bit			
	Z80280-MPU	Zilog	25
Bus Compatible Digital Pulse Width Modulator			
	IXDP610	IXYS	
Clock Generator and Controller			
	T6497	Toshiba	
Clock Generator/Controller (CGC)			
	TMPZ84C61A-6	**Toshiba (3828)**	
Counter/Timer Circuit			
	Z8430	GoldStar	
	Z84C30	‡ SGS-Thomson	30
	Z8430	‡ SGS-Thomson	
	TMPZ84C30A-6	**Toshiba (3828)**	
	TMPZ84C30A-8	**Toshiba (3828)**	
	Z84C30-CTC	Zilog	
	Z8430-CTC	Zilog	35
Counter-Timer Circuit			
	Z80CTC	**Krueger (3663)**	
Data Acquisition System, 8 Channel, 8-Bit Conversion			
	AD7581A	AD	
	AD7581B	AD	
	AD7581C	AD	
	AD7581J	AD	40
	AD7581K	AD	
	AD7581L	AD	
	7581	MicroPwr	
Direct Memory Access Controller			
	Z8410	‡ SGS-Thomson	
	Z84C10-DMA	Zilog	45
	Z8410-DMA	Zilog	
Direct Memory Access Controller (DMA)			
	TMPZ84C10A-6	**Toshiba (3828)**	
DMA Controller			
	Z80DMA	**Krueger (3663)**	
ISDN Basic Rate Interface Controller with Protocol Control			
	TMPZ84C711A-6	Toshiba	
	TMPZ84C711A-8	Toshiba	50
Parallel I/O Controller			
	Z8420	GoldStar	
	Z84C20	‡ SGS-Thomson	
	Z8420	‡ SGS-Thomson	
	Z84C20-PIO	Zilog	
	Z8420-PIO	Zilog	55
Parallel Input/Output			
	Z80PIO	Krueger	
Parallel Input/Output Controller (PIO)			
	TMPZ84C20A-6	**Toshiba (3828)**	
	TMPZ84C20A-8	**Toshiba (3828)**	
Serial I/O Controller			
	Z8440	GoldStar	
	Z84C40	‡ SGS-Thomson	60
	Z84C41	‡ SGS-Thomson	
	Z84C42	‡ SGS-Thomson	
	Z84C44	‡ SGS-Thomson	
	Z8440	‡ SGS-Thomson	
	Z8441	‡ SGS-Thomson	65
	Z8442	‡ SGS-Thomson	
	Z8444	‡ SGS-Thomson	
	Z80-SIO	Zilog	
	Z8440-SIO	Zilog	
Serial Input/Output			
	Z80SIO/X	Krueger	70
Serial Input/Output Controller			
	Z84C40-SIO	Zilog	
	Z84C41-SIO	Zilog	
	Z84C42-SIO	Zilog	
	Z84C44-SIO	Zilog	
	Z8441-SIO	Zilog	75
	Z8442-SIO	Zilog	
	Z8444-SIO	Zilog	
Serial Input/Output Controller (SIO)			
	TMPZ84C40A-6	**Toshiba (3828)**	
	TMPZ84C40A-8	**Toshiba (3828)**	
	TMPZ84C41A-6	**Toshiba (3828)**	80
	TMPZ84C41A-8	**Toshiba (3828)**	
	TMPZ84C42A-6	**Toshiba (3828)**	
	TMPZ84C42A-8	**Toshiba (3828)**	
	TMPZ84C43A-6	Toshiba	
	TMPZ84C43A-8	Toshiba	85
	TMPZ84C44A-6	Toshiba	
	TMPZ84C44A-8	Toshiba	
Dual Asynchronous Receiver/Transmitter			
	Z8470	‡ SGS-Thomson	
	Z80-DART	Zilog	
	Z8470-DART	Zilog	90
Dual Asynchronous Receiver-Transmitter			
	Z80DART	**Krueger (3663)**	
Z80 MPU (4 MHz), Clock Generator Controller, Counter/Timer, I/O			
	TMPZ84C011B-6	**Toshiba (3828)**	
Z80 MPU (6 MHz), Clock Generator Controller, Counter/Timer Controller, I/O			
	TMPZ84C011B-8	**Toshiba (3828)**	
	TMPZ84C013A-6	**Toshiba (3828)**	
	TMPZ84C015B-12	**Toshiba (3828)**	95
	TMPZ84C015B-6	**Toshiba (3828)**	
Z80 MPU (8 MHz), Clock Generator Controller, Counter/Timer Controller, Serial I/O Controller, and Watchdog Timer			
	TMPZ84C013A-8	**Toshiba (3828)**	
	TMPZ84C015B-8	**Toshiba (3828)**	
Z80 MPU (10 MHz), Clock Generator Controller, Counter/Timer Controller, Serial I/O Controller, and Watchdog Timer			
	TMPZ84C013A-10	**Toshiba (3828)**	
	TMPZ84C015B-10	**Toshiba (3828)**	100

Miscellaneous

Function	Device	Source	Line
Microcomputer, 8-Bit (LCD controller/driver, 4K ROM, 168 bytes RAM)			
	LC86104A	Sanyo	
Microcomputer, 8-Bit (LCD controller/driver, 8K ROM, 168 bytes RAM)			
	LC86108A	Sanyo	
Microcontroller, 8-Bit (12Kx8 ROM, 512x8 RAM, LCD driver, watchdog timer)			
	TMP87CC20	**Toshiba (3825)**	
Microcontroller, 8-Bit (12Kx8 ROM, 512x8 RAM, 6-Bit A/D, VFT driver, watchdog timer)			
	TMP87CC70	**Toshiba (3825)**	
Microcontroller, 8-Bit (12Kx8 ROM, 512x8 RAM, 8-Bit A/D, LED driver, watchdog timer)			
	TMP87CC40	**Toshiba (3825)**	105
Microcontroller, 8-Bit (16Kx8 ROM, 256x8 RAM, LED driver, watchdog timer)			
	TMP87CH00	**Toshiba (3825)**	
	TMP87CH00L	**Toshiba (3825)**	
Microcontroller, 8-Bit (16Kx8 ROM, 512x8 RAM, LCD driver, watchdog timer)			
	TMP87CH20	**Toshiba (3825)**	
Microcontroller, 8-Bit (16Kx8 ROM, 512x8 RAM, 6-Bit A/D, VFT driver, watchdog timer)			
	TMP87CH70	Toshiba	
Microcontroller, 8-Bit (16Kx8 ROM, 512x8 RAM, 8-Bit A/D, LED driver, watchdog timer)			
	TMP87CH40	**Toshiba (3825)**	110
Microcontroller, 8-Bit (24Kx8 ROM, 1Kx8 RAM, 8-Bit A/D, LED driver, watchdog timer)			
	TMP87CK40	**Toshiba (3825)**	
Microcontroller, 8-Bit (24Kx8 ROM, 512x8 RAM, 6-Bit A/D, VFT driver, watchdog timer)			
	TMP87CK70	**Toshiba (3825)**	
	TMP87CM70	**Toshiba (3825)**	
Microcontroller, 8-Bit (24Kx8 ROM, 512x8 RAM, 8-Bit A/D)	**TMP87CK42**	**Toshiba (3825)**	
Microcontroller, 8-Bit (32Kx8 ROM, 1Kx8 RAM, 8-Bit A/D, LED driver, watchdog timer)			
	TMP87CM40A	**Toshiba (3825)**	115
Microcontroller, 8-Bit (8Kx8 ROM, 256x8 RAM)			
	TMP87C832	**Toshiba (3825)**	
Microcontroller, 8-Bit (8Kx8 ROM, 256x8 RAM, LED driver, watchdog timer)			
	TMP87C800	**Toshiba (3825)**	
Microcontroller, 8-Bit (8Kx8 ROM, 256x8 RAM, 8-Bit A/D, LED driver, watchdog timer)			
	TMP87C840	**Toshiba (3825)**	
Real Time Clock			
	RP5C01	Ricoh	
Real Time Clock, Microprocessor Compatible			
	ICM7170AI	Harris	120
	ICM7170AM	† Harris	
	ICM7170I	Harris	
	ICM7170M	† Harris	

8/16 Bit

8086

Function	Device	Source	Line
Microprocessor, Operating System			
	80130	Intel	
Microprocessor, 16-Bit			
	8086	AMD	125
	8086-1	AMD	
	8086-2	AMD	
	HS80C86RH	‡ Harris	
	80C86	Harris	
	80C86-2	Harris	130
	M8086	°† Intel	
	80286	° Intel	
	8086	° Intel	
	8086-1	° Intel	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

8/16 Bit

8086 (Cont'd)

Function	Device	Source	Line
Microprocessor, 16-Bit (Cont'd)	8086-2	° Intel	
	µPD8086	NEC	
	µPD8086-2	NEC	
	MSM80C86	OKI	
Bus Controller	82288	Intel	5
Clock and Ready Interface, for iAPX286	82284	Intel	

8086/88

Function	Device	Source	Line
Microprocessor, High Integration	80186	Intel	
Microprocessor, I/O Preprocessor	8089	Intel	
Microprocessor, 8-Bit	80188	Intel	
A Clock Generator and Driver (5 MHz)	82C84A-5	° Intel	10
Asynchronous Communications Element	C82C50A-5	Harris	
	M82C50A-5/B	† Harris	
	82C50A	° Harris	
	82C50A-Cell	Harris	
Bus Arbiter	C82C89	Harris	15
	M82C89/B	† Harris	
	82C89	Harris	
	M8289	† Intel	
	8289	Intel	
	IL8289	**Lansdale (3664)**	20
	µPB8289	NEC	
Bus Controller	C82C88	Harris	
	M82C88/B	† Harris	
	82C88	Harris	
	M8288	°† Intel	25
	82C88	Intel	
	82188	Intel	
	8288	° Intel	
	8288-1	° Intel	
	µPB8288	NEC	30
	µPD71088	NEC	
	CA82C88	† Newbridge	
	MSM82C88	OKI	
Chipset, 8088/8086/V30 (PC/XT Compatible)	82C100	Chips&Tech	
Clock Generator and Controller	C82C85	Harris	35
	HS82C85RH	‡ Harris	
	M82C85/B	† Harris	
	82C85	Harris	
Clock Generator and Driver	C82C84A	Harris	
	M82C84A/B	† Harris	40
	82C84A	Harris	
	M8284	°† Intel	
	82C84A	° Intel	
	8284A	° Intel	
	8284A-1	° Intel	45
	µPB8284A	NEC	
	µPD71084	NEC	
	CA82C84A	† Newbridge	
	MSM82C84A	OKI	
Direct Memory Access (DMA) Controller, PS2 Model 30 CMOS, IBM-Compatible, 2 Chip Set, 10	VL82C37A	VLSI Tech	50
DMA Controller	82258	Intel	
Dynamic RAM Controller	8202A	Intel	
	8203	Intel	
	8207	Intel	
(Continued)			
Dynamic RAM Controller (Cont'd)	8208	Intel	55
	DP84422	National	
GPIB Talker/Listener	8291A	Intel	
Multi-Universal Asynchronous Receiver Transmitter	8256	Intel	
Multiprotocol Serial I/O Controller	µPD7210	NEC	
Priority Interrupt Controller	C82C59A	Harris	60
	C82C59A-12	Harris	
	C82C59A-5	Harris	
	HS82C59ARH	‡ Harris	
	M82C59A-5/B	† Harris	
	M82C59A/B	† Harris	65
	82C59A	Harris	
	82C59A-5	Harris	
	MSM82C59A	OKI	
Programmable DMA Controller	CA82C37A	† Newbridge	
Programmable Interrupt Controller	82C59A-2	° Intel	70
	8259A	Intel	
	CA82C59A	† Newbridge	
Programmable Interval Timer	C82C54	Harris	
	C82C54-10	Harris	
	HS82C54RH	°‡ Harris	75
	M82C54-10B	† Harris	
	M82C54/B	† Harris	
	82C54	° Harris	
	82C54-Cell	Harris	
Programmable Interval Timer (8 MHz)	82C54	AMD	80
Programmable Interval Timer (10 MHz)	82C54-2	AMD	
Programmable Interval Timer (12.5 MHz)	82C54-12	AMD	
Programmable Peripheral Interface	C82C55A	Harris	
	C82C55A-5	Harris	
	HS82C55ARH	°‡ Harris	85
	M82C55A-5/B	† Harris	
	M82C55A/B	† Harris	
	82C55A	° Harris	
	CA82C55A	† Newbridge	
Serial Communications Interface	C82C52	Harris	90
	M82C52/B	† Harris	
	82C52	° Harris	
	82C52-Cell	Harris	
Serial Controller Interface	CA82C52	† Newbridge	
Text Coprocessor	82730	Intel	95
Universal DMA Controller, 16-Bit, 10 MHz	AM9516A-1	AMD	
Universal DMA Controller, 16-Bit, 4 MHz	AM9516A-4	AMD	
Universal DMA Controller, 16-Bit, 6 MHz	AM9516A-6	AMD	
Universal DMA Controller, 16-Bit, 8 MHz	AM9516A-8	AMD	
Video Interface Controller	82731	Intel	100
Octal Bus Transceiver, Inverting	C82C87H	Harris	
	C82C87H-5	Harris	
	M82C87H-5/B	† Harris	
	82C87H	† Harris	
	82C87H-5	Harris	105
	M8287	† Intel	
(Continued)			
Octal Bus Transceiver, Inverting (Cont'd)	**IL8287**	**Lansdale (3664)**	
	µPB8287	NEC	
	µPD71087	NEC	
Octal Bus Transceiver, Non-Inverting	C82C86H	Harris	110
	C82C86H-5	Harris	
	M82C86H-5/B	† Harris	
	82C86H	† Harris	
	M8286	† Intel	
	IL8286	**Lansdale (3664)**	115
	µPB8286	NEC	
	µPD71086	NEC	
Octal Latch, Inverting	C82C83H	Harris	
	M82C83H/B	† Harris	
	82C83H	† Harris	120
	M8283	† Intel	
	8283	Intel	
	IL8283	**Lansdale (3664)**	
	µPB8283	NEC	
	µPD71083	NEC	125
Octal Latch, Non-Inverting	C82C82	Harris	
	M82C82/B	† Harris	
	82C82	Harris	
	M8282	† Intel	
	8282	Intel	130
	IL8282	**Lansdale (3664)**	
	µPB8282	NEC	
	µPD71082	NEC	

8088

Function	Device	Source	Line
Microprocessor, 8-Bit	8088	AMD	
	8088-1	AMD	135
	8088-2	AMD	
	80C88	Harris	
	8088	° Intel	
	8088-2	° Intel	
	µPD8088	NEC	140
	µPD8088-2	NEC	
	MSM80C88	OKI	

9900

Function	Device	Source	Line
Microcomputer ROM-Less	TM9995	TI	
Addressable Latch, 8-Bit	SN54LS259B	† TI	
	SN74LS259B	TI	145
	TIM9906	TI	
Clock Generator and Driver (4-phase for 9900)	TIM9904	TI	
Data Selector/Multiplexer (See also Digital-TTL-Multiplexers 74LS251)	SN54LS251	°† TI	
	SN74LS251	° TI	
	TIM9905	TI	150
GPIB Controller	SMJ9914A	°† TI	
Modem, 300 Baud	SC11002	Sierra	
	SC11003	Sierra	
Priority Encoder (See also Digital-TTLMiscellaneous, Priority Encoder, 74LS148)	TIM9907	TI	
Priority Encoder, 8-Line to 3-Line, Three-State	SN74LS148	TI	155
	SN74LS348	° TI	
	TIM9908	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source
8/16 Bit (Cont'd)		
80286		
Microprocessor, Numeric Data	80287	Intel
μCOM-70K		
Microprocessor (8-Bit external bus)	μPD70108-5	NEC
	μPD70108-8	NEC
Microprocessor (16-Bit external bus)	μPD70116-5	NEC
	μPD70116-8	NEC
Microprocessor (16-Bit external bus)	μPD70108H10	NEC
	μPD70108H12	NEC
	μPD70108H16	NEC
	μPD70236	NEC
12 Bit		
2900		
Microprogram Sequencer, 12-Bit	IDT39C10B	° IDT
	IDT39C10C	° IDT
2900 Controller		
Microprogram Controller, 12-Bit	CY7C910-40C	Cypress
	CY7C910-46C	Cypress
	CY7C910-46M	† Cypress
	CY7C910-50C	Cypress
	CY7C910-51M	† Cypress
	CY7C910-93C	Cypress
	CY7C910-93M	† Cypress
	CY7C910-99M	† Cypress
	SFC2910	SGS-Thomson
6100		
Universal Asynchronous Receiver-Transmitter (UART) (See also Interface-Serial Transmitters-Receivers)	HD6402/883	° Harris
	HD6402B9	Harris
	HD6402C	Harris
16 Bit		
2900		
ALU, 16 Bit, Microprogrammed	CY7C9116-35C	Cypress
	CY7C9116-40M	† Cypress
	CY7C9116-45C	Cypress
	CY7C9116-65C	Cypress
	CY7C9116-65M	† Cypress
	CY7C9116-79M	† Cypress
ALU, 16-Bit, Microprogrammed	CY7C9115-35C	Cypress
	CY7C9115-45C	Cypress
	CY7C9115-65C	Cypress
	CY7C9117-35C	Cypress
	CY7C9117-40M	† Cypress
	CY7C9117-45C	Cypress
	CY7C9117-65C	Cypress
	CY7C9117-65M	† Cypress
	CY7C9117-79M	† Cypress
Error Detection and Correction	IDT39C60A	IDT
	IDT39C60B	IDT
Microprogram Sequencer, 16-Bit	IDT49C410	° IDT
	IDT49C410A	° IDT
Quad 2901 with 64x16 Dual Port Memory Capacity	IDT49C402	° IDT
	IDT49C402A	° IDT
	IDT49C402B	IDT
6500		
Microprocessor (software compatible with 8-bit 6500 series)	**W65C816S**	**WDC (3849)**
Z8000		
Microprocessor, Non-Segmented	Z8002	SGS-Thomson
	Z8002A	SGS-Thomson
	Z3002B	‡ SGS-Thomson
Microprocessor, Segmented	Z8001	SGS-Thomson
	Z8001A	SGS-Thomson
	Z8001B	‡ SGS-Thomson
	Z8000	Zilog
Asynchronous Serial Communications Controller	Z8031	SGS-Thomson
	Z8031A	SGS-Thomson
Clock Generator and Controller	Z8581-CGC	Zilog
Counter Timer I/O	Z8036-CIO	SGS-Thomson
	Z8036A-CIO	SGS-Thomson
	Z8036-Z-CIO	Zilog
CRT Controller	AM8052	AMD
Data Ciphering Processor (for data encryption)	AMZ8068	AMD
	Z8068-DCP	Zilog
	Z9518-DCP	Zilog
Direct Memory Access	Z8016-Z-DTC	Zilog
DMA Transfer Controller	Z8516-DTC	Zilog
DMA Transfer Controller	Z9516-DTC	Zilog
FIFO Buffer Unit (128x8)	Z8560-FIFO	Zilog
First In/First Out Buffer	Z8060-FIFO	SGS-Thomson
	Z8060A-FIFO	SGS-Thomson
	Z8060-Z-FIFO	Zilog
First In/First Out I/O	Z8038-FIO	SGS-Thomson
	Z8038A-FIO	SGS-Thomson
	Z8038-Z-FIO	Zilog
Memory Management Unit	Z8010-MMU	SGS-Thomson
	Z8010A-MMU	SGS-Thomson
Output Interface Unit (with 128 byte FIFO Unit)	Z8538-FIO	Zilog
Real-Time Clock/Calendar (8 and 10 MHz)	CA82C55A	† Newbridge
Serial Communications Controller	Z8030A	‡ SGS-Thomson
	Z85C30-SCC	° Zilog
	Z8530-SCC	° Zilog
Serial I/O Controller	Z8030-SCC	SGS-Thomson
	Z8030-Z-SCC	Zilog
8086		
256x8-Bit CMOS Static RAM	SAE81C52P	Siemens
8096		
Microcomputer, 232x8 RAM, 10-Bit A/D, IO, 12 MHz	8096	Intel
Microcomputer, 232x8 RAM, 10-Bit A/D, 8Kx8 ROM, I/O, 12 MHz	8396	Intel
9450		
Memory Management Unit	F9451	† National
16000		
Microprocessor, Enhanced 16-Bit MIL-STD–1750A (CMOS)	P1750AE-30XM	† Performance
	P1750AE-35XM	† Performance
	P1750AE-40XM	† Performance
Microprocessor Hybrid System Module (P1750A MPU, P1753 MMU, and P1754 Processor Interface Circuit)	P1757M-20M	† Performance
	P1757M-30M	† Performance
	P1757M-40M	† Performance
Microprocessor, 16-Bit MIL-STD–1750A (CMOS)	P1750A-20XM	† Performance
	P1750A-30XM	† Performance
	P1750A-40XM	† Performance
Microcontroller Emulator (for the HPC16083, 8K EPROM, 256x8 RAM)	HPC46083MH	National
Microcontroller (external ROM)	HPC16003	† National
	HPC26003	National
	HPC36003	National
	HPC46003	National
Microcontroller with HDLC Controller	HPC16400	National
	HPC36400	National
	HPC46400	National
Microcontroller, 16-Bit (A/D, ROMless version)	HPC16104	† National
	HPC26104	National
	HPC36104	National
	HPC46104	National
Microcontroller, 16-Bit (A/D, 16K ROM)	HPC16164	† National
	HPC26164	National
	HPC36164	National
	HPC46164	National
Microcontroller, 16-Bit (ROMless version)	HPC16004	† National
	HPC26004	National
	HPC36004	National
	HPC46004	National
Microcontroller, 16-Bit (16K ROM)	HPC16064	† National
	HPC26064	National
	HPC36064	National
	HPC46064	National
Microcontroller (8K ROM, 256 bytes RAM)	HPC16083	† National
	HPC26083	National
	HPC36083	National
	HPC46083	National
CMOS Serial Network Interface	DP83910	National
	DP83910A	National
MMU, BPU, I/O. and Fault Controller	L64550	† LSI Logic
Serial Network Interface	DP8391	National
	DP8391A	National
	NS32491A	National

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

16 Bit

16000 (Cont'd)

Function	Device	Source	Line
Universal Asynchronous Receiver/Transmitter	INS8250-B	National	
	PC8250C	National	
Universal Asynchronous Receiver/Transmitter (with FIFO's, parallel interface and decode logic)	PC16551C	National	

68000

Function	Device	Source	Line
Microprocessor	HD68000-10	Hitachi	
	HD68000-12	Hitachi	5
	HD68000-8	Hitachi	
	MC68000-10	° Motorola	
	MC68000-12	° Motorola	
	MC68000-8	° Motorola	
	SCN68000	Philips	10
	EF68000	° SGS-Thomson	
	EF68000-10	° SGS-Thomson	
	EF68000-12	° SGS-Thomson	
	EF68000-16	SGS-Thomson	
	EF68000-8	° SGS-Thomson	15
Microprocessor 8-Bit (bus interface version of MC68000)	MC68008	Motorola	
	EF68008	SGS-Thomson	
Microprocessor 16-Bit (virtual machine version of MC68000)	MC68010	° Motorola	
Address Decoder, 68000 Compatible	USC68HC138	Universal	
Broadband Interface Controller (IEEE 802.4 Broadband Physical Layer)	MC68184	Motorola	20
Carrierband Modem (IEEE 802.4 Phase Coherent Physical Layer)	MC68194	Motorola	
CD-ROM Decode Peripheral Port Expansion for 68000	LC8953	Sanyo	
CD-ROM Interface with DMA Controller	LC89540	Sanyo	
CMOS 16/32-Bit Microprocessor	SCC68070	Philips	
Communications, Asynchronous Communications Adapter Interface (ACIA)	USC68HC551	Universal	25
Communications, Programmable Communications Interface	MC2661	Motorola	
	MC68661	Motorola	
Communications, Dual Asynchronous Communications Interface Adapter (DACIA)	**R68C552**	**Rockwell** (3759)	
Communications, Dual Universal Serial Communications Controller	**SCN68562**	**Philips** (3728)	
Controller, Programmable Interrupt	USC68HC908	Universal	30
Disk, Intelligent Multiple Disk Controller	SCN68454	Philips	
Disk, Phase Locked Loop	SCB68459	Philips	
Display Processor	EF68483	SGS-Thomson	
DMA Controller	HD68450-10	Hitachi	
	HD68450-4	Hitachi	35
	HD68450-6	Hitachi	
	HD68450-8	Hitachi	
	MC68450	Motorola	
	SCB68430	Philips	
DMA Controller, Dual	MC68440	° Motorola	40
	EF68440	SGS-Thomson	
Dynamic RAM Controller Interface Circuit	DP84322	National	
Error Detection and Correction Circuit	MC74F2960	Motorola	
Memory Access Controller	SCC68905	Philips	
	SCC68906	Philips	45
Multi-Function Peripheral	MC68901	Motorola	
	EF68901	SGS-Thomson	
	MK68901	SGS-Thomson	
	TS68901	Thomson Comp	
Multi-Function Peripheral, Low Power	TS68C901B	Thomson Comp	50
Multibus II Message Passing Coprocessor	VL82C389	VLSI Tech	
Parallel Interface/Timer	MC68230-12	° Motorola	
	EF68230-10	SGS-Thomson	
	EF68230-8	SGS-Thomson	
Protocol Controller (X.25)	MC68605	Motorola	55
RISC Microcontroller, 16-Bit (12/16 MHz, 6/8 MIPs)	UT69000	† UTMC	
Serial I/O	EF68564	SGS-Thomson	
	MK68564	SGS-Thomson	
	TS68564	Thomson Comp	
Token Bus Controller (IEEE 802.4 Media Access Control sublayer)	MC68824	Motorola	60
Video Display Generator	MC6847	Motorola	
VMEbus Controller (BUSCON)	**SL68172**	**Lansdale** (3675)	
	SCB68172	Philips	
Dual UART	MC68681	Motorola	
	SCN68681C	Philips	65
	TMP68681	**Toshiba** (3831)	

TLCS68000

Function	Device	Source	Line
Microcomputer (dual direct memory address, async., block transfer)	TMP68440	Toshiba	
Microcomputer (32-Bit CPU, UNIX compatible)	TMP68000	Toshiba	
Microcomputer (32-Bit CPU, UNIX compatible, virtual memory)	TMP68010	Toshiba	
DMA Controller, Dual	**TMP68440-10**	**Toshiba** (3831)	70
	TMP68440-8	**Toshiba** (3831)	
DMA Controller, 4-Channel	**TMP68450-10**	**Toshiba** (3831)	
	TMP68450-8	**Toshiba** (3831)	
Multifunction Peripheral	**TMP68901**	**Toshiba** (3831)	
Parallel Interface Timer	**TMP68230-10**	**Toshiba** (3831)	75
	TMP68230-8	**Toshiba** (3831)	

TMS380

Function	Device	Source	Line
Token-Ring COMMprocessor (16 Mb/s)	TMS380C16	° TI	
Token-Ring LAN Communications Processor (Part of TMS380 Chip Set)	TMS38010	TI	
Token-Ring LAN Protocol Handler (Part of TMS380 Chip Set)	TMS38020	TI	
Token-Ring LAN Ring Interface Controller (Part of TMS380 Chip Set)	TMS38052	TI	80
Token-Ring LAN Ring Interface Transceiver (Part of TMS380 Chip Set)	TMS38051	TI	
Token-Ring LAN System Interface (Part of TMS380 Chip Set)	TMS38030	TI	

Transputer

Function	Device	Source	Line
Link Adapter, 10 or 20 Mb/s	IMSC011	° SGS-Thomson	
	IMSC012	° SGS-Thomson	
Link Adaptor, 10 or 20 Mb/s (for Transputer family)	IMSC011-20	° SGS-Thomson	85
	IMSC012-20	° SGS-Thomson	
Transputer, 16-Bit (10 MIPs performance, 4 Kbytes RAM on chip)	IMST222M	°† SGS-Thomson	
Transputer, 16-Bit (17.5 MHz, 4K SRAM)	IMST222-17	° SGS-Thomson	
	IMST222-17M	°† SGS-Thomson	
	IMST225-17	° SGS-Thomson	90
	IMST225-17M	°† SGS-Thomson	
Transputer, 16-Bit (20 MHz, 4K SRAM)	IMST222-20	° SGS-Thomson	
	IMST225-20	° SGS-Thomson	
	IMST225-20M	°† SGS-Thomson	
Transputer, 16-Bit (25 MHz, 4K SRAM)	IMST225-25	° SGS-Thomson	95
Transputer, 16-Bit (30 MHz, 4K SRAM)	IMST225-30	° SGS-Thomson	

Z8000

Function	Device	Source	Line
Counter/Timer, Parallel I/O	Z8536-CIO	° Zilog	
DMA Transfer Controller	Z8516-DTC	Zilog	
SCSI Interface Chip	Z5380-SCSI	Zilog	
Serial Communications Controller	Z80C30Z-SCC	Zilog	100
Serial Controller Multi-Protocol	Z8530-SCC	° Zilog	

16/32 Bit

16000

Function	Device	Source	Line
LAN Coax Receiver Interface	DP8392	National	

32000

Function	Device	Source	Line
Microprocessor, 32-Bit, CMOS, with 16-Bit External Data Bus	NS32C016	° National	
Microprocessor, 32-Bit, CMOS, with 32-Bit External Data Bus	NS32C032	° National	
Microprocessor, 32-Bit, with Virtual M	NS32332	° National	105
Microprocessor, 32-Bit, with 32-Bit External Data Bus	NS32032	° National	
Arithmetic, Floating Point Processor	NS32081	° National	
DMA Controller	NS32203	National	
Floating Point Unit	NS32081-10	° National	
	NS32081-15	° National	110
	NS32081-6	° National	
Floating Point Unit (15 MHz)	NS32381-15	° National	
Floating Point Unit (16 or 32-bit slave protocol support)	NS32381	° National	
Floating Point Unit (20 MHz)	NS32381-20	° National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

16/32 Bit

32000 (Cont'd)

Function	Device	Source
Interrupt Control Unit	NS32202	° National
Memory Management Unit	NS32082	° National
	NS32382	° National
	NS32382-10	° National
	NS32382-15	° National
Timing Control Unit	NS32C201	° National
	NS32201	° National

80286

Function	Device	Source
AT-Compatible Real-Time Clock	VL82C018	VLSI Tech
AT-Compatible ROM-Based Keyboard/Mouse Controller	VL82C042	VLSI Tech
Bus Arbiter (synchronizes 80286 with Multi-Master bus.)	82289	Intel
Bus Arbiter (10 MHz)	KS82C289-10	Samsung
Bus Arbiter (12 MHz)	KS82C289-12	Samsung
Bus Arbiter (16 MHz)	KS82C289-16	Samsung
Bus Controller	CA82C88	† Newbridge
Bus Controller (10 MHz)	KS82C288-10	Samsung
Bus Controller (12 MHz)	KS82C288-12	Samsung
Bus Controller (16 MHz)	KS82C288-16	Samsung
Clock Driver and Ready Interface (for iAPX 286 processors)	82284	AMD
Clock Generator and Driver	CA82C84A	† Newbridge
Clock Generator and Ready Interface.	C82C284-12	Harris
	M82C284-10/883	† Harris
	M82C284-12/883	† Harris
	82C284-10	Harris
	82C284-12	Harris
	82C284/883	Harris
Clock Generator and Ready Interface	82C284-10	° Intel
	82C284-12	° Intel
	82C284-6	° Intel
	82C284-8	° Intel
Clock Generator (10 Mhz)	KS82C284-10	Samsung
Clock Generator (12 MHz)	KS82C284-12	Samsung
Clock Generator (16 MHz)	KS82C284-16	Samsung
DMA Coprocessor	SAB82257	Siemens
	SAB82258-1	Siemens
IBM PC/AT Compatible Chip Set (replaces major logic functions of all microprocessor peripherals)	POACH/AT	ZyMOS
IBM PC/AT Compatible Chip Set (replaces most address and data buffers on the AT motherboard)	POACH/ATB	ZyMOS
IBM PC/AT Compatible Chip Set (replaces the major logic functions of the AT motherboard)	POACH/ATF	ZyMOS
Multibus II Message Passing Coprocessor for 80186/80286/80386 and 6800	VL82C389	VLSI Tech
Numeric Coprocessor (12 MHz)	80EC287-12	AMD
Numeric Coprocessor, 80-Bit (operates at up to 20 MHz)	IIT-2C87	Int Info Tech
Numeric Coprocessor, 80-Bit (10 MHz)	80C287-10	AMD
Numeric Coprocessor, 80-Bit (12 MHz)	80C287-12	AMD
PC/AT Chip Set (TOPCAT 286/386sx)	VL82C286-SET	VLSI Tech
PC/AT Chip Set (TOPCAT 386DX)	VL82C386-SET	VLSI Tech
PC/AT Compatible Combination Chip (20 MHz CMOS)	VL82C106	VLSI Tech
PC/AT System CPU Interface Chipset	4021	Chips&Tech
	4025	Chips&Tech
Programmable DMA Controller	CA82C37A	† Newbridge
Programmable Interrupt Controller	CA82C59A	† Newbridge
Programmable Interval Timer	CA82C54	† Newbridge
Programmable Peripheral Interface	CA82C55A	† Newbridge
SCSI Interface Controller	CA53C80	† Newbridge
Serial Communications Controller	VM85C30	† VLSI Tech
Serial Controller Interface	CA82C52	† Newbridge
Single Chip AT Mid-Range Performance Chip - Desktop (SCAMP-DT)	VL82C311	VLSI Tech
Single Chip AT Mid-Range Performance Chip - Laptop (SCAMP-LT)	VL82C310	VLSI Tech
286/NEAT Chipset	KS82C201	Samsung
	KS82C202	Samsung
	KS82C204	Samsung
	KS82C205	Samsung

32 Bit

32

Function	Device	Source
Microprocessor (32-bit RISC)	VL86C010	VLSI Tech
RISC Microprocessor, Enhanced	VL86C020	VLSI Tech
RISC Microprocessor, 32-Bit	SABR3000A	Siemens

32000

Function	Device	Source
Microprocessor	NS32016	° National
Microprocessor (full 32-Bit architecture)	NS32532-20	° National
	NS32532-30	° National
Microprocessor, 32-Bit (on chip MMU, instruction and data caches)	NS32532	° National
Microprocessor, 32-Bit RISC (CMOS)	PR3000-16XC	Performance
	PR3000-16XM	† Performance
	PR3000-20XC	Performance
	PR3000-20XM	† Performance
	PR3000-25XC	Performance
	PR3000-25XM	† Performance
Asynchronous Communications Element with FIFOs	NS16550	National
Direct Memory Access Controller	NS32202-10	° National
Floating Point Unit	NS32381-15	° National
	NS32381-20	° National
	NS32381-25	° National
	NS32381-30	° National
Floating Point Unit (15 MHz)	NS32181-15	National
Floating Point Unit (20 MHz)	NS32181-20	National
Floating Point Unit (25 MHz)	NS32181-25	National
High Performance 32-Bit Embedded System Processor	NS32GX32-30	National
High-Performance 32-Bit Embedded System Processor	NS32GX32-20	National
	NS32GX32-25	National
MicroCMOS Programmable 1M Dynamic RAM Controller/Driver	NS32CG821	National
Microporcessor (full 32-Bit architecture)	NS32532-25	° National
Universal Asynchronous Receiver/Transmitter (with FIFOs)	NS16550A	National
	NS16550AF	National
Dual Universal Asynchronous Receiver/Transmitter with FIFOs	NS16C552	National

68000

Function	Device	Source
Microprocessor, 16/32-Bit	TS68000	SGS-Thomson
Microprocessor, 32-Bit. See 16-Bit series for additional system components.	MC68020	° Motorola
Floating Point Coprocessor	68882	Krueger
	TS68882	Thomson Comp
Floating-Point Co-processor	68881	Krueger
	MC68881	° Motorola
	TS68881	Thomson Comp
Paged Memory Management Unit	MC68851	° Motorola

80000

Function	Device	Source
Cache Memory Management Unit (16 Kilobyte)	TS88200	Thomson Comp

80386

Function	Device	Source
Microprocessor	80386-16	° Intel
	80386-20	° Intel
	8086-20	° Intel
Clock Generator	82384	Intel
Core Logic Controller (for 386SX systems)	AT40281	ATMEL
	AT40283	ATMEL
Data Buffer	VL82C332	VLSI Tech
DMA Controller	82258	Intel
	8237	° Intel
Floating Point Processor	80287	Intel
	80387	Intel
Graphics Processor	82786	Intel
ISA Bus Controller	VL82C331	VLSI Tech

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

32 Bit
80386 (Cont'd)

Function	Device	Source	Line
LAN Processor	82586	Intel	
	82588	Intel	
	82586	Krueger	
Numeric Coprocessor, 80-Bit (available at 16, 20, 25, and 33 Mhz)	IIT-3C87	Int Info Tech	
	IIT-3C87SX	Int Info Tech	5
Programmable Interrupt Controller	8259	° Intel	
System Controller	VL82C320	VLSI Tech	

Transputer

Function	Device	Source	Line
Processor, Memory, Communications.	Transputer	SGS-Thomson	
Programmable Link Switch (32-way crossbar switch for Transputer family)	IMSC004-20	° SGS-Thomson	
Transputer, 32-Bit (10 MIPs performance, 4 Kbytes RAM on chip)	IMST800M	°† SGS-Thomson	10
Transputer, 32-Bit (17.5 MHz, 4K SRAM)	IMST425-17	° SGS-Thomson	
	IMST425-17M	°† SGS-Thomson	
Transputer, 32-Bit (17.5 MHz, 4K SRAM, 64-bit FPU)	IMST800-17	° SGS-Thomson	
	IMST800-17M	°† SGS-Thomson	
	IMST805-17	° SGS-Thomson	15
	IMST805-17M	°† SGS-Thomson	
Transputer, 32-Bit (20 MHz, 4K SRAM)	IMST425-20	° SGS-Thomson	
	IMST425-20M	°† SGS-Thomson	
Transputer, 32-Bit (20 MHz, 4K SRAM, 64-bit FPU)	IMST800-20	° SGS-Thomson	
	IMST801-20M	°† SGS-Thomson	20
	IMST805-20	° SGS-Thomson	
	IMST805-20M	°† SGS-Thomson	
Transputer, 32-Bit (25 MHz, 4K SRAM)	IMST425-25	° SGS-Thomson	
Transputer, 32-Bit (25 MHz, 4K SRAM, 64-bit FPU)	IMST800-25	‡ SGS-Thomson	
	IMST805-25	° SGS-Thomson	25
Transputer, 32-Bit (30 MHz, 4K SRAM)	IMST425-30	° SGS-Thomson	
Transputer, 32-Bit (30 MHz, 4K SRAM, 64-bit FPU)	IMST800-30	° SGS-Thomson	
	IMST805-30	° SGS-Thomson	

Peripheral Controllers

Function	Device	Source	Line
Microprocessor Bus Controller	CA82C88	† Newbridge	
Microprocessor Monitor Circuit (CMOS)	CM1232	CMD Micro	30
Microcontroller, Mask Programmable ROM (8Kx8)	SAB80515	Siemens	
Microcontroller, RAM and I/O Facilities	SAB80535	Siemens	
Microcontroller, 4-Bit	KS56000	Samsung	
Advanced Graphic and Alphanumeric Controller (for TS68000)	TS68483	Thomson Comp	
Analog Data Separator Support Circuit (ADSSC)	HDC9223	SMC	35
Analog Front End (AFE)	TP5512	National	
	TP5513	National	
Arc Net Controller, 16 Bit	HM92C66	Hualon Micro	
ARCNET Controller, 8-Bit	HM92C65	Hualon Micro	
Arithmetic Processor, Floating Point	MSM6992	OKI	40
Asynchronous Communications Controller	16450	Krueger	
	NS16450	National	
	SCN2641	Philips	
Asynchronous Communications Controller, Intelligent Octal Channel	CL-CD180	Cirrus	
Asynchronous SCSI Interface (ASI)	DP5380	National	45
Asynchronous Serial Communication Controller	Z8531	‡ SGS-Thomson	
	Z8531A	‡ SGS-Thomson	
Audio Local Area Network (A-LAN) Transceiver	CS8425	Crystal	
Automated High-Performance IDE/AT Controller	AIC8060	Adaptec	
Automated High-Performance SCSI–2 Mass Storage Controller	AIC8010	Adaptec	50
Bargraph and Numeric Display Controller (vacuum fluorescent or LED)	10951	Rockwell	
Battery Fast Charge Controller and Discharge Monitor	bq2001	Benchmarq	
BITBLT Processing Unit (BIT boundary Block Transfer)	DP8511	National	
Buffer Manager with ECC	9802A	Stac	
Bus Compatible Digital PWM for Direct Control of a Power H-Bridge (provision for dead time, output protection)	IXDP610	IXYS	55
Bus Interface Controller, Programmable	5CBIC	Intel	
Cable Driver/Receiver, SCSI Interface for MC68HC99	MC6898	Motorola	
Cache Controller and Memory Management Unit (for SPARC architecture)	CY7C604A	° Cypress	
	CY7C604A-25C	Cypress	
	CY7C604A-33C	Cypress	
	CY7C604A-40C	Cypress	60
	CY7C605A	Cypress	
	CY7C605A-25C	Cypress	
	CY7C605A-33C	Cypress	
	CY7C605A-40C	Cypress	65
Cache Memory Controller	82385	Krueger	
CD-ROM Error Correction Circuit	LC8951	Sanyo	
	LC89510	Sanyo	
	LC89515	Sanyo	
	LC89517	Sanyo	70
CD-ROM Error Correction Circuit and Playback with MC68000 Interface	LC8954	Sanyo	
CD-ROM Error Correction Circuit with Interface	LC89560	Sanyo	
CD-ROM Error Correction Circuit with MC68000 Interface	LC89540	Sanyo	
CD-ROM Error Correction Circuit with SCSI Interface	LC89512	Sanyo	
CD-ROM Interface	LC89513	Sanyo	75
CHIPSLink Protocol Controller	82C570	Chips&Tech	
Clock Controller, CPU plus Peripherals	AV9155	° Avasem	
Clock Drivers, Low-Skew GaAs PLL, 20–70 MHz	VSL4485	Vitesse	
	VSL4586	Vitesse	
Clock Generator and Driver	CA82C84A	† Newbridge	80
Clock Generator, CPU (up to 120 MHz)	AV9107	° Avasem	
Clock Generator, CPU 6-Output, 2 to 100 MHz	AV9154-05	Avasem	
	AV9154-25	Avasem	
Clock Generator, CPU 6-Output, 40 to 66.6 MHz	AV9154-10	Avasem	
Clock Generator, CPU 6-Output, 8 to 50 MHz	AV9154-04	Avasem	85
Clock Generator, CPU 6-Output, 8 to 66.6 MHz	AV9154-16	Avasem	
Clock Generator, Programmable	**SY89429**	**Synergy (3802)**	
Clock Generator, up to 130 MHz programmable	AV9110	Avasem	
Clock Generator, up to 160 MHz programmable	AV9109-01	Avasem	
Clock Generator, up to 250 MHz programmable	AV9109-02	Avasem	90
Clock Generator with Multiplier	**SY89424**	**Synergy (3802)**	
Clock Generator, 2 to 25 MHz, zero delay buffer	AV9170-02	Avasem	
Clock Generator, 14 to 130 MHz programmable, dual output	AV9194-53	Avasem	
Clock Generator, 14 to 80 MHz programmable, dual output	AV9194-36	Avasem	
Clock Generator, 20 to 100 MHz, zero delay buffer	AV9170-01	Avasem	95
Clock Generator, 20 to 110 MHz programmable, dual output	AV9194-44	Avasem	
Clock Generator, 25 to 108 MHz programmable, dual output	AV9194-04	Avasem	
Clock Generator, 25 to 110 MHz programmable, dual output	AV9194-73	Avasem	
Clock Generator, 25 to 130 MHz programmable, dual output	AV9194-07	Avasem	
	AV9194-46	Avasem	100
	AV9194-56	Avasem	
Clock Generator, 25 to 80 MHz programmable, dual output	AV90C64	Avasem	
	AV9194-60	Avasem	
Clock Generator, 30 to 77.25 MHz programmable, dual output	AV9194-42	< Avasem	
Clock Generator, 50 to 89.8 MHz programmable, dual output	AV9194-37	Avasem	105
Clock Generator (110 MHz) w/ Duty Cycle Adjust	CGS3321	National	
Clock Generator (110 MHz) w/ 1,2,4 Divide Ratio	CGS3322	National	
Clock Timer Chip (4 MHz)	MK3801-4	SGS-Thomson	
Color LCD Interface Controller Chip	CL-GD6340	Cirrus	
Color/Monochrome Attributes Controller	SCB2675	Philips	110
Communication Controller, LAPD Network Protocol	μPD72305	NEC	
Communication Interface Programmable	SCN2661A	Philips	
	SCN2661B	Philips	
	SCN2661C	Philips	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Communications, Advanced Multi-Protocol Serial Controller (HDLC/SDLC, bisynchronous/asynchronous with four baud rate generators)	µPD72001	NEC	
Communications, Enhanced Programmable Communications Interface (EPCI)	MC2661A	Motorola	
	MC2661B	Motorola	
	MC2661C	Motorola	
Communications, Local Area Network (OmniNet)	µPD72105	NEC	5
Communications, Multi-Protocol Serial Controller (HDLC/SDLC, bisynchronous/asynchronous)	µPD7201A	NEC	
Controller, FDC (floppy disk controller)	TC8565AF	Toshiba	
	TC8565AP	Toshiba	
Controller (for 4-Bit microcontroller)	BM1020	Toshiba	
Controller, IBM System/3X Interface Controller	SL52C50	Silicom	10
	COM52C50	SMC	
Controller Programmable	AM9519A	AMD	
	CY750	Cybernetic	
Controller, 200 MHz Channel	BT612	Brooktree	
Core Logic Controller for 80486 systems	AT40498-25	ATMEL	15
	AT40498-33	ATMEL	
	AT40498-50	ATMEL	
Counter/Timer, Parallel I/O	Z8536	°‡ SGS-Thomson	
	Z8536A	‡ SGS-Thomson	
	Z8536-CIO	° Zilog	20
CPU/Bus Controller	HM82C211	Hualon Micro	
CPU/Cache/DRAM Controller	E88C311	Elite Micro	
	E88C321SX	Elite Micro	
	E88C411	Elite Micro	
CRT, Advanced Graphics Display Controller	µPD72120	NEC	25
CRT, Advanced Terminal Logic Controller	CRT92C07	SMC	
CRT, Advanced Video Display Controller	03602	Lansdale	
	SCN2674	Philips	
CRT, Color/Monochrome Attributes Controller	2675	Lansdale	
	SCB2675	Philips	30
CRT, Color Video Display Generator, Videotext and Teletext. See also Telecommunications Circuits.	R6549	Rockwell	
CRT Controller	HD63484	Hitachi	
	8276	Intel	
	6845	Krueger	
	9007	Krueger	35
	MC6845	Motorola	
	RF5C16A	Ricoh	
	RP5C16	Ricoh	
	RP5C56	Ricoh	
	R6545	**Rockwell (3759)**	40
	SMJ34061	† TI	
	TMS34061	TI	
	TC8505AF	Toshiba	
	TC8505AP	Toshiba	
CRT Controller For CGA	VG-86C14	Vadem	45

Function	Device	Source	Line
CRT Controller For MDA, MGA, CGA	VG-86C16	Vadem	
CRT Controller (4 MHz)	KS68C45-4	Samsung	
CRT Controller (6 MHz)	KS68C45-6	Samsung	
CRT Controller, 3.7 MHz Display Operation (TTL compatible, on-screen, line bufferless refreshing)	GM6845S	GoldStar	
CRT Cursor Controller	BT431	Brooktree	50
CRT Data Row Buffer	CRT9006-135	SMC	
	CRT9006-83	SMC	
CRT, Double Row Buffer (RAM-based buffer that appears to the system as two octal shift registers of dynamically variable length)	CRT9212	SMC	
CRT, Graphic Display Processor	EF9365	SGS-Thomson	
	EF9366	SGS-Thomson	55
	EF9367	SGS-Thomson	
CRT, Graphics Color Palette (video DAC and 256x8 color map)	AM8151C	AMD	
CRT Graphics Controller	µPD7220A	NEC	
	µPD7220A-1	NEC	
	µPD7220A-2	NEC	60
CRT, Graphics Display Controller	82720	Intel	
	µPD7220A	NEC	
CRT High-Resolution Super VGA Controller	CL-GD5402	Cirrus	
CRT Local Bus True-Color VGA Accelerator	CL-GD5424	Cirrus	
CRT Preamplifier and Driver	LH2440	National	65
	LH2440A	National	
CRT Processor	EF9364	SGS-Thomson	
CRT, Programmable CRT Controller	8275	Intel	
CRT, Programmable Video Timing Controller	SCN2672A	Philips	
CRT (RGB video DAC)	RGBDAC8E	Adv Analog	70
	VDAC444	Adv Analog	
	BT101	Brooktree	
	BT101K30	Brooktree	
	BT103	Brooktree	
	BT103KC30	Brooktree	75
	BT103K30	Brooktree	
	BT109	Brooktree	
CRT (RGB video DAC and 16x12 RAM)	BT454	Brooktree	
CRT (RGB video DAC and 256x12 RAM)	BT451	Brooktree	
CRT (RGB video DAC and 256x24 RAM)	BT453	Brooktree	80
CRT Super VGA Controller (on-chip RAMDAC, frequency synthesizer, GUI assist functions)	CL-GD5420	Cirrus	
CRT Terminal Controller	NS455	National	
CRT Text Coprocessor	82730	Intel	
CRT True-Color VGA Controller	CL-GD5422	Cirrus	
CRT, TV-CRT Processor; Performs Text Refresh, Character Writing and Cursor Management on TV Screen; 1.6 MHz Clock Rate (typ.)	SFF96364	SGS-Thomson	85

Function	Device	Source	Line
CRT, TV-CRT Processor; 96364 with External Sync	SFF96366	SGS-Thomson	
CRT VGA Controller	HM86306	Hualon Micro	
CRT VGA Controller (on-chip RAMDAC, frequency synthesizer, GUI assist functions)	CL-GD5401	Cirrus	
CRT VGA Controller (Panel)	HM86405	Hualon Micro	
CRT, VGA Controller, Single-Chip, w/ Flat Panel Subsystem	65535	Chips&Tech	90
CRT VGA GUI Accelerator	CL-GD5426	Cirrus	
	CL-GD5428	Cirrus	
	CL-GD5434	Cirrus	
CRT, Video Attributes Controller	CRT9041A	SMC	
	CRT9041B	SMC	95
	CRT9041C	SMC	
CRT Video Attributes Controller (graphic logic, attributes logic, data and attributes latches, cusor control and shift register)	CRT9021B	SMC	
CRT Video Attributes Controller/Video Generator (video shift register, horizontal and vertical retrace blanking, graphics generation, attributes buffer)	CRT8021	SMC	
	CRT8021-003	SMC	
CRT, Video Controller, composite output	6560	Commodore	100
	6561	Commodore	
	6567	Commodore	
	6569	Commodore	
	6572	Commodore	
	6573	Commodore	105
	8360	Commodore	
	8365	Commodore	
	8366	Commodore	
	8562	Commodore	
	8564	Commodore	110
	8565	Commodore	
	8566	Commodore	
	8569	Commodore	
CRT Video Controller, digital RGB output	8563	Commodore	
	8568	Commodore	115
CRT, Video Data Serializer	AM8177	AMD	
CRT, Video Display Generator, Reads Data from Memory to Produce Composite Video Signal, Internal Display Memory Mux	MC6847	Motorola	
CRT Video Display-Controller Video Generator	CRT8002	SMC	
CRT, Video Interface Controller	82731	Intel	
CRT, Video Palette (color lookup table and video DAC)	TMS34070	° TI	120
CRT Video Processor and Controller	CRT9007A1	SMC	
CRT, Video System Controller (See 8052 CRT Controller)	AM8152AC	AMD	
	AM8152AM	† AMD	
CRT, Video Terminal Logic Controller	CRT9028	SMC	
	CRT9053	SMC	125
	CRT9128	SMC	
	CRT9153	SMC	
CRT Video Timer-Controller, ROM Programmed	CRT5037	SMC	
Data/Address Buffer	HM82C215	Hualon Micro	
Data Bit Processor	CT1555	GEC Plessey	130
	CT1608	GEC Plessey	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Data Controller	E88C312	Elite Micro	
	E88C412	Elite Micro	
Data Separator (up to 25 Mbps, 2,7 RLL)	AIC6225	Adaptec	
Differential Output Video Clock Generator, 185 MHz	ICS1561	† IntCirSys	
Differential Output Video Clock Generator, 235 MHz	ICS1562	† IntCirSys	5
Direct Memory Access Controller	AM9517A-4	° AMD	
	NS32203-6	National	
	NS32203-8	National	
	μPD71071	NEC	
Direct Memory Access Controller (dual)	MC68440	° Motorola	10
	EF68440	SGS-Thomson	
Direct Memory Access Controller (programmable)	8237	° Intel	
	8257	Intel	
	μPD71055	NEC	
Direct Memory Access (DMA) Controller, CMOS	P1755-XM	† Performance	15
Disk, Hard Disk Controller	μPD7261A	NEC	
Disk Voice Coil Servo Driver	ML4406C	MicroLinear	
	ML4407C	MicroLinear	
Display Controller, 4-Character Alphanumeric	MM74C956	National	
Display Controller, 14 to 18 Segment Vacuum Flourescent Displays (16 characters)	10937	Rockwell	20
	10957	Rockwell	
Display/Terminal Management Processor	NS405	National	
DMA, Advanced Coprocessor for 16-Bit Microcomputer Systems	SAB82258	Siemens	
DMA Controller, Programmable	8237A	Krueger	
	8257	Krueger	25
	M5M82C37A	Mitsubishi	
DMA Controller, 32-Bit	MB92411	Fujitsu	
Dot Matrix Display Controller (vacuum fluorescent or LED)	10938	Rockwell	
	10939	Rockwell	
	10941	Rockwell	30
	10942	Rockwell	
	10943	Rockwell	
Dot Matrix LCD Controller/Driver, Intelligent	μPD7227	NEC	
	μPD7228	NEC	
DRAM Accelerator Module, 32 Bit Error Detection and Correction	CYM7232C	Cypress	35
DRAM Controller Module, 64 Bit Error Detection and Correction	CYM7264C	Cypress	
DRAM Controller, 1 G-Byte 32 Bit	CYM7232	Cypress	
DRAM Controller, 1 G-Byte 64 Bit	CYM7264	Cypress	
DUART	TMP68681P	Toshiba	
Dynamic Memory Controller (for 256K DRAMs)	AM2968A	AMD	40
Embedded Controller 6800 Based	TMP68301F	Toshiba	
	TMP68303F	Toshiba	
Emulator (for TLCS47 series)	BM47212	Toshiba	
	BM47213	Toshiba	
	BM47214	Toshiba	45
	BM47215	Toshiba	
	BM47216	Toshiba	
	BM47218	Toshiba	
	BM47219	Toshiba	
Emulator (for TLCS470 series)	BM47C800	Toshiba	50
	BM47C820	Toshiba	
	BM47C860	Toshiba	
	BM47C870	Toshiba	
	BM47C884	Toshiba	
Enhanced Asynchronous SCSI Interface (EASI)	DP8490	National	55
Enhanced Character Generator For MDA, MGA	VG-23C07	Vadem	
Enhanced Memory Controller	L64860	LSI Logic	
Enhanced PCI	TMP68661P	Toshiba	
Enhanced Programmable Communications Interface (EPCI)	SCN68661	Philips	
	SCN68661B	Philips	60
	SCN68661C	Philips	
Enhanced Terminal Logic Controller	CRT93C07	SMC	
Enhanced Video Clock Generator	ICS1494	IntCirSys	
Error Detection and Correction Circuit (CMOS cascadable 32-bit)	AM29C660	° AMD	
Error Detector and Correction Unit	54HST603	GEC Plessey	65
Ethernet/Cheapernet Transceiver	AM7996	AMD	
Ethernet Chip Set (Ethernet I/O device)	WD83B692	Western	
Ethernet Chip Set (network interface Controller)	WD83C690	Western	
Ethernet Coaxial Transceiver	**SSI78Q8330**	**SiliconSys (3781)**	
	SSI78Q8330A	**SiliconSys (3781)**	70
Ethernet Controller/ENDEC Combo	**SSI78Q8360**	**SiliconSys (3781)**	
Ethernet Controller, NICE Compatible	MB86960	Fujitsu	
Ethernet Controller, Star LAN Compatible	MB86950	Fujitsu	
Ethernet Controller, Single-Chip (Twisted Pair)	**MB86965**	**Fujitsu (3631)**	
Ethernet Controller, 10BASE-T	**MB86970**	**Fujitsu (3630)**	75
Ethernet Data Link Controller	AM7990	AMD	
	CS8005	Crystal	
	MB8795A	Fujitsu	
	8003	SEEQ	
	8005	SEEQ	80
Ethernet Encoder/Decoder	MB86951	Fujitsu	
Ethernet Interface, Universal Twisted Pair	**MB86961**	**Fujitsu (3632)**	
Ethernet Local Area Network Controller	NCR92C905	NCR	
Ethernet Local Area Network Controller, AUI & 10BASE-T	NCR92C120	NCR	
Ethernet Manchester Code Converter	CS8023A	Crystal	85
	8020	SEEQ	
	8023A	SEEQ	
Ethernet TRAM (transputer module)	IMS B407	SGS-Thomson	
Ethernet Transceiver	**NE8392A**	**Philips (3723)**	
Ethernet Twisted-Pair Media Attachment Unit	**SSI78Q902**	**SiliconSys (3781)**	90
Ethernet 10BASE-T Transceiver	MB86962	Fujitsu	
E^2 Microcontroller Peripheral	SLICX88C64	Xicor	
Fax System Controller	NS32FV100-20	National	
	NS32FV100-25	National	
	NS32FX100-15	National	95
	NS32FX100-20	National	
	NS32FX200-20	National	
	NS32FX200-25	National	
FDDI (Fiber Distributed Data Interface) Clock Recovery Device	DP83231	National	
FDDI Media Access Controller	AM79C830A	AMD	100
FDDI Physical Data Receiver	AM79866C	AMD	
FDDI Physical Data Transmitter	AM79865C	AMD	
FDDI Physical Layer Controller	AM79C864C	AMD	
FDDI Stream Cypher Device for Twisted Pair	DP83222	National	
FDDI System Interface (provides multiframe, MAC-level interface to one or more MAC users)	DP83265	National	105
FDDI Transceiver Device for Twisted Pair	DP83223	National	
FDMC (Floppy Disk Mechanism Control, 3.5")	TC8601F	Toshiba	
	TC8602F	Toshiba	
FDMC (Floppy Disk Mechanism Control, 5– 1/4")	TC8680F	Toshiba	
Flat Panel VGA Controller	CL-GD610	Cirrus	110
	CL-GD620	Cirrus	
	CL-GD6410	Cirrus	
Flat-Panel Super VGA Controller	CL-GD6440	Cirrus	
Flat-Panel Super VGA Controller with full GUI acceleration (BitBLT engine, raster operations)	CL-GD6450	Cirrus	
Flat-Panel VGA Controller	CL-GD6412	Cirrus	115
	CL-GD6420	Cirrus	
Flat-Panel VGA Controller (on-chip RAMDAC, frequency synthesizer, GUI assist functions	CL-GD6205	Cirrus	
	CL-GD6215	Cirrus	
	CL-GD6225	Cirrus	
	CL-GD6235	Cirrus	120
Floppy Disk Controller	82072	Intel	
	8473	Krueger	
	FDC37C65C	SMC	
	FDC765A-2	SMC	
	FDC92C81	SMC	125
	WD37C65C	Western	
	WD42C22C	Western	
	WD57C65	Western	
	WD76C20	Western	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Floppy Disk Controller (Cont'd)	WD76C20ALV	ℓ Western	
	Z765A-FDC	Zilog	
Floppy Disk Controller, Data Separator	FDC9268	SMC	
Floppy Disk Controller (for PC/AT or PS/2)	PC8477	National	
Floppy Disk Controller (for PC/XT, AT and PS/2)	DP8473	National	5
Floppy Disk Controller for Sony Format	µPD7265	NEC	
Floppy Disk Controller/Formatter	DP8472	National	
	DP8474	National	
Floppy Disk Controller/Formatter (IBM 3740 and System 34)	FDC9793	SMC	
	FDC9797	SMC	10
Floppy Disk Controller/Formatter (single and double density)	SAB2797B	Siemens	
Floppy Disk Controller, Head Driver	XR3448	Exar	
	MC3469	Motorola	
	MC3471	Motorola	
Floppy Disk Controller (IBM PC/AT recording format)	µPD72064	NEC	15
Floppy Disk Controller, IBM PC/XT/AT, PS/2 Compatible	GM82C765B	GoldStar	
Floppy Disk Controller/Interface (SCSI)	MSD96C70	SMC	
Floppy Disk Controller/Interface (single and double density)	FDC9266	SMC	
Floppy Disk Controller, Programmable	8271	Intel	
Floppy Disk Controller, Super I/O	FDC37C651	SMC	20
	FDC37C652	SMC	
	FDC37C661	SMC	
	FDC37C662	SMC	
	FDC37C663	SMC	
	FDC37C664	SMC	25
	FDC37C665	SMC	
	FDC37C666	SMC	
Floppy Disk Controller/Transmitter (IBM 3740 compatible)	µPD765A	NEC	
Floppy Disk Controller (with VFO)	TC8566AF	Toshiba	
Floppy Disk Controller, Single/Double Density	8272A	Intel	30
	765A	Krueger	
	µPD72065	NEC	
	µPD765A	NEC	
	FDC765A	SMC	
	TC8565	**Toshiba (3833)**	35
	TC8566A	**Toshiba (3833)**	
	TC8569A	**Toshiba (3833)**	
Floppy Disk Controller, Single- or Double Density	µPD765A-2	NEC	
	µPD765B	NEC	
Floppy Disk Controller, Single- or Double-Density	µPD72065B	NEC	40
Floppy Disk Controller, Single- or Double-Density (IBM and ECMA formats)	µPD72067	NEC	
Floppy Disk Controller, Two-Sided	µPD765A	NEC	
Floppy Disk Data Separator	MB4107A	Fujitsu	
	µPD71065	NEC	
	µPD71066	NEC	45

(Continued)

Function	Device	Source	Line
Floppy Disk Data Separator (Cont'd)	SED9420CAC	S-MOS	
	SED9420D	S-MOS	
	FDC9216	SMC	
	FDC9216B	SMC	
Floppy Disk Data Separator (for 3.5, 5.25 and 8-inch drives)	FDC91C36	SMC	50
	FDC92C36	SMC	
Floppy Disk Interface Circuit	µPB9201	NEC	
	FDC9229	SMC	
	FDC9229B	SMC	
Floppy Disk Interface Circuit (for 3.5, 5.25 and 8-inch drives)	FDC92C39	SMC	55
Floppy Disk Logic Circuit and Stepper Motor Driver	CS279	Cherry Semi	
Floppy Disk Mechanism Control (5 1/4 ″)	TC8600F	Toshiba	
Floppy Disk Read Amplifier System	CS3470A	Cherry Semi	
Floppy Disk Read/Write Circuit, 2-Channel	CS570	Cherry Semi	
Floppy Disk Write Amplifier	XR3471	Exar	60
Floppy Disk Write Control	CS3471	Cherry Semi	
Floppy/Hard Disk Controller	µPD7260	NEC	
Function Generator, Peripheral Controller	CY360	Cybernetic	
Genlock Signal Processor for VGA	GSP500	IntCirSys	
GPIB Controller	8292	Intel	65
GPIB, General Purpose Interface Adapter (IEEE 488 bus)	HEF4738	Philips	
GPIB Talker/Listener Interface	8291A	Intel	
GPIB Transceiver	8293	Intel	
Graphic Display Processor	EF9345	SGS-Thomson	
Graphics Display Controller	Z7220A-GDC	Zilog	70
Hard Disk Controller	MC68HC99	Motorola	
Hard Disk Controller, Head Driver	XR117	Exar	
Hard Disk Controller, PC/XT/AT Computers	CL-SH260	Cirrus	
Hard Disk Controller, PC-AT	**SSI32C9302**	**SiliconSys (3779)**	
Hard Disk Controller, PCMCIA	SSI32C9342	SiliconSys	75
Hard Disk Controller, PCMCIA/ATA	**SSI32C9340**	**SiliconSys (3779)**	
Hard Disk Controller, RLL/EDSI Encode/Decode	DP84900	National	
	DP84901	National	
Hard Disk Controller, SCSI	**SSI32C9023**	**SiliconSys (3779)**	
	SSI32C9024	**SiliconSys (3779)**	80
Hard Disk Controller (ST506/ESMD format)	µPD72061	NEC	
	µPD7261B	NEC	

Function	Device	Source	Line
Hard Disk Data Separator	DP8460	National	
	DP8461	National	
	SSI32D535	SiliconSys	85
	HDC92C26	SMC	
Hard Disk Data Synchronizer	DP8451	National	
Hard Disk Data Synchronizer, ENDEC, RLL	**SSI32D4040**	**SiliconSys (3778)**	
	SSI32D4041	SiliconSys	
	SSI32D5393	SiliconSys	90
Hard Disk Drive Motor Controller, 5V Sensorless Spindle	ML4510C	MicroLinear	
Hard Disk Drive Read Channel Filter/Equalizer, 24 Mb	ML6005C	MicroLinear	
	ML6006C	MicroLinear	
	ML6007	MicroLinear	
Hard Disk Drive Read Channel Processor	ML6010C	MicroLinear	95
Hard Disk Interface Circuit	µPD9306	NEC	
	SSI32H4633	**SiliconSys (3779)**	
Hard Disk Pulse Detector	XR541	Exar	
	XR8464B	Exar	
	8464	Krueger	100
	ML8464B-1	MicroLinear	
	ML8464B-2	MicroLinear	
	ML8464C	MicroLinear	
	ML8464C-1	MicroLinear	
	ML8464C-1.5	MicroLinear	105
	ML8464C-2	MicroLinear	
	ML8464X	MicroLinear	
	DP8464	National	
Hard Disk Pulse Detector with Embedded Servo Detector	ML4568-1	MicroLinear	
	ML4568-2	MicroLinear	110
Hard Disk Read/Write Controller with Internal Damping Resistor (6 channel)	XR501R-6	Exar	
	XR501R-8	Exar	
	XR510R	Exar	
Hard Disk Read/Write Controller (4 channel)	XR510	Exar	
Hard Disk Read/Write Controller (6 channel)	XR501-6	Exar	115
Hard Disk Read/Write Controller (8 channel)	XR501-8	Exar	
Hard Disk Read/Write Interface with Internal Damping Resistors (2 heads)	XR117R-2C	Exar	
	XR117R-4C	Exar	
	XR117R-6C	Exar	
Hard Disk Read/Write Interface (2 heads)	XR117-2C	Exar	120
Hard Disk Read/Write Interface (4 heads)	XR117-4C	Exar	
Hard Disk Read/Write Interface (6 heads)	XR117-6C	Exar	
HDLC/DMA Controller	MV6001	GEC Plessey	
HDLC/Frame Relay Controller	µPD72103	NEC	
HDLC Protocol Controller	MT8952B	Mitel	125
High Impedance Transceiver for Twisted Pair	HYC9088	SMC	
High Performance SCSI Controller	AM53C94	AMD	
	AM53C96	AMD	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
High-Performance Automated SCSI–2 Mass Storage Controller	AIC9110	Adaptec	
High-Performance SBus DMA Controller and Slave I/O Controller	L64864	LSI Logic	
High-Speed Asynchronous 8-Channel Communications Controller	CL-CD1864	Cirrus	
I/O Controller	HM83740	Hualon Micro	
I/O Controller (IOC)	VL86C410	VLSI Tech	5
IBM PS/2 Model 30 and Super XT Compatible Chip	82C110	Chips&Tech	
IBM 3274/3276 Compatible COAX Receiver/Transmitter	COM90C84	SMC	
IEEE 802.3 Ethernet Controller	8001	SEEQ	
Integrated Peripheral Controller	HM82C206	Hualon Micro	
Integrated Peripheral Controller (for PC/AT)	AT40206-8	ATMEL	10
Intelligent Data/Fax/Voice Modem Device Set	CL-MD1424AT	Cirrus	
	CL-MD1424EC	Cirrus	
Intelligent Multi-Protocol Communications Controller Chip	CL-CD2401	Cirrus	
Intelligent Multi-Protocol Peripheral	CL-CD2400	Cirrus	
Interrupt Controller	CY7C615	Cypress	15
Interrupt Controller Programmable	8259A-2	° Intel	
	8259A-5	° Intel	
Interval Timer, Programmable, High Performance	µPD71054	NEC	
ISA-to-SCSI Host Adapter	**NCR53CF406A**	**NCR (3700)**	
	NCR53C406	**NCR (3700)**	20
	NCR53C406A	**NCR (3700)**	
Keyboard Controller, PC/AT Compatibile	PC87911	National	
Keyboard Controller, PC/XT/AT/PS2 Compatible (for DEC compatible systems)	**UR5HCDEC**	**USAR Systems (3848)**	
Keyboard Controller, PC/XT/AT/PS2 Compatible (for laptop/notebook keyboards; interfaces Fujitsu FKB7211 laptop/notebook keyboard to BIOS compatible systems)	**UR5HCFJ8**	**USAR Systems (3848)**	
	UR5HC408	**USAR Systems (3848)**	25
	UR5HC428	**USAR Systems (3848)**	
Keyboard Controller, PC/XT/AT/PS2 Compatible (for standard 101/102 keyboards)	**UR5HC418**	**USAR Systems (3848)**	
Keyboard Controller, PC/XT/AT/PS2 Compatible (RAM programmable)	**UR5HC439**	**USAR Systems (3848)**	
Keyboard Controller, PC/XT/AT/PS2 Compatible (8X18 matrix, single chip for custom control panels and keypads)	**K25C81**	**USAR Systems (3848)**	

Function	Device	Source	Line
Keyboard Controller, PC/XT/AT/PS2 or RS232 (user-programmable including macros)	**UR5HC449**	**USAR Systems (3848)**	30
Keyboard Controller, RS232 Interface (serial encoder with optical knob interface, for custom control panels and keypads)	**S25C8**	**USAR Systems (3848)**	
Keyboard/Display Interface	8279	Intel	
Keyboard Protocol Converter (for PC/XT/AT/PS2 to HP-HIL)	**UR5HCPCH**	**USAR Systems (3848)**	
Keyboard Protocol Converter (for PC/XT/AT/PS2 to parallel)	**UR5HCPCP**	**USAR Systems (3848)**	
Keyboard Protocol Converter (for PC/XT/AT/PS2 to RS232)	**UR5HCPCS**	**USAR Systems (3848)**	35
LCD Alphanumeric Controller/Driver. See also Interface-Display Drivers	µPD7225	NEC	
LCD Controller For 640X200, 640X400 CGA/ATT	VG-600	Vadem	
LCD/CRTC Controller (640x400 dot matrix)	T7779	Toshiba	
LCD Windows, Graphics, Text Controller	CY325	Cybernetic	
	CY327	Cybernetic	40
Local Area Network Coax Receiver Interface	DP8392	National	
Local Area Network Coaxial Transceiver Interface	CS83C92A	Crystal	
	CS83C92C	Crystal	
Local Area Network Communications, Ethernet Serial Interface	82501	Intel	
Local Area Network Controller	COM90C26	SMC	45
Local Area Network Controller (for ARCNET)	SL90C26	Silicom	
Local Area Network Controller (for ARCNET), 2.5 Mbps	COM20010	SMC	
	COM20020	SMC	
Local Area Network Controller (for ARCNET), 5 Mbps	COM20010-5	SMC	
	COM20020-5	SMC	50
Local Area Network Controller (for Ethernet)	AM79C940	AMD	
	AM79C960	AMD	
	82586	Intel	
	DP83902A	National	
	COM82C501	SMC	55
	COM82C501AD	SMC	
	COM82586	SMC	
	SMC91C90	SMC	
	SMC91C92	SMC	
Local Area Network Controller/Transceiver (for ARCNET)	SL90C65	Silicom	60
	COM90C165	SMC	
	COM90C66	SMC	
Local Area Network Controller/Transceiver/Support Logic	COM90C65	SMC	
Local Area Network Jitter Attenuator	CS80600	Crystal	
Local Area Network Transceiver	COM90C32	SMC	65
Local Area Network Transceiver (for ARCNET)	SL90C32	Silicom	
Local Area Network Transceiver (for Ethernet)	SMC83B692	SMC	
Magnetic Disk Controller (ESDI/ESMD and ST–506 format)	AM95C95	AMD	

Function	Device	Source	Line
Magneto-Optical Formatter/Controller	AHA5211	AHA	
Manchester Biphase Decoder, 50 Mb	SP9921	GEC Plessey	70
Manchester Biphase Encoder and LED Driver, 50 Mb	SP9960	GEC Plessey	
Manchester Encoder/Decoder	MB502A	Fujitsu	
	MA15530	GEC Plessey	
	DP83950B	National	
	DP83955A	National	75
	DP83956A	National	
	MEDM2010	Technitrol	
	MEDM2020	Technitrol	
	MEDM2050	Technitrol	
	MEDM2100	Technitrol	80
	MEDM2120	Technitrol	
	MEDM5186	Technitrol	
	MEDM5200	Technitrol	
	MEDM5230	Technitrol	
	MEDM5300	Technitrol	85
	MEDM5400	Technitrol	
	MEDM5500	Technitrol	
Manchester Encoder/Decoder, Remote Control	MC145030	Motorola	
MAP Broadband Interface Controller (IEEE 802.4 Broadband Physical Layer)	MC68184	Motorola	
MAP Carrierband Modem (IEEE 802.4 Phase Coherent Physical Layer)	MC68194	Motorola	90
MAP Token Bus Controller (IEEE 802.4 Media Access Control sublayer)	MC68824	Motorola	
MBus Memory Controller	CY7C613	Cypress	
MBus Peripheral I/O Controller	CY7C614	Cypress	
MBus to SBus Interface Controller	CY7C616	Cypress	
MBus Video Graphics Controller	CY7C617	Cypress	95
Mbus-to-Sbus Controller	L64852	LSI Logic	
Memory Controller, Page/Interleave	HM82C212	Hualon Micro	
Memory Management Unit	TMP68451C	Toshiba	
Micro Channel Single-Chip Mass Storage Controller	AIC6190	Adaptec	
MicroCMOS Programmable 256K/1M/4M Dynamic RAM Controller/Drivers	DP8420A	National	100
	DP8421A	National	
	DP8422A	National	
Microprogram Controller	AM2910A	° AMD	
Microprogram Controller (selects, stores, retrieves addresses that control (sequence of instruction execution)	CY2910AC	Cypress	
	CY2910AM	† Cypress	105
Microprogram Controller (20 MHz)	AM29C10A	° AMD	
MIL-STD–1553 MacAir/Grumman Bus Controller and Remote Terminal	BUS65149	ILC-DDC	
	UT1553 BCRTMP	‡ UTMC	
MIL-STD–1553A/B Remote Terminal Controller—Multiprotocol	UT1553RTMP	‡ UTMC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
MIL-STD–1553B Advanced Communication Engine, BC/RT/MT	BUS61580	ILC-DDC	
	BUS65180	ILC-DDC	
	BUS65181	ILC-DDC	
MIL-STD–1553B Advanced Communication Engine, RT	BUS65170	ILC-DDC	
	BUS65171	ILC-DDC	5
MIL-STD–1553B Bus Controller—Remote Terminal Controller	BUS61559	ILC-DDC	
	BUS61560	ILC-DDC	
	BUS61569	ILC-DDC	
	BUS61570	ILC-DDC	
	UT1553B BCRT	‡ UTMC	10
	UT1553B BCRTM	‡ UTMC	
MIL-STD–1553B Remote Terminal Controller	MA805	GEC Plessey	
MIL-STD–1553B Remote Terminal Interface Controller	UT1553B RTI	‡ UTMC	
MIL-STD–1553B Subsystem Interface Circuit	MA8055	GEC Plessey	
MIL-STD–1555 Interface Circuit	CT1610	GEC Plessey	15
	CT1611	GEC Plessey	
MIL-STD–1750A MBU Peripheral	L64550	LSI Logic	
MIL-STD–1760A Remote Terminal Controller with RAM	UT1760ARTS	‡ UTMC	
Motherboard Clock Generator	ICS1694	IntCirSys	
Motherland Clock Generator	AV9128	ℓ Avasem	20
	AV9129	Avasem	
	AV9152	Avasem	
	AV9153	Avasem	
Motor, Intelligent Stepper Motor Controller	CY500	Cybernetic	
	CY512	Cybernetic	25
Mouse Controller	HM8350-1A	Hualon Micro	
	HM8350-1B	Hualon Micro	
	HM8350-1D	Hualon Micro	
	HM8350M	Hualon Micro	
	HM8450	Hualon Micro	30
	HM8451	Hualon Micro	
	HM8456	Hualon Micro	
	HM8457	Hualon Micro	
Mouse Controller, Bus	HM8384	Hualon Micro	
Mouse Controller, Remote	HM8355	Hualon Micro	35
Mouse Controller, Serial, Low Power	HM8360	Hualon Micro	
	HM8361	Hualon Micro	
Multi I/O Controller	HM6666ALP	Hualon Micro	
	HM83C452	Hualon Micro	
	HM83453	Hualon Micro	40
Multi-System Control Chip. Interfaces any two CYxxx Devices to a Computer, Keyboard or RS232 Terminal	CY250	Cybernetic	
Multibus II Bus Arbiter/Controller	BAC84110	Toshiba	
Multibus II Message Interrupt Controller	MIC84120	Toshiba	
Multifunction I/O	VG-603	Vadem	
	VG-82C451	Vadem	45
	VG-82C452	Vadem	
Multifunction I/O Controller (for IBM PC/XT/AT, dual UART)	MCCS16C452	Motorola	
	MCCS16C462	Motorola	
Multifunction I/O Controller (for IBM PC/XT/AT, single UART)	MCCS16C451	Motorola	
Multimedia Palette DAC	CL-GD5200	Cirrus	50
Multiple Protocol Controller, Serial	MB89372A	Fujitsu	
Network Interface Controller, 32 Channel	**PEB20320**	**Siemens (3769)**	
Neuron Chip	TMPN3120F	Toshiba	
	TMPN3150F	Toshiba	
Nonvolatile RAM Controller	DS1218	Dallas	55
Notebook VGA Clock Generator	AV9103	Avasem	
Optical Disk Control (supports X3B11 and ISO Continuous Composite Serud Standard)	AM95C96	AMD	
Optical Disk Controller (for ROM/WORM)	CL-SM330	Cirrus	
	CL-SM331	Cirrus	
Optical Disk Controller (ISO/ANSI Standard), 4Mb/sec	AHA5210	AHA	60
Optical Disk Error Detection Circuit	**TC8554**	**Toshiba (3833)**	
Parallel Input Output (PIO) Circuit	RF5C60	Ricoh	
Parallel Interface Timer/	VL65C22V	VLSI Tech	
Parallel to Serial Interface	CY232	Cybernetic	
PC/AT - Compatible SCAMP Combo 1/0	VL82C107	VLSI Tech	65
PC AT Combination Controller with Reed Solomon, 3V Operation	**SSI32C9301**	ℓ **SiliconSys (3779)**	
PC/AT Integrated Peripherals Controller (part of CS8221 chipset)	82C206	Chips&Tech	
PC/AT/XT Peripheral Controller (two 16450 UARTs)	82C721	Chips&Tech	
PC/AT Single-Chip Mass Storage Controller	AIC6160	Adaptec	
PC Bus Interface Controller (handles PC interrupt, DMA, and data bus control)	WD83C580A	Western	70
PC Mouse Controller (CMOS)	5720	Commodore	
(PC XT/AT); Fully compatible with Cirrus Logic's CL-SH260 on page 880 line 128.	AV8520	Avasem	
PC XT/AT Enhanced Hard Disk Controller	CL-SH265	Cirrus	
PC XT/AT Hard Disk Controller Chip	CL-SH360	Cirrus	
	CL-SH361	Cirrus	75
	CL-SH364	Cirrus	
	CL-SH366	Cirrus	
	CL-SH4600	Cirrus	
	CL-SH5600	Cirrus	
PC/XT/AT/PS2 Compatible Keyboard Controller	K25C8	USAR Systems	80
PC XT/AT Single-Chip Mass Storage Controller	AIC6060	Adaptec	
	AIC7160	Adaptec	
PCMCIA-ATA or ATA Hard Disk Controller Chip	CL-SH380	Cirrus	
	CL-SH385	Cirrus	
Peripheral Controller/Interrupt Multiplexer/Clock Generator	WD76C30	Western	85
	WD76C30ALV	ℓ Western	
Peripheral, Multifunction	TS68HC901	SGS-Thomson	
Peripheral, Programmable Peripheral Interface	8255A	° Intel	
Phase-Locked Oscillator For Winchester	ML405	MicroLinear	
PLL Clock Generator (10 to 80 MHz), PECL	S4405	AMCC	90
PLL Clock Generator (20 to 66 MHz), PLL	S4403	AMCC	
PLL Clock Generator (20 to 66 MHz), TTL	S4402	AMCC	
PLL Clock Generator (20 to 80 MHz), TTL	S4406	AMCC	
PLL Clock Generator (50 to 100 MHz), 14 Output	S4407	AMCC	
Power Fail and Reset Controller for Personal Computers/Workstations	DS1632	Dallas	95
Printer Controller, for 5x7 Dot Matrix Printer	CY480	Cybernetic	
Printer, Dot Matrix Printer Controller	8295	Intel	
Program Control Unit (4-bit slice address controller for memories)	AM2930	AMD	
Programmable Communications Interface	AM95C85	AMD	
	M5M82C51A	Mitsubishi	100
Programmable Direct Memory Access Controller	C82C237	Harris	
	C82C237-12	Harris	
	M82C237-12/B	† Harris	
	M82C237/B	† Harris	
	82C237-10	Harris	105
	82C237-12	Harris	
Programmable Interrupt Controller	82C59A-10	† Harris	
	82C59A-12	† Harris	
	M5M82C59A-2	Mitsubishi	
Programmable Interrupt Controller (with CMOS interface to 68000)	USC68HC908	Universal	110
Programmable Peripheral Interface	CA82C55A	† Newbridge	
Programmable Peripheral Interface (120 nsec)	M5M82C55A-2	Mitsubishi	
Programmable Peripheral Interface (120 nsec), DUAL 82C55	M5M82C255A	Mitsubishi	
Programmable Storage Controller (controls embedded, ST412/506, ESDI and SMD drives)	AIC610	Adaptec	
Programmable Tape Formatter/Controller	AHA5101	AHA	115
	AHA5121	AHA	
Programmable Dual Clock Generator	ICS2594	† IntCirSys	
Protocol Controller, LAPD (link access procedure protocol for ISDN networks)	MC68606	Motorola	
Protocol Processor, MIL-STD–1553	CT1560	GEC Plessey	
	CT1561	GEC Plessey	120
	CT1562	GEC Plessey	
	CT1563	GEC Plessey	
	CT1601	GEC Plessey	
	CT1602	GEC Plessey	
	CT1603	GEC Plessey	125
	CT1604	GEC Plessey	
	CT1605	GEC Plessey	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Protocol Processor, MIL-STD-1553 (Cont'd)	CT1606	GEC Plessey	
	CT1612	GEC Plessey	
	CT1615	GEC Plessey	
	CT1617	GEC Plessey	
RAM DAC, Low Power	AV36L77	Avasem	5
RAMDAC, Color Pallete	HM86171	Hualon Micro	
RAMDAC, True Color	BT484	Brooktree	
RAMDAC, 80 MHz 256 Word Color Palette	ADV475	AD	
	ADV477	AD	
RAMDAC, 100 MHz True Color Graphics, Triple 8-Bit Video	**ADV473**	**AD** **(3518)**	10
RAMDAC, 135 MHz True Color	BT485	Brooktree	
RAMDAC, 150 MHz CMOS	BT464	Brooktree	
RAMDAC, 170 MHz Pseudo Color Graphics 10-Bit Video	**ADV7151**	**AD** **(3518)**	
RAMDAC, 170 MHz True Color Graphics 10-Bit Video	**ADV7150**	**AD** **(3518)**	
	ADV7152	**AD** **(3518)**	15
RAMDAC (256x24 color palette, 3 8-bit video D/A converters)	KDA0478	Samsung	
Real-Time Clock	MM58167A	National	
	MM58174A	National	
	RF5C15	Ricoh	
	RF5C62	Ricoh	20
	RJ5C15	Ricoh	
	RP5C01	Ricoh	
	RP5C15	Ricoh	
	RP5C62	Ricoh	
	TC8250	**Toshiba** **(3833)**	25
	TC8521A	**Toshiba** **(3833)**	
Real-Time Clock/µP Interface	MSM5832	OKI	
	L5832	SGS-Thomson	
Real-Time Clock/Calendar	TC8205P	Toshiba	
	TC8250A	**Toshiba** **(3833)**	30
SBus Controller	CY7C618	Cypress	
SBus DMA Controller	L64854	LSI Logic	
SBus to External Bus Controller	L64861	LSI Logic	
SCSI and Serial Communications Controller (16MHz)	AM85C80-16	AMD	
SCSI and Serial Communications Controller (8 MHz)	AM85C80-8	AMD	35
SCSI AT Host Adapter	**NCR53C400**	**NCR** **(3701)**	
SCSI Bus Controller Device	WD33C92A	Western	
	WD33C93A	Western	
	WD33C93B	Western	
SCSI Bus Interface Adapter	AV8500	Avasem	40
SCSI Bus Interface Controller	WD33C95A	Western	
	WD33C96A	Western	
SCSI Bus Interface Controller, Enhanced	AM33C93A-16	AMD	
	AM33C93A-20	AMD	

Function	Device	Source	Line
SCSI Combination Controller, 48 Mbs, Dual Bit NRZ Interface	**SSI32C9022**	**SiliconSys** **(3779)**	45
SCSI Controller	**NCR53CF94**	**NCR** **(3701)**	
	NCR53CF96	**NCR** **(3701)**	
	NCR53C90	NCR	
	NCR53C95	NCR	
	53C90	NCR	50
SCSI Controller (ANSI 3. 131–1986 standard)	CXD1185	Sony	
SCSI Controller (10 MB/s)	**NCR53CF94-1**	**NCR** **(3701)**	
	NCR53CF94-2	**NCR** **(3701)**	
	NCR53CF96-1	**NCR** **(3701)**	
	NCR53CF96-2	**NCR** **(3701)**	55
SCSI Disk Array Controller	**NCRADP93-01**	**NCR** **(3701)**	
	NCRADP93-04	NCR	
SCSI Disk Controller Chip	CL-SH5500	Cirrus	
	CL-SH5700	Cirrus	
SCSI Disk Controller (up to 32 MHz)	CL-SH450	Cirrus	60
SCSI Hard Disk Controller	DP8496	National	
	DP8497	National	
SCSI Host Adapter	**NCR53C400A**	**NCR** **(3701)**	
SCSI I/O Processor	**NCR53C720**	**NCR** **(3700)**	
SCSI Interface Controller	AM53C80A	AMD	65
	AM5380	AMD	
	5380	**Krueger** **(3663)**	
SCSI PCI I/O Processor	NCR53CF90	NCR	
	NCR53C810	**NCR** **(3700)**	
	NCR53C820	**NCR** **(3700)**	70
SCSI Processor	NCR53C700	NCR	
	NCR53C94	NCR	
SCSI Processor - 66 MHz	NCR53C700-66	NCR	
SCSI Protocol Controller	MB87033	Fujitsu	
	MB89532	Fujitsu	75
	LC8945	Sanyo	
SCSI Protocol Controller (Small Computer Systems Interface)	5380	AMD	
	AV8580	Avasem	
	L53C80	LogicDev	
	NCR53C80	NCR	80
	NCR53C81	NCR	
	NCR5380	NCR	
	NCR5381	NCR	
	CA53C80	† Newbridge	
SCSI Single-Chip Mass Storage Controller	AIC6110	Adaptec	85
	AIC7110	Adaptec	
SCSI Dual-Ported Buffer Controller	NCR53C300	NCR	
SCSI.2 Protocol Controller (16-Bit FAST)	MB86602	Fujitsu	
SCSI.2 Protocol Controller (8-Bit FAST)	MB86601	Fujitsu	
SCSI–2 Disk Controller Chip	CL-SH351	Cirrus	90
SCSI–2 Disk Controller Chip, Auto Connect	CL-SH451	Cirrus	

Function	Device	Source	Line
Serial Communication Controller (68000 series compatible)	**SAB82532**	**Siemens** **(3769)**	
	SAB82538	**Siemens** **(3769)**	
Serial Communications Controller, Enhanced (10MHz)	AM85C30-10	AMD	
Serial Communications Controller, Enhanced (16MHz)	AM85C30-16	AMD	95
Serial Communications Controller, Enhanced (8MHz)	AM85C30-8	AMD	
Serial Communications Controller, High-Level (X.25, LAPB/LAPD protocol)	AM82520	AMD	
Serial Communications Controller (multi-protocol)	Z8530	AMD	
	µPD7210	NEC	
	Z8530	‡ SGS-Thomson	100
	Z8530A	‡ SGS-Thomson	
	LH8530	Sharp	
	LH8530A	Sharp	
	VL85C30	VLSI Tech	
Serial Communications Controller (single-channel, advanced multiprotocol)	µPD72002	NEC	105
Serial Communications Controller with LocalTalk	AM85C230A	AMD	
Serial Communications Controller (8 MHz)	Z8030B	† SGS-Thomson	
	Z8530B	† SGS-Thomson	
Serial Communications Controller (4MHz)	AM8530H-4	AMD	
Serial Communications Controller (6MHz)	AM8530H-6	AMD	110
Serial Communications Controller (8MHz)	AM8530H-8	AMD	
Serial/Parallel Asynchronous Communication Engine	CL-CD1400	Cirrus	
Serial/Parallel I/O Controller	HM83451	Hualon Micro	
Serial Timer Interrupt Controller	MK3801-6	SGS-Thomson	
Servo Burst Area Detector	ML4532C	MicroLinear	115
	ML4533C	MicroLinear	
	ML4536C	MicroLinear	
Servo Controller	ML4403C	MicroLinear	
	ML4413C	MicroLinear	
Servo Demodulator, Embedded, Area Detector Based	ML4534C	MicroLinear	120
Servo Demodulator, Hybrid, Area Detection Based	ML4535C	MicroLinear	
Servo Driver	ML4402-1C	MicroLinear	
	ML4402-2C	MicroLinear	
Servo Driver, Low Saturation 5V Voice Coil	ML4508	MicroLinear	
Servo Driver, 5V Disk Voice Coil	ML4506C	MicroLinear	125
Signalling Controller, No. 7 Common Channel Protocol	µPD72307	NEC	
Small Computer System Interface (SCSI) Controller	MB87034	Fujitsu	
	MB87035	Fujitsu	
	MB87036	Fujitsu	
SPARC Mbus DMA and Video Controller	MB86981	Fujitsu	130
SPARC Mbus Memory and Peripheral Controller	MB86980	Fujitsu	
SPARC Mbus to Sbus Interface Controller	MB86985	Fujitsu	
SPARC Mbus to VMEbus Interface Controller	MB86986	Fujitsu	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR–System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Speech Recognition	TC8860	Toshiba	
	TC8864AF-00	Toshiba	
Speech Recording	TC8834	Toshiba	
Speech Synthesis	TC8801	Toshiba	
	TC8802A	Toshiba	5
	TC8804	Toshiba	
	TC8805	Toshiba	
Spindle Motor Controller, Sensorless	ML4410C	MicroLinear	
	ML4411C	MicroLinear	
Stand Alone Microcontroller, Programmable	PAC1000-12	† Waferscale	10
	PAC1000-16	† Waferscale	
StarLAN Hub Controller (IEEE 802.3)	82C551	Chips&Tech	
StarLAN Mini Hub Controller	WD83C503	Western	
StarLAN, Serial Interface (IEEE 802.3)	82C550A	Chips&Tech	
StarLAN Transceiver	XRT82C516	Exar	15
	XRT82515	Exar	
Stepper Motor Controller and Peripheral Interface	CY545	Cybernetic	
Stepper Motor Controller, Intelligent Ramping	CY525	Cybernetic	
String Proximity Computer and Ranker	PF474C	Proximity	
Synchronous Data Link Controller	COM5025	SMC	20
System Clock Generator	µPD71011	NEC	
System Controller	WD7610A	Western	
	WD7610ALP	Western	
	WD7610ALV	ℓ Western	
Tape Formatter with PLL,Counter,Timer,I/O	9820	Stac	25
Time Base Generator	**SSI32D4665**	**SiliconSys (3779)**	
Token Ring Controller, IEEE 802.5 LAN Controller	DP8025	National	
	DP80253	National	
	TC35802	Toshiba	
Trajectory Generator (for disk head positioning systems)	ML4404	MicroLinear	30
Trajectory Generator For Winchester	ML404	MicroLinear	
UART, Programmable High-Speed CMOS (with baud rate generator)	COM81C17	SMC	
Universal Asynchronous Receiver/Transmitter (UART)	GM16C450	GoldStar	
	GM82C50A	GoldStar	
	16C450	**Krueger (3663)**	35
Universal Asynchronous Receiver/Transmitter (UART with parallel printer port)	GM16C451	GoldStar	
Universal Peripheral Controller	82C710	Chips&Tech	
	82C711	Chips&Tech	
	82C712	Chips&Tech	
Universal Peripheral Interface, I/O Expander	8243	Intel	40
Universal Peripheral Interface (slave I/O processor)	UPI-452	Intel	
Universal Peripheral Interface (8-Bit slave microcontroller–6 MHz)	UPI-41	Intel	
	UPI-42	Intel	
Universal Peripheral Interface, 1K EPROM	8741A	Intel	
Universal Peripheral Interface, 1K ROM	8041AH	Intel	45
Universal Peripheral Interface, 2K EPROM	8742	Intel	
Universal Peripheral Interface, 2K ROM	8042	Intel	
Universal Peripheral Interface, 4K EPROM	8744	Intel	
Universal Peripheral Interface, 4K ROM	8044	Intel	
Universal Serial Controller (two independent 0 to 10 Mbit/s, full duplex channels)	Z16C30	Zilog	50
VFO for Hard Disk Controller	**TC8563A**	**Toshiba (3833)**	
	TC8564A	**Toshiba (3833)**	
Video Clock Generator	KS82C670	Samsung	
	KS82C671	Samsung	
Video Clock Generator, Dual Output	AV9116	ℓ Avasem	55
Video Color Palette Processor	S5606A	Seiko Instr	
Video Controller	WD90C30	Western	
Video Controller - 12 MHz	TMS34061-12	TI	
Video Controller (VGA) - 50 MHz	NCR77C22	NCR	
Video Controller (VIDC)	VL86C310	VLSI Tech	60
Video Controller with Windows Accelerator	WD90C31A	Western	
Video DAC, Low Power, 256x18 Color Palette, High Speed	IMP41C176L-35	IMP	
	IMP41C176L-50	IMP	
	IMP41C176L-65	IMP	
	IMP41C176L-80	IMP	65
Video DAC, RGB Analog Output	CL-PX2080	Cirrus	
	CL-PX2085	Cirrus	
Video DAC, 256x18 Color Palette, High Speed	IMP41C176-35	IMP	
	IMP41C176-50	IMP	
	IMP41C176-65	IMP	70
	IMP41C176-80	IMP	
Video Line Driver	VS620	VTC	
	VS621	VTC	
Video Window Accelerator	**NCR77C32BLT**	**NCR (3701)**	
Video Window Controller	82C9001A	Chips&Tech	75
Video Window Generator	CL-PX0070	Cirrus	
Video Window Generator and Frame Memory Manager	CL-PX0072	Cirrus	
	CL-PX2070	Cirrus	
Video Windowing Controller (converts standard full-motion video image for display on computer graphics display) chipset	69003	Chips&Tech	
	69004	Chips&Tech	80
Videotext CRT Display Processor	EF9340	SGS-Thomson	
	EF9341	SGS-Thomson	
VME Bus Address Controller	VIC068AC	Cypress	
	VIC068AI	Cypress	
	VIC068AM	Cypress	85
VME Bus Interface Controller	VIC08A-C	Cypress	
	VIC08A-I	Cypress	
	VIC08A-M	† Cypress	
VME Bus Interface Controller with D64 Functionality	VIC64C	Cypress	
	VIC64I	Cypress	90
	VIC64M	† Cypress	
VME Interface Controller (for 32-bit or 64-bit systems)	VIC64	Cypress	
VMEbus Address Controller (I/O capability for 32-bit CPU)	VAC068A	Cypress	
VMEbus Interface Controller (for 8, 16, or 32-bit system)	VIC068A	Cypress	
VMEbus, Interrupt Controller	**SL68155**	**Lansdale (3675)**	95
	SCB68155	Philips	
VMEbus, Interrupt Generator	**SL68154**	**Lansdale (3675)**	
	SCB68154	Philips	
Voice Coil Servo Driver (for use in 12V hard disk drives)	ML4418C	MicroLinear	
Voice Coil Servo Driver (for 12V hard disk servo systems)	ML4408	MicroLinear	100
Voice Recording/Reproduction	TC8833F	Toshiba	
Winchester Differential Input High Gain Read/Write Amplifier (for Thin Film Heads)	**SSI32R528R**	**SiliconSys (3778)**	
	SSI32R528R-9C	**SiliconSys (3778)**	
Winchester Disk Address Mark Detector	HDC1100-03	SMC	
Winchester Disk Controller	HDC9224	SMC	105
	HDC9234	SMC	
	WD10C01	Western	
Winchester Disk Controller/Formatter	82062	Intel	
Winchester Disk Controller (with on-chip EDAC)	82064	Intel	
Winchester Disk CRC Checker/Generator	HDC1100-04	SMC	110
Winchester Disk Head Actuator Control Circuit	µA2460	National	
	µA2461	National	
Winchester Disk Improved MFM Generator	HDC1100-12	SMC	
Winchester Disk Memory Read/Write Circuit (for ferrite heads)	SSI32R510AR	SiliconSys	
Winchester Disk Memory Read/Write Circuit, Four Channel (for ferrite heads)	SSI32R510A-4C	SiliconSys	115
	SSI32R510AR-4C	SiliconSys	
	SSI32R510AR-6C	SiliconSys	
Winchester Disk Memory Read/Write Circuit, Six Channel (for ferrite heads)	SSI32R510A-6C	SiliconSys	
Winchester Disk Memory Video Amplifier, for Magnetic Servo Head	SSI32H101A	SiliconSys	
Winchester Disk Memory Video Amplifier, for Thin Film Magnetic Heads	SSI32H116A	SiliconSys	120

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Winchester Disk Parallel-to-Serial Converter	HDC1100-05	SMC	
Winchester Disk Read/Write Amplifier with Damping Resistors, 6-Channel	VM117R6	VTC	
Winchester Disk Read/Write Preamplifier	ML117	MicroLinear	
	ML117R	MicroLinear	
	VM117	VTC	5
Winchester Disk Serial to Parallel Converter	HDC1100-01	SMC	
Winchester Disk Servo Preamplifier	µA24H80	National	
Winchester Drive Servo Demodulator	ML4431C	MicroLinear	
Winchester, Head Positioning Set, Quad di'bit servo	ML401	MicroLinear	
	ML402	MicroLinear	10
	ML403	MicroLinear	
	SSI32H6215	SiliconSys	
Winchester High Performance Pulse Detector Circuit	SSI32P541	SiliconSys	
	SSI32P541A	SiliconSys	
Winchester High Performance Pulse Detector w/ Filter Mux	**SSI32P547**	**SiliconSys** **(3778)**	15
Winchester High Speed Pulse Detector Circuit	SSI32P541B	SiliconSys	
Winchester Low Noise Read/Write Amplifier, 4-Channel (for Ferrite Heads)	**SSI32R516-4C**	**SiliconSys** **(3778)**	
	SSI32R516R-4C	**SiliconSys** **(3778)**	
Winchester Low Noise Read/Write Amplifier, 6-Channel (for Ferrite Heads)	**SSI32R516-6C**	**SiliconSys** **(3778)**	
	SSI32R516M-6C	**SiliconSys** **(3778)**	20
	SSI32R516R-6C	**SiliconSys** **(3778)**	
	SSI32R516RM-6C	SiliconSys	
	SSI32R516RM-8C	**SiliconSys** **(3778)**	
Winchester Low Noise Read/Write Amplifier, 8-Channel (for Ferrite Heads)	**SSI32R516-8C**	**SiliconSys** **(3778)**	
	SSI32R516M-8C	SiliconSys	25
	SSI32R516R-8C	**SiliconSys** **(3778)**	
Winchester Pulse Detector and Data Synchronizer Combo	SSI32P548	SiliconSys	
Winchester Pulse Detector and Embedded Servo Capture Circuit.	**SSI32P544**	**SiliconSys** **(3778)**	
Winchester Pulse Detector Circuit	ML4041C	MicroLinear	
	ML4042C	MicroLinear	30
	ML541C	MicroLinear	
Winchester Read Data Processor (time domain filter)	SSI32P540	SiliconSys	
Winchester Read/Write Amplifier, 8-Channel (for thin-film heads)	**SSI32R512-8C**	**SiliconSys** **(3778)**	
	SSI32R524R-8	**SiliconSys** **(3778)**	
	SSI32R524RM-8	**SiliconSys** **(3778)**	35
Winchester Read/Write Amplifier, 8-Channel, with Internal Damping Resistor (for thin-film heads)	**SSI32R512M-8C**	**SiliconSys** **(3778)**	
	SSI32R512R-8C	**SiliconSys** **(3778)**	
	SSI32R512RM-8C	**SiliconSys** **(3778)**	
Winchester Read/Write Amplifier, 9-Channel (for thin-film heads)	**SSI32R512-9C**	**SiliconSys** **(3778)**	
Winchester Read/Write Amplifier, 9-Channel, with Internal Damping Resistor (for thin-film heads)	**SSI32R512M-9C**	**SiliconSys** **(3778)**	40
	SSI32R512R-9C	**SiliconSys** **(3778)**	
	SSI32R512RM-9C	**SiliconSys** **(3778)**	
Winchester Read/Write Circuit	CS117	Cherry Semi	
Winchester, Read/Write Circuit for thin-film heads	ML502	MicroLinear	
	ML502R	MicroLinear	45
Winchester Read/Write Circuit (2, 4 Channel for Thin-Film Heads	CM812020	CMD Micro	
Winchester Read/Write Circuit, 2- 4- or 6-Channel	SSI32R117	SiliconSys	
	SSI32R117A	SiliconSys	
	SSI32R117R	SiliconSys	
Winchester Read/Write Circuit, 2-Channel	ML117-2	MicroLinear	50
	ML117R-2	MicroLinear	
Winchester Read/Write Circuit, 4-Channel	ML117-4	MicroLinear	
	ML117R-4	MicroLinear	
Winchester Read/Write Circuit, 4-Channel (for ferrite heads)	ML511-4	MicroLinear	
	ML511R-4	MicroLinear	55
Winchester Read/Write Circuit, 6-Channel	ML117-6	MicroLinear	
	ML117R-6	MicroLinear	
Winchester Read/Write Circuit, 6-Channel (for ferrite heads)	ML501-6	MicroLinear	
	ML501R-6	MicroLinear	
	ML502-6	MicroLinear	60
	ML502R-6	MicroLinear	
	ML502S-6	MicroLinear	
	ML511-6	MicroLinear	
	ML511R-6	MicroLinear	
Winchester Read/Write Circuit, 7-Channel (for composite heads)	ML502S-7	MicroLinear	65
	ML511R-7	MicroLinear	
Winchester Read/Write Circuit, 8-Channel (for ferrite heads)	ML501-8	MicroLinear	
	ML501R-8	MicroLinear	
	ML502-8	MicroLinear	
	ML502R-8	MicroLinear	70
	ML502S-8	MicroLinear	
	ML511-8	MicroLinear	
	ML511R-8	MicroLinear	
Winchester Read/Write Circuit, 14-Channel (for ferrite heads)	ML4416C	MicroLinear	
	ML4416RC	MicroLinear	75
Winchester Read/Write Circuit, 15-Channel (for ferrite heads)	ML4415C	MicroLinear	
	ML4415RC	MicroLinear	
Winchester Read/Write Circuit, 8-Channel	ML501	MicroLinear	
	ML501R	MicroLinear	
Winchester Read/Write Pre-Amplifier (2 Channel for Thin Film Heads)	CM812022	CMD Micro	80
Winchester Read/Write Pre-Amplifier (2 Channel, 3 Volt)	CM813022	ℓ CMD Micro	
Winchester Read/Write Pre-Amplifier (2,4 Channel)	CM814610	CMD Micro	
Winchester Read/Write Pre-Amplifier (4 Channel for Thin Film Heads)	CM812024	CMD Micro	
Winchester Read/Write Pre-Amplifier (4 Channel, 3 Volt)	CM813024	ℓ CMD Micro	
Winchester Servo Demodulator	ML4401C	MicroLinear	85
Winchester Spindle Motor Controller (three-phase)	**SSI32M593A**	**SiliconSys** **(3779)**	
X.25 Protocol Controller	MC68605	Motorola	
Zoned Bit Recording Circuit (for hard disk drives)	ML4417C	MicroLinear	
	ML4427C	MicroLinear	
Single Chip Microcontroller Peripheral (256K bits), 44 Pins	PSD301L-25	Philips	90
	PSD301L-30	Philips	
	PSD311L-25	Philips	
	PSD311L-30	Philips	
Single Chip Microcontroller Peripheral (512K bits), 44 Pins	PSD302L-25	Philips	
	PSD302L-30	Philips	95
	PSD312L-25	Philips	
	PSD312L-30	Philips	
Single Chip Microcontroller Peripheral (1M bits), 44 Pins	PSD303L-25	Philips	
	PSD303L-30	Philips	
	PSD313L-25	Philips	100
	PSD313L-30	Philips	
Single Chip Field Programmable Microcontroller Peripheral (256K bits), 44 Pins	PSD301-12	Philips	
	PSD301-15	Philips	
	PSD301-20	Philips	
	PSD301-90	Philips	105
	PSD302-12	Philips	
	PSD302-15	Philips	
	PSD302-20	Philips	
	PSD302-90	Philips	
	PSD311-12	Philips	110
	PSD311-15	Philips	
	PSD311-20	Philips	
	PSD311-90	Philips	
	PSD312-12	Philips	
	PSD312-15	Philips	115
	PSD312-20	Philips	
	PSD312-90	Philips	
Single Chip Field Programmable Microcontroller Peripheral (1M bits), 44 Pins	PSD303-12	Philips	
	PSD303-15	Philips	
	PSD303-20	Philips	120
	PSD303-90	Philips	
	PSD313-12	Philips	
	PSD313-15	Philips	
	PSD313-20	Philips	
	PSD313-90	Philips	125
Single-Chip PC EISA/ISA Mass Storage Controller	AIC7165	Adaptec	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Peripheral Controllers (Cont'd)

Function	Device	Source	Line
Dual Asynchronous Serial/Parallel Port, IBM PC/AT Compatible	Zy16C452	ZyMOS	
Dual Channel NRZI Encoder/Decoder	USCL2002	Universal	
Dual Data Link Controller (DDLC)	MC145488	Motorola	
Dual Universal Serial Communications Controller (CDUSCC)	**SC26C562**	**Philips (3728)**	
Dual Video/Memory Clock Generator	ICS2494	† IntCirSys	5
Dual-Channel Multiprotocol Controller	8274	° Intel	
Quad UART with FIFO	VL16C554	VLSI Tech	
4-Bit Microcontroller	KS51000	Samsung	
	KS55000	Samsung	
14-Channel Two-Terminal Read/Write Circuit	SSI32R5281AR	SiliconSys	10
	SSI32R5281R	**SiliconSys (3778)**	
16-Bit Serial Interface Controller	TC520	TeledyneC	

General Purpose

Function	Device	Source	Line
Microcomputer System Reset	M5247FP	Mitsubishi	
Microcomputer with Tone Generator and LCD Driver	LR4810	Sharp	
Microcomputer with Tone Generator, LCD Driver and Memory	LR4830X	Sharp	15
Microcomputer, 4-Bit, CMOS	LC6527	Sanyo	
	LC6543	Sanyo	
	LC6546	Sanyo	
Microcomputer, 4-Bit, CMOS + A/D, D/A Converter	LC65102A	Sanyo	
	LC65104A	Sanyo	20
	LC65204A	Sanyo	
	LC65404A	Sanyo	
Microcomputer, 4-Bit, CMOS + Infrared Remote Carrier Generator	LC573404A	Sanyo	
	LC573406A	Sanyo	
	LC5851N	Sanyo	25
	LC5872	Sanyo	
	LC5873	Sanyo	
	LC5874	Sanyo	
	LC5876	Sanyo	
Microcomputer, 4-Bit, CMOS with LCD Driver	LC5732N	Sanyo	30
	LC5738	Sanyo	
Microcomputer, 4-Bit (4kx12 ROM, 576x4 RAM, sound generator, LCD driver and Watchdog Timer)	SMC6235	S-MOS	
Microcomputer, 8-Bit (full 8085 instruction set, 2K SRAM, 2K ROM)	DHC8P85	White Tech	
	WC8P85	White Tech	
Microcomputer, 8-Bit (16K E^2 PROM, 3K ROM, 128 bytes RAM)	CAT62C580	Catalyst Semi	35
Microcomputer, 8-Bit (64K E^2 PROM, 64K ROM, 192 bytes RAM)	CAT62C780	Catalyst Semi	
Microcomputer, 8088 Instruction Set (with 16K SRAM, 16K EEPROM)	WC16P88	White Tech	
Microcomputer, 8-Bit (16K ROM, 256 bits RAM)	MSM83C154	OKI	
Microcomputer, 8-Bit (256 bits RAM)	MSM80C154	OKI	
Microprocessor Compatible Real Time Clock	MM58274C	National	40
Microprocessor Micromanager Circuit	DS1236	Dallas	
	DS1238	Dallas	
	DS1239	Dallas	
Microprocessor Monitor (monitors voltage, system activity)	DS1232	Dallas	
Microprocessor Peripheral	M66800	Mitsubishi	45
Microprocessor Programmable Timing Edge Vernier (4 to 40 ns delay)	BT605	Brooktree	
Microprocessor Slice, 4-bit	**29C01**	**‡ Ideal Semi (3645)**	
Microprocessor (Software Compatible with 8-bit 6500 series)	G65SC816	CMD Micro	
Microprocessor Supervisory Circuit	LTC1232C	LinearTech	
	LTC1232I	LinearTech	50
	LTC690C	LinearTech	
	LTC690I	LinearTech	
	LTC691C	LinearTech	
	LTC691I	LinearTech	
	LTC694C	LinearTech	55
	LTC694I	LinearTech	
	LTC695C	LinearTech	
	LTC695I	LinearTech	
Microprocessor Supervisory Circuit (adjustable low line monitor and power down reset)	MAX696	Maxim	
	MAX697	Maxim	60
Microprocessor Supervisory Circuit (low voltage monitor and reset)	MAX1232	Maxim	
	MAX1232C	Maxim	
	MAX1232M	† Maxim	
Microprocessor Supervisory Circuit (voltage monitor, watchdog timer, reset)	MAX694C	Maxim	
	MAX694M	† Maxim	65
	MAX695C	Maxim	
	MAX695M	† Maxim	
	MAX696C	Maxim	
	MAX696M	† Maxim	
	MAX697C	Maxim	70
	MAX697M	† Maxim	
Microprocessor Supervisory Circuit (watchdog timer, battery switchover/monitor, reset generator)	MAX790C	Maxim	
	MAX790M	† Maxim	
	MAX791C	Maxim	
	MAX791M	† Maxim	75
Microprocessor Voltage Regulator (supervisory circuit)	MC33160	Motorola	
	MC34160	Motorola	
Microprocessor Watchdog Timer, Battery Switchover, Reset Generator	MAX690AC	Maxim	
	MAX690AE	Maxim	
	MAX690AM	† Maxim	80
	MAX690C	Maxim	
	MAX690M	† Maxim	
	MAX691C	Maxim	
	MAX691M	† Maxim	
	MAX692AC	Maxim	85
	MAX692AE	Maxim	
	MAX692AM	† Maxim	
	MAX692C	Maxim	
	MAX692M	† Maxim	
	MAX693C	Maxim	90
	MAX693M	† Maxim	
	MAX802LC	Maxim	
		(Continued)	
Microprocessor Watchdog Timer, Battery Switchover, Reset Generator (Cont'd)	MAX802LE	Maxim	
	MAX802MC	Maxim	
	MAX802ME	Maxim	95
Microprocessor, 8-Bit	IL8080	Lansdale	
Microprocessor, 12-Bit	MP3274	MicroPwr	
Microprocessor, 16/32-Bit (16 MHz HCMOS)	MC68HC000	° Motorola	
Microprocessor, 32-Bit (MIL-STD-1750A or RISC mode)	UT1750AR	UTMC	
Microprocessor, 32-Bit RISC	IDT79R2000	‡ IDT	100
Microprocessor, 32-Bit (8 and 10 Mhz)	SC32	Sil Composers	
Microprocessor-Watchdog, Battery Switchover, reset Generator	MAX694	† Maxim	
	MAX695	† Maxim	
Microcontroller with Embedded Real-Time Clock	DS5000T	Dallas	
Microcontroller, 4-Bit (1Kx8 ROM, 32x4 RAM)	BU2430L	ROHM	105
	BU2431L	ROHM	
Microcontroller, 4-Bit (1Kx8 ROM, 32x4 RAM, 4 I/O)	BU2418L	ROHM	
	BU2419L	ROHM	
	BU2422L	ROHM	
Microcontroller, 4-Bit (1Kx8 ROM, 64x4 RAM)	BU2421	ROHM	110
	BU2425	ROHM	
Microcontroller, 4-Bit (4Kx8 ROM, 256x4 RAM, 12 I/O ports)	BU24410L	ROHM	
Microcontroller, 4-Bit (4096x8 ROM, 128x4 RAM, 10 I/O ports)	BU24407L	ROHM	
Microcontroller, 4-Bit (640x8 ROM, 16x4 RAM)	BU2403L	ROHM	
	BU2404L	ROHM	115
	BU2428L	ROHM	
	BU2429L	ROHM	
Microcontroller, 4-Bit (8Kx8 ROM, 256x8 RAM, 12 I/O ports)	BU24805L	ROHM	
	BU24809L	ROHM	
Microcontroller, 4-Bit (8Kx8 ROM, 512x8 RAM)	BU24807	ROHM	120
Microcontroller, 4-Bit (8192x8 ROM)	BU24808L	ROHM	
Microcontroller, 8-Bit (I^2C serial interface, 3Kx8 ROM, 224x8 RAM)	PCD3343	Philips	
Microcontroller, 8-Bit (with OTP EPROM)	PIC16C54HS	Microchip	
	PIC16C54RC	Microchip	
	PIC16C54XT	Microchip	125
	PIC16C55HS	Microchip	
	PIC16C55RC	Microchip	
	PIC16C55XT	Microchip	
	PIC16C56HS	Microchip	
	PIC16C56RC	Microchip	130
	PIC16C56XT	Microchip	
	PIC16C57HS	Microchip	
	PIC16C57RC	Microchip	
	PIC16C57XT	Microchip	
Microcontroller, 8-Bit (with ROM)	PIC16CR54HS	Microchip	135
	PIC16CR54RC	Microchip	
	PIC16CR54XT	Microchip	
Microcontroller, 8-Bit (with 32K EEPROM, 8K SRAM)	WC8P31	White Tech	
Microcontroller, 8-Bit (1.5Kx8 ROM, 64x8 RAM)	PCF84CF12	Philips	

† Mil Temp Range (−55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
General Purpose (Cont'd)			
Microcontroller, 8-Bit (1.5Kx8 ROM, 64x8 RAM, DTMF/Modem tone outputs)	PCD3347	Philips	
Microcontroller, 8-Bit (16K ROM, 512 bytes RAM, 15 bytes dual port RAM)	HD6473308	Hitachi	
Microcontroller, 8-Bit (2Kx8 ROM, 224x8 RAM, DTMF/Modem tone outputs)	PCD3344	Philips	
Microcontroller, 8-Bit (2Kx8 ROM, 64x8 RAM)	PCF84C22	Philips	
Microcontroller, 8-Bit (2Kx8 ROM, 64x8 RAM, I^{2}C serial interface)	PCF84C21	Philips	5
Microcontroller, 8-Bit (4K ROM, 64x8 RAM)	PCF84C42	Philips	
Microcontroller, 8-Bit (4Kx8 ROM, 128x8 RAM, I^{2}C serial interface)	PCF84C41	Philips	
Microcontroller, 8-Bit (4Kx8 ROM, 128x8 RAM, LCD driver, I^{2}C serial interface)	PCF84C430	Philips	
Microcontroller, 8-Bit (4Kx8 ROM, 224x8 RAM, DTMF/Modem tone outputs)	PCD3349	Philips	
Microcontroller, 8-Bit (8Kx8 ROM, 256x8 RAM, I^{2}C serial interface)	PCF84C81	Philips	10
Microcontroller, 16-Bit (1M RAM, A/D Converters, 40MHz)	HPC46100	National	
Microcontroller, 16-Bit (16K EPROM, 256K RAM, 30MHz)	HPC167064	† National	
	HPC467064	National	
Microcontroller, 16-Bit (16K ROM, 512 bytes RAM, A/D Converter)	MSM66301	OKI	
Microcontroller, 68020-Based (with 32Kx32 EEPROM, 32Kx32 SRAM)	C32P020	White Tech	15
	WC32P020	White Tech	
Microcontroller, 4-Bit (with VF display driver)	MSM58422	OKI	
	MSM6458	OKI	
Microcontroller, 80C31-Based (with 64K-flash program memory and 8K SRAM)	C8P31F-64	White Tech	
	WC8P31F-64	White Tech	20
A/D Converter (8-Bit with 8-channel multiplexer)	TC35095A	Toshiba	
A/D Converter (8-Bit with 1-channel multiplexer)	TC35098A	Toshiba	
A/D Converter (8-Bit with 2-channel multiplexer)	TC35097A	Toshiba	
A/D Converter (8-Bit with 4-channel multiplexer)	TC35096A	Toshiba	
A/D Converter (8-Bit with 8-channel multiplexer)	TC35094	Toshiba	25
	TC5093A	**Toshiba (3838)**	
A/D Converter, 16-Bit Sigma-Delta Type	DSP56ADC16	Motorola	
Address/Data Buffer Circuit	WD7625LV	ℓ Western	
Address Decoder (68000 interface)	USC68HC138	Universal	
Advanced Burst Error Processor (implements Reed-Solomon code for X3B11 and ISO Continuous Serud Standard)	AM95C94	AMD	30
Analog I/O Port with 12-Bit ADC and 12-Bit DAC	**AD7868**	**AD (3507, 3514)**	
Analog Input Data Acquisition Controller for A/D Converter	CY600	Cybernetic	
Analog Input, Multiplexer, A/D (analog to pulse width output)	µA9708	National	
Analog Output, D/A Converter, Latched Input	NE5018	Philips	
Arithmetic Logic/Multiplier, Floating Point Set	IDT721265	IDT	35
	IDT72264	IDT	
Arithmetic Processor	AM9511A	AMD	
	8231A	Intel	
Asynchronous Communication Interface Adapter	HD63A50	Hitachi	
	HD6350	Hitachi	40
	MC6850	Motorola	
	EF68A50	SGS-Thomson	
	EF68B50	SGS-Thomson	
	EF6850	SGS-Thomson	
Asynchronous Communications Adapter (bus interface to 68000)	USC68HC551	Universal	45
Asynchronous Communications Element (ACE)	HM8250B	Hualon Micro	
	HM83450	Hualon Micro	
Asynchronous Communications Element (ACE) with Parallel Port	WD16C551	Western	
Asynchronous Communications Element, Parallel and Dual	KS82C462	Samsung	
Asynchronous Communications Interface Adapter (ACIA)	CDP65C51A	Harris	50
	CDP68C51A	Harris	
AT-to-SCSI Host Adapter (supports up to 56 logical devices)	AIC6260A	Adaptec	
Backplane Transceiver Logic (BTL) Transceiver	DS3893A	National	
Bar Code Processor	NCR8301	NCR	
Battery Backup Circuit	**ICL7673**	**Harris (3638)**	55
	ICL7673C	**Harris (3638)**	
	ICL7673I	**Harris (3638)**	
Battery backup control circuit (with dual alarms)	MB3790	Fujitsu	
Battery Backup IC for 1-Chip CPU	S8420BF	Seiko Instr	
Battery Capacity Monitor/Charge Controller for Battery Pack or System Integration	bq2011	Benchmarq	60
	bq2013	Benchmarq	
Battery Capacity Monitor for Battery Pack or System Integration	bq2010	Benchmarq	
	bq2012	Benchmarq	
Battery Charger, NiCd	ICS1700	† IntCirSys	
Battery Fast Charge Controller and Discharge Monitor	bq2001	Benchmarq	65
Battery Fast Charge IC for Nickel Cadium Batteries	bq2003	Benchmarq	
Battery Manager (Battery Backup Switch/Monitor)	MAX1259C	Maxim	
	MAX1259M	† Maxim	
Battery-Powered Supply System (with microprocessor supervisory circuit)	MAX714C	Maxim	
	MAX714E	Maxim	70
	MAX714M	† Maxim	
	MAX715C	Maxim	
	MAX715E	Maxim	
	MAX715M	† Maxim	
BITBLT Processing Unit	DP8510	National	75
BITBLT Processing Unit (20 MHz)	DP8511	National	
Block Transfer Buffer	LR3205	LSI Logic	
Boundary Scan Interface Circuit (driver)	LT54TC32	† LSTI	
	LT74TC32	LSTI	
Boundary Scan Interface Circuit (receiver)	LT54TV32	† LSTI	80
	LT74TV32	LSTI	
BTL Arbitration Transceiver	DS3885	National	
BTL Handshake Transceiver	DS3884	National	
BTL 9-Bit Data Transceiver	DS3883	National	
	DS3886	National	85
Buffer Management Circuit	WD7615	Western	
Burst Error Processor	AM9520	AMD	
Bus Compatible Digital PWM for Direct Control of a Power H-Bridge (provisions for dead time, output protection)	IXDP610	IXYS	
Bus Controller for Testability Driver	LT54TC16	† LSTI	
Bus Controller, I^{2}C (interface between standard parallel-bus and the serial I^{2}C bus)	PCD8584	Philips	90
Bus Controller Remote Terminal Interface (for MIL-STD–1553B bus)	VM1553	VLSI Tech	
Bus Exchange, Multiple (4-bit by 4-port)	AM29C982	* AMD	
	AM29C983	* AMD	
Bus Interface Adapter PC/AT	**TC85041**	**Toshiba (3833)**	
Bus Interface Logic Circuit	CY7C964	Cypress	95
Bus Master Interface for AT Bus (and Intel 82596 LAN Controller)	AT9020	PLX Tech	
Bus Master Interface for AT Bus (and National's DP83932)	AT9010	PLX Tech	
Bus Master Interface for Micro-Channel (and Intel 82596 LAN Controller)	MC9020	PLX Tech	
Bus Master Interface for Micro-Channel (and National DP83932 LAN Controller)	MC9010	PLX Tech	
Bus Monitor for Testability (receiver)	LT54TV16	† LSTI	100
Bus Transceiver, SCSI	NCR83C10	NCR	
	NCR83C11	NCR	
Bus Transceiver, SCSI (48 mA)	NCR8310	NCR	
Cache Controller (part of SparKIT–20 chipset)	L64824	LSI Logic	
Cache Controller, Secondary (for MC88110 with MCM62110)	MC88410	Motorola	105
Cache Memory Subsystem	µPD43608	NEC	
Cascadable Adaptive Finite Impulse Response Filter (CAFIR)	DSP56200	Motorola	
CD-I ADPCM Decode Processor	**YM6064**	**Yamaha (3866)**	
CD-I Data Controller	**YM6063**	**Yamaha (3866)**	
Central Processing Unit (CPU)	L64811	LSI Logic	110

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value ᶜ Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR–System Components (Cont'd)

General Purpose (Cont'd)

Function	Device	Source
Centronics I/O Interface and RS-232C	TC8576AF	Toshiba
Centronics I/O with RS-232-C Port	**TC8576A**	**Toshiba (3833)**
Centronics Input and RS-232C	TC8578AP	Toshiba
Centronics Input with RS-232 Port	**TC8578A**	**Toshiba (3833)**
Centronics Output and RS-232C	TC8577AP	Toshiba
Centronics Output with RS-232 Port	**TC8577A**	**Toshiba (3833)**
Character Generator	HM23C07	Hualon Micro
Chip Set For PC/XT Compatible Systems	VG100A/200A	Vadem
	VG110/210	Vadem
Chip Set For PS/2 Mod. 30 Or PC/XT Compatible Systems	VG501/502	Vadem
Clear/Acquisition Coder (generates the C/A codes and other timing information required in GPS receivers)	STEL1023	STEL
Clock Buffer, Programmable Skew (for CMOS logic levels)	CY7B992	Cypress
	CY7B992-7C	Cypress
	CY7B992-7I	Cypress
	CY7B992-7M	† Cypress
Clock Buffer, Programmable Skew (for TTL logic levels)	CY7B991	Cypress
	CY7B991-7C	Cypress
	CY7B991-7I	Cypress
	CY7B991-7M	† Cypress
Clock/Calendar Circuit with Serial I^{2}C Bus	M8716B	SGS-Thomson
Clock/Calendar with Serial I/O (Inter IC interface)	PCF8573	Philips
Clock/Calender, Real-Time	MSM68321	OKI
Clock Circuit	L64863	LSI Logic
Clock Controller (part of SparKIT-20 chipset)	L64823	LSI Logic
Clock Generator	ICD2023	IC DESIGNS
	ICD2027	IC DESIGNS
	IL8224	**Lansdale (3664)**
Clock Generator and Microcycle Length Controller (up to 50 MHz)	AM2925A	AMD
Clock Generator, Crystal	DP8514	National
Clock Generator, ECL/TTL, Dual Programmable	ICD2062A	IC DESIGNS
	ICD2062B	IC DESIGNS
Clock Generator (for medium performance graphics systems)	DP8530	National
Clock Generator, Multi-Board Video (for medium to high-performance CRT graphics systems)	DP8513	National
Clock Generator, Dual VGA	ICD2042A	IC DESIGNS
Clock Oscillator, Programmable	ICD2053A	IC DESIGNS
Clock Oscillator, Dual Programmable	ICD2051	IC DESIGNS
Clock, Real Time	MM58174	National
	MM58274	National
		(Continued)

Function	Device	Source
Clock, Real Time (Cont'd)	MM58274A	National
	S3520	**Seiko Instr (3762)**
Clock, Real Time, 12/24 Hour Format (Uses 8-bit bidirectional data bus)	ICM7170	Harris
Coaxial Transceiver Interface (for Ethernet/Cheapernet LANs)	DP8392C	National
	DP83922C-1	National
Coaxial Transceiver Interface (for Ethernet/Thin Ethernet)	MBL8392A	Fujitsu
Color Palette DAC for PS/2 (40 MHz pixel rate)	AT76C176-40C	ATMEL
	AT76C176-40I	ATMEL
	AT76C176-40M	† ATMEL
Color Palette DAC for PS/2 (50 MHz pixel rate)	AT76C176-50C	ATMEL
	AT76C176-50I	ATMEL
Color Palette DAC for PS/2 (66 MHz pixel rate)	AT76C176-66C	ATMEL
Color Palette Device w/Power Down (pixel rates up to 80 MHz)	AV3677	Avasem
Color Palette for PS/2 (66 MHz pixel rate)	AT76C176A-66	ATMEL
Color Palette for PS/2 (80 MHz pixel rate)	AT76C176A-80	ATMEL
Color Palette for PS/2 (110 MHz pixel rate)	AT76C176A-110	ATMEL
Color Palette (Three 4-Bit Video DACs)	TMS34070-66	° TI
Color Palette (256x18) with Triple 6-Bit DAC, 110 MHz	MU9C4870-11	Music
	MU9C4870A-11	Music
	MU9C4870V-11	Music
	TR9C1710-11	Music
Color Palette (256x18) with Triple 6-Bit DAC, 125 MHz	MU9C4870-12	Music
	MU9C4870A-12	Music
	MU9C4870V-12	Music
Color Palette (256x18) with Triple 6-Bit DAC, 50 MHz	TR9C1710-50	Music
Color Palette (256x18) with Triple 6-Bit DAC, 66 MHz	MU9C4870-66	Music
	MU9C4870A-66	Music
	MU9C4870V-66	Music
	TR9C1710-66	Music
Color Palette (256x18) with Triple 6-Bit DAC, 80 MHz	MU9C4870-80	Music
	MU9C4870A-80	Music
	MU9C4870V-80	Music
	TR9C1710-80	Music
Color Palette (256x18) with Triple 8-Bit DAC, 110 MHz	MU9C4910-11	Music
	MU9C4910V-11	Music
Color Palette (256x18) with Triple 8-Bit DAC, 125 MHz	MU9C4910-12	Music
	MU9C4910V-12	Music
Color Palette (256x18) with Triple 8-Bit DAC, 90 MHz	MU9C1880-90	Music
	MU9C4910-90	Music
	MU9C4910V-90	Music
Color Palette (256x24)	TLC34058	TI
Communications, Biphase Processor (processes IBM 3270, 3299 and 5250 protocols)	DP8344	National
Consumer Electronics Bus Controller	SN75C080	TI
Controller, VMEbus Slave Controller	VME2000	PLX Tech

Function	Device	Source
Controller, VSBbus Master Controller (chip set)	VSB1400	PLX Tech
Controller, VSBbus Slave Controller	VSB2000	PLX Tech
Coprocessor, 32-Bit RISC Floating Point Accelerator	PR3010-16XC	Performance
	PR3010-16XM	† Performance
	PR3010-20XC	Performance
	PR3010-20XM	† Performance
	PR3010-25XC	Performance
	PR3010-25XM	† Performance
Counter, Elapsed Time	DS1602	Dallas
Counter/Timer, 24-Bit, 50 MHz	**MD5024**	**MicroNet (3694)**
CPU Module	CYM6001	Cypress
CPU Module (for multiprocessing)	CYM6003	Cypress
Crossbar Switch (30 MHz)	L64270-30	LSI Logic
CRT Controller, ACRTC	SCC63484	Philips
CRT Display Controller	**TC8505A**	**Toshiba (3833)**
CRT Programmable video Timing Controller, Turbo	SCN26727	Philips
CRT Video Display Controller, Turbo	SCN2674T	Philips
CRT Video Driver Amplifier	LH2422	National
Cryptographic Data Security Element (12 Mbps data rate)	99C003	CE Infosys
Data Acquisition System, Small Signal	**AD7850**	**AD (3539)**
Data Acquisition System, 8-Channel, 16-Bit	**MN7450**	**MicroNet (3691)**
	MN7451	**MicroNet (3691)**
Data/Address Buffer	KS82C203	Samsung
Data Buffer (part of SparKIT-20 chipset)	L64822	LSI Logic
Data Buffer, Dual-Port Bidirectional (32Kx8)	µPD42532	NEC
Data Ciphering Processor (encrypts and decrypts data)	AM9568	AMD
Data Ciphering Processor (for data encryption)	Z8068	Zilog
Data Compression Coprocessor	AHA3101	AHA
	AHA3210	AHA
	9703	Stac
	9704	Stac
Data Encryption Unit	8294	Intel
Data Retention Module (converts CMOS SRAM to non-volatile RAM)	DRM	Catalyst Rsch
	DRM2	Catalyst Rsch
Data Synchronizer (all code)	DP8459	National
DES Data Ciphering Processor	CA95C09	† Newbridge
	CA95C68	† Newbridge
DES Data Ciphering Processors	CA95C18	† Newbridge
Digital Pulse Width Modulator (programmable frequency)	CDP68HC68W1	Harris
Digital Signal Processor (Microcomputer including 16x16 Multiplier, RAM, ROM for rapid signal processing)	MB87064	Fujitsu

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

General Purpose (Cont'd)

Function	Device	Source	Line
Digital Signal Processor (Microcomputer including 24x24 Multiplier, RAM.ROM for rapid signal processing)	DSP56000	Motorola	
Digital Signal Processor, Microcontroller (EPROM version)	TMS320E14	° TI	
Digital Signal Processor (EPROM version of TMS320C25)	TMS320E25	TI	
Digital Signal Processor (16/32-bit)	TMS320E15	° TI	
Digital Signal Processor, 16-Bit (CMOS first generation)	SMJ320C10-25	°† TI	5
	SMJ320C15-25	°† TI	
Digital Signal Processor, 16-Bit (first generation)	SMJ320E15	°† TI	
Digital Signal Processor, 16-Bit (NMOS second generation)	SMJ32020	† TI	
Digital Signal Processor, 16-Bit (second generation)	SMJ320C25-50	°† TI	
Digital Signal Processor, 16-Bit (10 MHz)	SMJ320C10	°† TI	10
Digital Signal Processor, 16-Bit (15 MHz)	SMJ320C15	°† TI	
Digital Signal Processor, 16-Bit (25 MHz)	SMJ320C25	°† TI	
Digital Signal Processor, 25 MHz EPROM Version of TMS320C15	TMS320E15-25	° TI	
Digital Signal Processor, 25 MHz Version of TMS320C15	TMS320C15-25	° TI	
Digital Signal Processor, 32-Bit Floating Point	TMS320C30	° TI	15
Digital Signal Processor, 50 MHz CMOS Fixed Point	TMS320C25-50	° TI	
Digital Signal Processor (2K RAM—program, 1K RAM—data)	**ADSP2101**	° **AD** **(3519)**	
	ADSP2101-40	° **AD** **(3519)**	
	ADSP2101-50	° **AD** **(3519)**	
	ADSP2102	° **AD** **(3519)**	20
Direct Color SYNDAC, 24-Bit, 110 MHz	MU9C9910-11	Music	
	MU9C9910V-11	Music	
Direct Color SYNDAC, 24-Bit, 125 MHz	MU9C9910-12	Music	
	MU9C9910V-12	Music	
Direct Color SYNDAC, 24-Bit, 90 MHz	MU9C9910-90	Music	25
	MU9C9910V-90	Music	
Direct Color SYNDAC (256x18), Triple 6-Bit DAC, 50 MHz	MU9C9760-50	Music	
	MU9C9760A-50	Music	
	MU9C9760V-50	Music	
Direct Color SYNDAC (256x18), Triple 6-Bit DAC, 66 MHz	MU9C9760-66	Music	30
	MU9C9760A-66	Music	
	MU9C9760A-80	Music	
	MU9C9760V-66	Music	
Direct Color SYNDAC (256x18), Triple 6-Bit DAC, 80 MHz	MU9C9760-80	Music	
	MU9C9760V-80	Music	35
DMA Address Generator	MAS2940	GEC Plessey	
DMA Controller	L64853	‡ LSI Logic	
	L64853A	‡ LSI Logic	
	M5M82C37A-5	Mitsubishi	
DRAM Controller	LR3203	LSI Logic	40
	L64850	‡ LSI Logic	
DRAM Controller (part of SparKIT–20 chipset)	L64826	LSI Logic	
DRAM Data Buffer	LR32D04	LSI Logic	
DS–3 Line Interface with Receive Equalizer	SSI78P200	SiliconSys	
DUART	SCC2692	Philips	45
	SCC2692C	Philips	
	SCC68692	Philips	
	2681	† Philips	
	2692	† Philips	
	68681	† Philips	50
Dynamically Programmed Timing Edge Vernier (4 to 40 ns delay)	BT604	Brooktree	
EISA Bus Master Interface Chip Intel 82596 Mode	EISA9032	PLX Tech	
EISA Bus Master Interface for Intel 82596 Controller	EISA9020BV	PLX Tech	
EISA Busmaster Interface for National SONIC-T DP83934 or SONIC DP83932 LAN Controller	EISA9010BV	PLX Tech	
Elapsed Time Counter Module	DS1603	Dallas	55
Electronic Configurator (NV switch comparator and RAM), for remotely configuring equipment	DS1223	Dallas	
Electronic Key (128-bit NVRAM) with security system, user insertion	DS1204U	Dallas	
Electronic Key (1024-bit NVRAM), user insertion	DS1201	Dallas	
ENDEC, 6-Channel 1,7 (RLL) with Write Compensation	VM5601	VTC	
Enhanced Floating Point Coprocessor (HCMOS)	MC68882	Motorola	60
Error Correction Code Processor	9707	Stac	
Error Correction Device, 8-bit, 10Mbs	AHA4011	AHA	
Error Correction Encoder/Decoder, 10 MHz	AHA4010	AHA	
Error Correction Encoder/Decoder, 15 MHz	AHA4510	AHA	
Error Detection and Correction Circuit (16-bit)	AM29C60AC	AMD	65
Error Detection and Correction Unit, 32-Bit	IDT49C460C	° IDT	
	IDT49C460D	IDT	
Error Detection and Correction Unit, 32-Bit Flow-Through	IDT49C465	IDT	
Ethernet Interface, Universal Twisted Pair	**MB86961A**	**Fujitsu** **(3632)**	
Floating Point Accelerator for LR3000–16 CPU (16.7 MHz)	LR3010-16	LSI Logic	70
Floating Point Accelerator for LR3000–20 CPU (20 MHz)	LR3010-20	LSI Logic	
Floating Point Accelerator for LR3000–25 CPU (25 MHz)	LR3010-25	LSI Logic	
Floating Point Accelerator for LR3000–33 CPU (33 MHz)	LR3010-33	LSI Logic	
Floating Point Accelerator (for R2000A CPU)	IDT79R2010A	IDT	
Floating Point Accelerator (for R3000 CPU)	IDT79R3010	IDT	75
Floating Point Accelerator (32-bit)	79R2010	† Intel	
	79R3010	† Intel	
Floating Point Accelerator, 32-Bit RISC	IDT79R2010	‡ IDT	
Floating Point Controller (FPC)	L64812	LSI Logic	
Floating Point Controller (20 MHz)	NS32580-20	National	80
Floating Point Controller (30 MHz)	NS32580-30	National	
Floating Point Coprocessor (HCMOS)	MC68881	° Motorola	
Floating Point Processing Unit	8232	Intel	
Floating Point Processor Chip Set	F100893/94	National	
Floating Point Unit (FPU)	L64814	LSI Logic	85
Floating-Point Unit (64-bit mult., 64-bit ALU, 64-bit divide/Sq. Rt.)	L64804	LSI Logic	
Floppy Disk Controller	TC8565A	Toshiba	
Function Generator, D/A Controller	CY360	Cybernetic	
Futurebus Interface Chip, Compelled Interface	CA91C899	Newbridge	
General Purpose Fixed Point Digital Signal Processor (27 MHz)	DSP56001	Motorola	90
Graphics Accelerator, 32-bit for ISA bus	AGX014	Int Info Tech	
Graphics Accelerator, 32-bit for VESA bus	AGX015	Int Info Tech	
Graphics Buffer, Dual Port	µPD482234	NEC	
	µPD482235	NEC	
Graphics Clock Generator, Dual Programmable	ICD2061A	IC DESIGNS	95
Graphics Color Palette (with 256x8 color map and video DAC)	AM8151A	AMD	
Graphics Controller Chip (hardware windowing, 3 types CRT scanning: sequential, interfaced, sync, and interlaced sync and video)	HD64400	Hitachi	
Graphics Floating Point Processor	TMS34082	° TI	
Graphics Processor (off-loads host CPU for graphics)	TMS34010	°† TI	
	TMS34020	° TI	100
Graphics, Raster Graphics Procesor (20 MHz)	DP8500	National	
Graphics Signal Processor (50 MHz)	SMJ34010-50	° TI	
Graphics System Processor (32-bit fully programmable)	TMS34010-40	° TI	
	TMS34010-50	° TI	
Graphics Systems Processor, High Performance	MB86990	Fujitsu	105
HD6301-Based Embedded Control System (up to 64K of lithium backed NVSRAM for program/data storage)	DS2301	Dallas	
High Resolution Color Palette for RGB Color Display (110 MHz pixel rate)	AT76C176A-11C	ATMEL	
	AT76C176A-13C	ATMEL	
	AT76C176A-50C	ATMEL	
	AT76C176A-50I	ATMEL	110
	AT76C176A-50M	† ATMEL	
	AT76C176A-66C	ATMEL	
	AT76C176A-66I	ATMEL	
	AT76C176A-66M	† ATMEL	
	AT76C176A-80C	ATMEL	115
	AT76C176A-80I	ATMEL	
Histogrammer/Accumulating Buffer (for image and signal analysis)	**HSP48410**	**Harris** **(3637)**	

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

General Purpose (Cont'd)

Function	Device	Source	Line
I/O Expander, Parallel	M66500	Mitsubishi	
I/O Expander, 12-bit with Serial Bus	M66006FP	Mitsubishi	
	M66009FP	Mitsubishi	
	M66010FP	Mitsubishi	
	M66011FP	Mitsubishi	5
I/O, Parallel (16 eight bit ports)	GD9620	GoldStar	
I/O Port	CDP68HC68P1	Harris	
I/O Port, 8-Bit Bidirectional w/Handshake	AM2950A	MSI/Scorpion	
I/O, 8-Bit Bidirectional	MAS2952	GEC Plessey	
IBM PC/XT/AT Floppy Disk Formatter/Controller	MCS3201	Motorola	10
Image and Signal Processing Subsystem (for 1-D and 2-D digital convolution and correlation)	IMSA110	SGS-Thomson	
Image Compressor, 20 Msps (Chip-set w/ AHA3371)	AHA3370	AHA	
Image Decompressor, 10 Msps (Chip-set w/ AHA3370)	AHA3371	AHA	
Input Expander, 12-bit with Serial Bus	M66007FP	Mitsubishi	
	M66007P	Mitsubishi	15
Input/Output Parallel-Serial Expander, 12-Bit	MB88362	Fujitsu	
Input/Output Parallel-Serial Expander, 15-Bit	MB88361	Fujitsu	
Input/Output Port	**IL8212**	**Lansdale (3664)**	
Input/Output Processor (with 32 channel DMA processor)	**SC26C460**	**Philips (3726)**	
	SC68C460	**Philips (3726)**	20
Integrated backup (combines non-volatile SRAM controlled with reset and a high capacity lithium cell)	bq2502	Benchmarq	
Intelligent Dual Port Burst Memory (25MHz and 33MHz)	MS443	Mosel-Vitelic	
Interface, Micro Channel Bus to Peripherals	MCI94C18A	SMC	
Intgrated backup (combines non-volatile controller with reset and backup cell monitor outputs and a high capacity lithium cell)	bq2503	Benchmarq	
ISA Bus Gasket. Converts the ISA bus standard to the 53C700 chip.	NCR86C70	NCR	25
JPEG Color Image Compression Processor	LC8220	Sanyo	
Kickstarter Circuit (combines power conversion and microenergy management functions for battery operated systems)	DS1227	Dallas	
L-Bus Controller	LR3202A	LSI Logic	
LAN Communications Processor (contains 16-Bit CPU, 2.75 Kbytes RAM)	TMS38010	TI	
LAN Protocol Handler (performs hardware based protocol functions for 4 Mb/s token ring)	TMS38020	TI	30
LAN Ring Interface Controller	TMS38052	TI	
LAN Ring Interface Transceiver (D and A circuitry to connect the adapter chipset to a 4 Mb/s token ring)	TMS38051	TI	

Function	Device	Source	Line
LAN (StarLAN Transceiver)	XRT82C516	Exar	
	XRT82515	Exar	
LAN System Interface Chip (provides up to 40 Mb/s data to host via DMA bus master transfer)	TMS38030	TI	35
LCD VGA Controller (with RAMDAC)	SPC8100	S-MOS	
Line Buffer, Dual-Port (5Kx8, asynchronous)	µPD42505	NEC	
Logarithmic Gain/Attenuator, Microprocessor Compatible	ML2008C	MicroLinear	
	ML2008I	MicroLinear	
	ML2009C	MicroLinear	40
	ML2009I	MicroLinear	
Logic Sequencer, 14x48x6	TIB825167BM	TI	
Logic Sequencer, 16x48x8	TIB825105BM	TI	
Low Power 2.4K RAM with Indexed and Relative Addressing Modes	V7027	EM Micro	
MAC, 32-Bit	MB92411	Fujitsu	45
Magneto-Resistive Preamp, Quad (for disk drives)	IMP52C415	IMP	
Mailbox Memory (dual 128x8)	M66222	Mitsubishi	
Mailbox Memory (256x8)	M66220	Mitsubishi	
Mailbox Memory (256x9)	M66221	Mitsubishi	
Manchester Decoder and Interface (10 Mbp/s decoding)	T7210	AT&T	50
Manchester Encoder/Decoder	MAS15530	GEC Plessey	
	HD15530	Harris	
	HD15530-8	Harris	
	HD15530-9	Harris	
	HD15531-8	Harris	55
	HD15531-9	Harris	
	HD15531/883	† Harris	
	HD15531B-8	°† Harris	
	HD15531B/883	°† Harris	
	HD15531B9	Harris	60
Manchester Encoder/Decoder.	HD6409-CELL	Harris	
Manchester Encoder/Decoder	HD6409-9	Harris	
Manchester Encoder/Decoder.	HD6409/883	† Harris	
Manchester Encoder/Decoder	HS15530RH	‡ Harris	
Master Peripheral Controller	**YM7302**	**Yamaha (3866)**	65
MBus to SBus Interface	L64862	LSI Logic	
Mbus to Standard I/O Bus Interface	L64851	LSI Logic	
Memory Array Controller	NCR52C60	NCR	
Memory Card Interface	L6603	SGS-Thomson	
	L6604	SGS-Thomson	70
Memory, Converts Byte Wide JEDEC to 3-Wire Serial Port	DS1280	Dallas	
Memory Management and Protection Unit, MIL-STD-1750A (CMOS)	P1753-20XM	† Performance	
	P1753-30XM	† Performance	
	P1753-40XM	† Performance	

Function	Device	Source	Line
Memory Management Unit/Cache Controller	L64815	LSI Logic	75
Memory Management Unit (part of SparKIT-20 chipset)	L64821	LSI Logic	
Memory Management Unit (16K cache)	MC88200	° Motorola	
Memory, Quad Port Serial RAM (64-Bits per port)	DS2015	Dallas	
Micro Channel Interface Unit (IBM PS/2 Micro Channel compatibility)	MB86954	Fujitsu	
Micro Softener Chip (converts SRAM into lithium backed NV program/data storage, compatible with HD6303X or Y processors)	DS5303	Dallas	80
	DS5311	Dallas	
	DS5340	Dallas	
	DS5396	Dallas	
Microprogram Controller	CY2910AC	Cypress	
	TS2910	Thomson Comp	85
Microprogram Controller (CMOS)	**29C10**	‡ **Ideal Semi (3645)**	
Microprogram Sequencer (CMOS)	**29C09A**	‡ **Ideal Semi (3645)**	
	29C09B	‡ **Ideal Semi (3645)**	
	29C11A	‡ **Ideal Semi (3645)**	
	29C11B	‡ **Ideal Semi (3645)**	90
Microprogram Sequencer, 16-Bit	AM29C111	AMD	
MIL-STD-1553 Advanced Multiplexer (bus controller, remote terminal unit, and bus monitor)	BUS61553	ILC-DDC	
	BUS61555	ILC-DDC	
MIL-STD-1553 Bus Controller, Remote Terminal Unit, and Bus Monitor	BUS65600	ILC-DDC	
	BUS65610	ILC-DDC	95
MIL-STD-1553 to Microprocessor Interface Unit	BUS66312	ILC-DDC	
MIL-STD-1553 Dual-Port RAM Controller	MAS3692	GEC Plessey	
MIL-STD-1750A Microprocessor	MAS281	GEC Plessey	
MIL-STD-1750A Control Unit	MAS17502	GEC Plessey	
MIL-STD-1750A Execution Unit	MAS17501	GEC Plessey	100
MIL-STD-1750A Interrupt Unit	MAS17503	GEC Plessey	
MIL-STD-1750A Memory Management Unit	MAS17504	GEC Plessey	
MIPS Ngine Module	RPM3310	LSI Logic	
	RPM3330	LSI Logic	
Mono Color Graphic Adapter Circuit	HM6311	Hualon Micro	105
Monochrome Display Controller, Advanced	YGV603	Yamaha	
Motherboard Frequency Generator	AV9127	Avasem	
Multi I/O Decoder	HM83456	Hualon Micro	
Multi-Port Repeater Unit Controller (for use in 10BASE5 andf 10BASE2 networks)	T7200	AT&T	
Multi-Port Repeater Unit (MPR2	T7201	AT&T	110

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
General Purpose (Cont'd)			
Multibus II Message-Passing Coprocessor (MPC)	VM82C389	VLSI Tech	
Multifunction Peripheral With Real Time Clock, Asynch. Comm. Port, Parallel Port, ROM Disk IFL	VG603	Vadem	
Multifunction 80188 Family Peripheral ASIC (compatible with 80188/80186 family, 8 MHz, dual serial ports/single parallel port, user interface for LCD, keypad, speaker driver, LED driver)	MS2184	Systronix	
Multilevel Pipeline Registers (four 8-Bit wide Registers)	AM29520A	° AMD	
Multimedia System Controller	SC18000	Sierra	5
	SC18005	Sierra	
Multiple Bus Exchange (9-bit x 4 port)	AM29C983AC	AMD	
Multiple Bus Exchange (9-bit x 4-port)	AM29C983C	AMD	
	AM29C985C	AMD	
Multiplier/Divider, Quad	**AD834**	**AD (3525)**	10
Multiprotocol Controller, Dual Channel	**SCN26C562**	**Philips (3728)**	
	SCN26542	Philips	
	SCN26562	**Philips (3728)**	
	SCN68542	Philips	
	SC68C562	**Philips (3728)**	15
Multiprotocol Processor (supports ISDN basic rate and terminal adaptor applications)	MC68302	Motorola	
	TS68302	Thomson Comp	
Network Interface Controller	DP8390D	National	
	NS32490D	National	
Non-volatile controller with reset and backup cell monitor outputs (converts CMOS SRAM to non-volatile memeory)	bq2203	Benchmarq	20
Nonvolatile Controller Circuit (CMOS)	CM1210	CMD Micro	
Nonvolatile Controller (converts CMOS RAMs to nonvolatile storage)	DS1210	Dallas	
	DS1211	Dallas	
	DS1212	Dallas	
	DS1221	Dallas	25
	DS1221S	Dallas	
Nonvolatile Controller (converts CMOS static RAMs into nonvolatile memories)	DS1234	Dallas	
Nonvolatile Controller (with rechargable lithium cell input/output, converts CMOS static RAMs into nonvolatile memories)	bq2201	Benchmarq	
	bq2202	Benchmarq	
Nonvolatile Controller (with rechargeable lithium cell input/output, converts CMOS static RAMs into nonvolatile memories)	bq2204	Benchmarq	30
Nonvolatile Program/Data Memory and I/O Port Expander	X88C75	Xicor	
Nonvolatile RAM Controller (partitioned)	DS1610	Dallas	
Nonvolatile SRAM Plus Real Time Clock (2Kx8)	MK48T02	SGS-Thomson	
	MK48T12	SGS-Thomson	
Nonvolatile SRAM Plus Real Time Clock (8Kx8)	MK48T08	SGS-Thomson	35
Nonvolatile SRAM Plus Real-Time Clock (32Kx8)	DS1244	Dallas	

Function	Device	Source	Line
Nonvolatile SRAM Plus Real-Time Clock (8Kx8)	DS1243	Dallas	
NRZI Encoder/Decoder, Dual Channel (with digital PLL)	USCSL2002	Universal	
Orthogonal Rotation Processor (performs rotation of font characters or blocks of bit-mapped data)	AM95C76	AMD	
Panel Display Controller (VGA Compatible)	V6388	Yamaha	40
Panel Display/CRT Display Controller	**V6366C-F**	**Yamaha (3865)**	
Parallel I/O Interface	KS82C411	Samsung	
Parallel Interface Timer for MC68000 Systems	MC68230	° Motorola	
Parallel Interface Timer for TS68000 Systems	TS68230	Thomson Comp	
PC Address/Data Buffer Driver Circuit	SE2010X	Samsung	45
PC/AT Compatible Combination I/O Chip	VM82C106	VLSI Tech	
PC/AT Page/Page Interleaved Memory Controller (for 386 systems)	MCS2300	Motorola	
PC/AT System Controller (for 386 systems)	MCS2500	Motorola	
PC Bus Interface Unit (for LAN controllers)	MB86953	Fujitsu	
PC Printer Driver Circuit	SE2011X	Samsung	50
PCM Sound Generator Circuit	RF5C68A	Ricoh	
PCMCIA Ethernet Combo	78Q8370	SiliconSys	
PCMCIA Host Adapter	CL-PD6710	Cirrus	
	CL-PD6720	Cirrus	
Peripheral Cache Manager	WD61C40A	Western	55
Peripheral Clamping Array	TCF6000	Motorola	
Peripheral Driver Addressable	NE590	Philips	
	NE591	Philips	
Peripheral Interface Adapter	HD6321	Hitachi	
	MC6821	Motorola	60
	EF68A21	SGS-Thomson	
	EF68B21	SGS-Thomson	
	EF6821	SGS-Thomson	
Personal Computer Power FET Switch Circuit	DS1640	Dallas	
	DS1640C	Dallas	65
Power Supply Monitor with Inverted Reset	MAX702	Maxim	
	MAX702C	Maxim	
Power Supply Monitor with Reset and Inverted Reset Outputs	MAX701	Maxim	
	MAX701C	Maxim	
Power Supply Monitor with Reset, Inverted Reset and Adjustable Voltage Detection	MAX700	† Maxim	70
	MAX700C	Maxim	
Power Surveillance and Battery Switchover Circuit	V6201	EM Micro	
Power Surveillance, Battery Switchover and Watchdog Circuit	V6200	EM Micro	
	V6202	EM Micro	
	V6203	EM Micro	75
Printer/Display Processor (10 MHz)	NS32CG16-10	National	

Function	Device	Source	Line
Printer/Display Processor (15 MHz)	NS32CG16-15	National	
Priority Interrupt	**IL8214**	**Lansdale (3664)**	
Priority Interrupt Controller	AM2914C	AMD	
	M8214	† Intel	80
	SFC2914	SGS-Thomson	
Processor Interface Circuit with Built-In System Test Feature (CMOS)	P1754-20XM	† Performance	
	P1754-30XM	† Performance	
	P1754-40XM	† Performance	
Programmable Amplifier Delay Equalizer	AT76C10E	ATMEL	85
Programmable Clock Generator	DP8531	National	
	DP8532	National	
Programmable Data Coder (Manchester phase encoding)	DC-7	Supertex	
Programmable DMA Controller	MAS8237	GEC Plessey	
Programmable Encoder/Decoder (Manchester phase encoding)	ED-11	Supertex	90
	ED-5	Supertex	
	ED-9	Supertex	
Programmable Encoder (Manchester phase encoding)	ET13	Supertex	
Programmable Frequency Generator	AV9101	Avasem	
	AV9104	Avasem	95
Programmable Frequency Synthesizer (PFS)	SC11328	Sierra	
Programmable Logic Device for Bus Interface Applications (64 mA high drive current)	PLX464	° PLX Tech	
Programmable Parallel Interface	MAS8255	GEC Plessey	
Programmable Tape Formatter/Controller	4010	AHA	
PWM Generator (4 channel, 12-Bit)	M66242	Mitsubishi	100
PWM Generator (4 channel, 16-Bit)	M66240	Mitsubishi	
RAMDAC. CMOS, For PC Graphics	ATT20C491	AT&T	
RAMDAC, CMOS, For PC Graphics	ATT20C475A	AT&T	
RAMDAC, For Hi-Res Graphics (speeds up to 200 MHz)	ATT20C458	AT&T	
RAMDAC, 8-Bit	ATT20C497	AT&T	105
RAMDAC, 256K Color	ATT20C493	AT&T	
RAMDAC, 256K with Gamma Correction	ATT20C492	AT&T	
RAMDAC, 16M Color	ATT20C490	AT&T	
Read Channel Signal Processor	IMP52C464	IMP	
Read/Write Buffer	LR3220	‡ LSI Logic	110
Read/Write Preamplifier, 6-Channel (for ferrite heads)	VM310R	VTC	
Read-Write Buffer, Integrated, Cache-Main Memory Interface for LR3000–25 CPU (25 MHz)	LR3220-25	LSI Logic	
Real Time Clock	M3002	EM Micro	
	M3003	EM Micro	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

General Purpose (Cont'd)

Function	Device	Source	Line
Real Time Clock (Cont'd)	HM68167	Hualon Micro	
	KS68C81	Samsung	
Real Time Clock/Calendar Module (seconds,minutes, hours, day, date, month and year)	RTM3	Catalyst Rsch	
Real Time Clock Module with non-volatile SRAM controller	bq4287	Benchmarq	
Real Time Clock Module, 8-Bit	V3022	ℓ EM Micro	5
	V3023	EM Micro	
Real Time Clock plus NVSRAM	bq3287	Benchmarq	
	bq3287A	Benchmarq	
Real Time Clock Plus RAM (NVRAM)	MK48T87	SGS-Thomson	
Real Time Clock plus RAM (NVRAM) and RAM Clear	MK48T87A	SGS-Thomson	10
Real Time Clock plus RAM (replacement for IBM AT computer clock/calendar)	bq3285	Benchmarq	
Real Time Clock plus SRAM Module (128 bytes)	MCCS146818BM	Motorola	
	MCCS146818B1M	Motorola	
Real Time Clock plus SRAM (128 bytes)	MCCS146818B	Motorola	
Real Time Clock (replacement for IBM AT clock/calendar)	DS12885	Dallas	15
	DS12885Q	Dallas	
	DS12887	Dallas	
	DS12887A	Dallas	
Real Time Clock (serial interface) for 4-Bit CPU	**NJU6355**	**NJR (3705)**	
Real Time Clock, Serialized	DS1585	Dallas	20
	DS1587	Dallas	
Real Time Clock with RAM	HM6818A	Hualon Micro	
	HM6818P	Hualon Micro	
Real Time Clock with 4Kx8 RAM	DS1395	Dallas	
	DS1397	Dallas	25
Real Time Clock (with 4Kx8 RAM; upgrade replacement for IBM AT clock/calendar)	DS1385	Dallas	
Real Time Clock (with 4Kx8 RAM; upgrade replacement for IBM AT clock/calendar)	DS1387	Dallas	
Real Time Clock with 8Kx8 RAM	DS1488	Dallas	
	DS1495	Dallas	
	DS1497	Dallas	30
Real Time Clock with 8Kx8 RAM	DS1485	Dallas	
Real Time Clock, 1-Bit	V3021	ℓ EM Micro	
Real Time Clock, 4-Bit (parallel I/O)	μPD4991A	NEC	
Real-Time Clock	**TC8250A**	**Toshiba (3833)**	
Real-Time Clock (full function real-time clock/calendar)	DP8572A	National	35
	DP8573A	National	
Real-Time Clock Plus RAM (CMOS)	CDP6818A	Harris	
Real-Time Clock plus RAM (NVRAM)	DS1287	Dallas	
Real-Time Clock Plus RAM (replacement for IBM AT computer clock/calendar)	DS1285	Dallas	
	DS1285Q	Dallas	40
Real-Time Clock (with interrupt signal generator and bus interface controller)	NJU6352	NJR	
Real-Time Clock with Nonvolatile SRAM Controller	bq4285	Benchmarq	
Real-Time Clock (with RAM and power sense/control)	CDP68HC68T1	Harris	
Real-Time Clock with RAM and Serial Interface	MC68HC68T1	Motorola	
Reed-Solomon ECC Coprocessor	AHA4310	AHA	45
	AHA4810	AHA	
Registers with Parity (9-Bit bidirectional)	USCSL6000	Universal	
Regulator, Power Surveillance, Watchdog and Crystal Oscillator Circuit	V6139	EM Micro	
Reset/Interrupt Controller	LR3201	LSI Logic	
RISC Microprocessor, 32-Bit High Performance	LR3000A	LSI Logic	50
RISC Microprocessor, 32-Bit with Cache Memory	VL86C020	VLSI Tech	
RISC Microprocessor, 32-Bit High-Performance	VR3000	NEC	
RISC CPU, Full 32-Bit	IDT79R2000A	IDT	
	IDT79R3000	IDT	
RISC CPU Processor (32-Bit)	79R2000	† Intel	55
	79R3000	† Intel	
Safety Critical Microprocessor	MAS1908	GEC Plessey	
Safety Critical Microprocessor (dual operation)	MAS1909	GEC Plessey	
SBus Graphics Chip (with video RAM controller)	L64855	LSI Logic	
SCAMP Power Management Unit (for use with VL82C310 System Controller)	VL82C312	VLSI Tech	60
SCSI Bus Active Termination, 18-bit, 110 Ohms	MCCS142235	Motorola	
SCSI Bus Controller	L53C80	† LogicDev	
	L5380	† LogicDev	
SCSI Bus Interface Controller, Enhanced	AM33C93A	AMD	
SCSI Controller (one chip)	AT43216-40C	ATMEL	65
SCSI Protocol Controller	**MB87033B**	**Fujitsu (3620)**	
	MB87035	Fujitsu	
	MB89352A	Fujitsu	
SCSI 2 Controller	MB86602	Fujitsu	
SCSI 2 Controllers with Drivers	MB86601	Fujitsu	70
Serial Bus Interface	CDP68HC68S1	Harris	
Serial Controller Interface	CA82C52	† Newbridge	
Serial Convolver	MA7178	GEC Plessey	
Serial Data Receiver	**LIU01**	**AD (3514)**	
Serial I/O Controller, Parallel I/O Controller, Counter/Timer	Z84C90	Zilog	75
Serial In Parallel Out Interface, 8-Bit	**NJU3711**	**NJR (3705)**	
	NJU3712	**NJR (3705)**	
Serial In Parallel Out Interface, 12-Bit	**NJU3713**	**NJR (3705)**	
Serial In Parallel Out Interface, 16-Bit	**NJU3715**	**NJR (3705)**	
Serial In Parallel Out Interface, 20-Bit	**NJU3718**	**NJR (3705)**	80
Serial In Parallel Out Interface, 24-Bit	**NJU3719**	**NJR (3705)**	
Serial Input/Output Controller	Z84C43	Zilog	
Serial Interface Adapter (compatible with Ethernet/Cheapernet)	AM7992B	AMD	
Serial Interface Protocol Chip, MIL-STD–1397, Type D and E	CT2500	GEC Plessey	
Serial Interface Real Time Clock	MK41T56	SGS-Thomson	85
Serial Memory Phantom Interface (adapts memory bus to three-wire serial port)	DS1206	Dallas	
Serial Network Interface Controller (SNIC)	DP83901A	National	
Serial Parallel Interface Circuit (custom; controllable via EIA RS232C)	ITC232A	ITC Microcomps	
Serial Real Time Clock (64 bytes RAM)	MCCS1850	Motorola	
Serial Timekeeping Circuit	DS1202	Dallas	90
	DS1202S	Dallas	
Servo Channel Multiprocessor	ATT93C010	AT&T	
Servo Processor Interface	ATT91C611	AT&T	
Shading Processor (for 3-D and 2-D graphics functions)	TC8512	Toshiba	
Signal Processing Interface (Microcomputer including 16x16 Multiplier, RAM, ROM for rapid signal processing)	μPD77P20	NEC	95
Signal Processor, Cascadable (for digital FIR filtering, adaptive filtering, correlation and convolution)	IMSA100M	† SGS-Thomson	
Signal Processor, Graphics, 32 Bit	NS32FV16-20	National	
	NS32FV16-25	National	
	NS32FX161-15	National	
	NS32FX161-20	National	100
	NS32FX164-20	National	
	NS32FX164-25	National	
Smart Card Interface	L6605	SGS-Thomson	
Smart Reset	H6052	ℓ EM Micro	
Smart Socket (nonvolatile Ram control) with socket, battery	DS1213	Dallas	105
	DS1213C	Dallas	
Smart Watch (watch or clock, nonvolatile RAM control) with socket, battery	DS1216	Dallas	
	DS1216C	Dallas	
	DS1216E	Dallas	
SmartSocket, Contains Embedded Lithium Cell for RAM Retention	DS1213D	Dallas	110
SmartWatch, Calendar/Clock with Embedded Lithium Cell	DS1216F	Dallas	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

General Purpose (Cont'd)

Function	Device	Source	Line
SPARC Cache Controller and Memory Management Unit	MB86921-33	Fujitsu	
	MB86921-40	Fujitsu	
SPARC Companion Chip (Interrupt Controller, Counter/Timer)	MB86940-40	Fujitsu	
SPARC, 40 MHz 32-Bit SPARC Integer Unit	CY7C601-40C	° Cypress	
Speech and Sound Processor/Generator/Synthesizer	ES3100	ESS	5
Speech and Sound Processor/Generator/Synthesizer (with 8K ROM)	ES2108	ℓ ESS	
	ES3116	ℓ ESS	
	ES3206	ℓ ESS	
Speech Processor, ADM (record/reproduce)	TC8830	Toshiba	
	TC8831	Toshiba	10
Speech Recognition	HM2007	Hualon Micro	
Speech Recording and Reproduction with DRAM	HM2004	Hualon Micro	
Speech Synthesis, ADM, 256K Bit ROM	TC8801	Toshiba	
Speech Synthesis, PARCOR, 64K Bit Mask ROM	TC8802	Toshiba	
Speech Synthesizer Circuit (3 second duration)	HM2035	ℓ Hualon Micro	15
	HM2055	ℓ Hualon Micro	
SRAM (256x8) with 3 I/O ports and 14-bit timer	M5M81C55-2	Mitsubishi	
	M5M81C56-2	Mitsubishi	
ST-Bus Parallel Access Circuit	MT8920	Mitel	
Stand Alone Microsequencer, Programmable	SAM448-16	† Waferscale	20
	SAM448-20	Waferscale	
	SAM448-25	Waferscale	
Successive Approximation Register, 8-Bit	**25C02**	**‡ Ideal Semi (3645)**	
	25C03	**‡ Ideal Semi (3645)**	
Successive Approximation Register, 12-Bit	**25C04**	**‡ Ideal Semi (3645)**	25
Super Number Cruncher	MM57409	National	
Supervisory Circuit	MAX705C	Maxim	
	MAX705E	Maxim	
	MAX705M	† Maxim	
	MAX706C	Maxim	30
	MAX706E	Maxim	
	MAX706M	† Maxim	
	MAX707C	Maxim	
	MAX707E	Maxim	
	MAX707M	† Maxim	35
	MAX708C	Maxim	
	MAX708E	Maxim	
	MAX708M	† Maxim	
Supervisory Circuit with Battery Backup	MAX703C	Maxim	
	MAX703E	Maxim	40
	MAX703M	† Maxim	
	MAX704C	Maxim	
	MAX704E	Maxim	
	MAX704M	† Maxim	

Function	Device	Source	Line
Synchronous Clock Generator	M66235P	Mitsubishi	45
	M66236FP	Mitsubishi	
Synchronous SCSI Controller	MB87034	Fujitsu	
System Timing Controller	AM9513A	AMD	
Systems Logic Circuit for 80386SX Desktop/Laptop Computers	WD7855	Western	
	WD7855LV	ℓ Western	50
Systems-Oriented Network Interface Controller	DP83932	National	
TAXIchip (Transparent Asynchronous Xmitter-Receiver Interface)	AM7968	° AMD	
	AM7969	AMD	
Testability Interface Device (real-time)	LT74TC32	† LSTI	
	LT74TV32	† LSTI	55
Testability Interface Device (serial)	LT74TC16	LSTI	
	LT74TV16	LSTI	
Testable Functional Circuit (provides circuit functions while providing the capability of a testability bus port)	LT74TC32PC	LSTI	
	LT74TV32PC	LSTI	
Time Key with Security Clock (384-Bit NVRAM)	DS1207	Dallas	60
Timekeeper, Multiplexed SRAM	MK48T85	SGS-Thomson	
Timekeeper SRAM, 8Kx8	MK48T18	SGS-Thomson	
Timekeeper (watch or clock, nonvolatile RAM control)	DS1215	Dallas	
Timer Clock Peripheral (full function real-time clock/calendar)	DP8570A	National	
	DP8571A	National	65
Timer, Failsafe Watchdog	H6006	ℓ EM Micro	
Timer, Self Recovering Watchdog	H6060	ℓ EM Micro	
Timing Control Unit (clock generator for CY7C601A and CY7C611A SPARC processors)	CY7C325	Cypress	
	CY7C325-25C	Cypress	
	CY7C325-33C	Cypress	70
	CY7C325-40C	Cypress	
TRAnsputer Module (IMS T222 16-Bit transputer)	IMS B409	SGS-Thomson	
TRAnsputer Module (IMS T800 transputer, 1 MB DRAM, 1 MB dual-port DRAM)	IMS B408	SGS-Thomson	
UART	CDP6402	° Harris	
	CDP6402C	° Harris	75
	M66230	Mitsubishi	
	TC8570A	**Toshiba (3833)**	
UART with Baud Rate Generator	COM81C17	SMC	
UART with FIFOs	**SSI73M1550**	**SiliconSys (3780)**	
	SSI73M2550	**SiliconSys (3780)**	80
	SSI73M550	**SiliconSys (3780)**	
	SSI73M550F	**SiliconSys (3780)**	
UART with FIFOs and Baud Rate Generator	CM16C1550	CMD Micro	
	CM16C550A	CMD Micro	
	ST16C550	Startech	85

Function	Device	Source	Line
UART with Parallel Port	NS16C451	National	
	WD16C451	Western	
UART, Dual	COM78C802	SMC	
	ST16C2450	Startech	
UART, Dual with FIFO	ST16C2550	Startech	90
UART, Dual with FIFOs and Parallel Port, 8250 Compatible	CM16C552	CMD Micro	
	NS16C552	National	
	ST16C552	Startech	
	WD16C552	Western	
UART, Dual with Floppy Disk Controller and Parallel Port	PC87310	National	95
UART, Dual with Parallel Port	ST16C452	Startech	
UART, Dual, 8250 Compatible	CM16C553	CMD Micro	
UART, Quad	XR82C684	Exar	
	RF5C59	Ricoh	
	COM78C804	SMC	100
UART, Quad with FIFOs	ST68C554	Startech	
UART, Quad with FIFOs, 8250 Compatible	CM16C554	CMD Micro	
	ST16C554	Startech	
UART, 8-Channel	COM78C808	SMC	
UART, 8250 Compatible	CM16C1450	CMD Micro	105
	CM16C450	CMD Micro	
	ST16C450	Startech	
Undervoltage Sensing Circuit (reset controller for microprocessor-based systems)	MC34064	Motorola	
Universal Peripheral Controller (2 serial control units, prog. timer counter unit, prog. parallel interface unit, prog. interrupt control unit)	μPD71101	NEC	
Universal Synchronous/Asynchronous Receiver Transmitter	MAS8251A	GEC Plessey	110
Vector Processor, 32-Bit	SN74ACT8867	TI	
Versatile ROM (for MELPS 7700 microprocessors)	M6M72561	Mitsubishi	
	M6M72561-I	Mitsubishi	
VFD Controller, 5x5 Dot with Serial Bus	M66002SP	Mitsubishi	
VFD Controller, 5x7 Dot with Serial Bus	M66004SP	Mitsubishi	115
VGA Controller for PC/AT/ISA/EISA/VESA Systems	WD90C33	Western	
VGA Flat Panel Display Controller	WD90C20	Western	
	WD90C20A	Western	
	WD90C22	Western	
	WD90C26	Western	120
	WD90C26A	Western	
VGA Graphic Chip (for IBM OS/2 and IBM PC/XT/AT/AT386 compatible systems)	POACH/VGA-50	ZyMOS	
VGA Graphics for 80386 Based Systems (compatible with EGA, CGA, MDA and Hercules)	ZyVGA-50	ZyMOS	
VGA LCD Controller	WD90C24	Western	
VGA LCD Interface	WD90C55	Western	125
Video Clock Generator (for medium to high performance CRT graphics systems)	DP8512	National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

General Purpose (Cont'd)

Function	Device	Source	Line
Video DAC (TV/video displays and feed-forward A/D systems)	**CA3338**	**Harris (3639)**	
Video DAC, Triple 8-Bit Color Palette	SC11453	Sierra	
Video Data Assembly FIFO (supports smooth panning and hardware windows)	AM8172	AMD	
Video Display Processor, Enhanced	V9978	Yamaha	
Video Display Processor (RGB/ Composite Video Output)	V9938C	Yamaha	5
Video Display Processor (RGB Linear output)	**V9958**	**Yamaha (3865)**	
Video Frame Averager (512 x 512 x 8)	67156	OEI	
Video Frame Buffer, 100 MHz (suports 256Kx4, 128Kx8, and 64Kx4 video RAMs)	L64825	LSI Logic	
Video Frame Buffer (512 x 512 x 8)	67145	OEI	
Video Frame Controller (part of Mipset) 25 MHz	LR3208-25	† LSI Logic	10
Video Frame Controller(part of Mipset)	LR3208	† LSI Logic	
Video Graphics Controller	VM82C037	VLSI Tech	
Video Local Bus Interface (VLBI) Device	WD90C56	Western	
Video Processor (Subtraction, Overlay and Storage)	67149	OEI	
Video RAM Controller/Driver (up to 1 Mbit)	DP8521	National	15
Video RAM Controller/Driver (up to 256K bits)	DP8520	National	
Video RAM Controller/Driver (up to 4 Mbit)	DP8522	National	
Video Signal Controller, for IIT-VP Processor	IIT-VC	Int Info Tech	
Video Signal Processor, 32 or 16-bit bus	IIT-VP	Int Info Tech	
Video System Controller (video dot clock rate to 80 MHz)	AM8152A	AMD	20
	AM8152B	AMD	
VMEbus Interface Chip (ACC)	CA91C014	Newbridge	
VMEbus Interrupt Generator	VME3000	PLX Tech	
VMEbus Interrupt Handler (monitors all seven interrupt levels)	VME4000	PLX Tech	
VMEbus Master Controller (two device chipset for non-slot 1 master bus controller)	VME1220	PLX Tech	25
VMEbus Master Controllers (two device chipset for slot 1 master bus controller and single level arbiter)	VME1210	PLX Tech	
Voice Recognition Circuit	HM2006	Hualon Micro	
Voice Synthesizer (ADPCM, 10 second duration)	HM2068	ℓ Hualon Micro	
Voice Synthesizer (ADPCM, 20 second duration)	HM2069	ℓ Hualon Micro	
Voltage Controller (converts CMOS RAMs to nonvolatile storage)	DS1215	Dallas	30
Voltage Regulator with Watchdog for Microprocessor/Controller Systems	UAA1300	Philips	
VXI Bus Message-Based Interface Chip	IT9010	Interface Tech	
	IT9010M	Interface Tech	
V40-Based Embedded Control System (up to 256K of lithium backed NVSRAM for program/data storage)	DS2340	Dallas	
Watchdog Timekeeper Circuit	DS1283	Dallas	35
Watchdog Timekeeper (NV real-time clock, 50 bytes RAM, alarm, watchdog timer, and interval timer)	DS1286	Dallas	
Watchdog Timekeeper (real-time clock, 50 bytes RAM, alarm, watchdog timer, and interval timer	DS1284	Dallas	
Watchdog Timekeeper with 8Kx8 RAM, 12ns access time	DS138608-12	Dallas	
Watchdog Timekeeper with 8Kx8 RAM, 15ns access time	DS138608-15	Dallas	
Watchdog Timekeeper with 32Kx8 RAM, 12ns access time	DS138632-12	Dallas	40
Watchdog Timekeeper with 32Kx8 RAM, 15ns access time	DS138632-15	Dallas	
Watchdog Timekeeper with 128Kx8 RAM, 120ns Access Time	DS1486-12	Dallas	
Watchdog Timekeeper with 128Kx8 RAM, 150ns Access Time	DS1486-15	Dallas	
Write Buffer (for R2000A CPU)	IDT79R2020A	IDT	
Write Buffer (for R3000 CPU)	IDT79R3020	IDT	45
Write Buffer (8-Bit)	79R2020	† Intel	
	79R3020	† Intel	
Write Buffers, 32-Bit RISC	IDT79R2020	‡ IDT	
Write Driver, Quad	IMP52C434	IMP	
Dual Asynchronous Communications Interface Adapter (68000 bus compatible)	**R68C552**	**Rockwell (3759)**	50
Dual CPU Module (for multiprocessing)	CYM6002	Cypress	
Dual Programmable Video Clock Generator with Power Down	SC11412	Sierra	
Dual UART (10, 12.5, 16 MHz)	KS82C450	Samsung	
	KS82C450A	Samsung	
Dual Universal Asynchronous Receiver/Transmitter (with FIFO)	PC16552C	National	55
	PC16553	National	
	SC26C92	**Philips (3725)**	
Dual USRT (10, 12.5, 16 MHz)	KS82C452	Samsung	
Triple 6-Bit DAC, Video Color Palette, 40 MHz	MS176-40	Mosel-Vitelic	
Triple 6-Bit DAC, Video Color Palette, 40MHz	MS177-40	Mosel-Vitelic	60
Triple 6-Bit DAC, Video Color Palette, 50 MHz	MS176-50	Mosel-Vitelic	
Triple 6-Bit DAC, Video Color Palette, 50MHz	MS177-50	Mosel-Vitelic	
Triple 6-Bit DAC, Video Color Palette, 66MHz	MS177-66	Mosel-Vitelic	
Quad Pixel Dataflow Manager (generates mixed text and graphics within display memory)	AM95C60	AMD	
Quad Raster Op ALU (QRO)	VL82C164	VLSI Tech	65
Quad Universal Asynchronous Receiver/Transmitter	**SC26C94**	**Philips (3725)**	
	SC68C94	**Philips (3725)**	
Eight-Channel Multiplexed Sample and Hold	SSM2300	AD	
Z80 CPU, 2 Kbytes SRAM, Clock Generator Controller	Z84C50	Zilog	
Z80 MPU (10 MHz), Clock Generator Controller, Counter/Timer, I/O	Z84C01	Zilog	70
4-Bit Microcomputer for Telephone Set	S7292AF	Seiko Instr	
7-Bit Futurebus + Transceiver	FB2041	Philips	
8-Bit Futurebus + Transceiver	FB2040	Philips	
10 Base-T Hub Transceiver	**SSI78Q903**	**SiliconSys (3781)**	
15-Bit Color Palette, 110 MHz, 256x18	SC11482C-110	Sierra	75
	SC11483C-110	Sierra	
	SC12482C-110	Sierra	
	SC12483C-110	Sierra	
15-Bit Color Palette, 110 MHz, 256x24	SC11484C-110	Sierra	
	SC12484C-110	Sierra	80
15-Bit Color Palette, 66 MHz, 256x18	SC11482C-66	Sierra	
	SC11483C-66	Sierra	
	SC12483C-66	Sierra	
15-Bit Color Palette, 66 MHz, 256x24	SC11484C-66	Sierra	
	SC12484C-66	Sierra	85
15-Bit Color Palette, 80 MHz, 256x18	SC11482C-80	Sierra	
	SC11483C-80	Sierra	
	SC12482C-66	Sierra	
	SC12482C-80	Sierra	
	SC12483C-80	Sierra	90
15-Bit Color Palette, 80 MHz, 256x24	SC11484C-80	Sierra	
	SC12484C-80	Sierra	
16-Bit Color Palette, 110 MHz, 256x18	SC11485C-110	Sierra	
	SC11487C-110	Sierra	
	SC12485C-110	Sierra	95
	SC12487C-110	Sierra	
16-Bit Color Palette, 110 MHz, 256x24	SC11489C-110	Sierra	
	SC12489C-110	Sierra	
16-Bit Color Palette, 66 MHz, 256x18	SC11485C-66	Sierra	
	SC11487C-66	Sierra	100
	SC12485C-66	Sierra	
	SC12487C-66	Sierra	
16-Bit Color Palette, 66 MHz, 256x24	SC11489C-66	Sierra	
	SC12489C-66	Sierra	
16-Bit Color Palette, 80 MHz, 256x18	SC11485C-80	Sierra	105
	SC11487C-80	Sierra	
	SC12485C-80	Sierra	
	SC12487C-80	Sierra	
16-Bit Color Palette, 80 MHz, 256x24	SC11489C-80	Sierra	
	SC12489C-80	Sierra	110
24-Bit Color Palette, 110 MHz, 256x24	SC15025C-110	Sierra	
	SC15026C-110	Sierra	
24-Bit Color Palette, 125 MHz, 256x24	SC15025C-125	Sierra	
	SC15026C-125	Sierra	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line
General Purpose (Cont'd)			
24-Bit Color Palette, 66 MHz, 256x24			
	SC15025C-66	Sierra	
	SC15026C-66	Sierra	
24-Bit Color Palette, 80 MHz, 256x24			
	SC15025C-80	Sierra	
	SC15026C-80	Sierra	
32-Way INMOS Link Crossbar Switch.			
	IMSC004	° SGS-Thomson	5
386DX Chipset (includes: VM82C330 System Controller, VM82C331 ISA Bus Controller, and VM82C332 Data Buffer)			
	VM82C386-SET	VLSI Tech	
486SX/486DX Single Chip AT (20–50MHz)			
	MS400	Mosel-Vitelic	
8-Bit Single Chip Microcomputer LC86104A			
	LC86104A	Sanyo	
80286/80386SX Cache Controller (works with TOPCAT and SCAMP-LT chipsets)			
	VL82C325	VLSI Tech	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

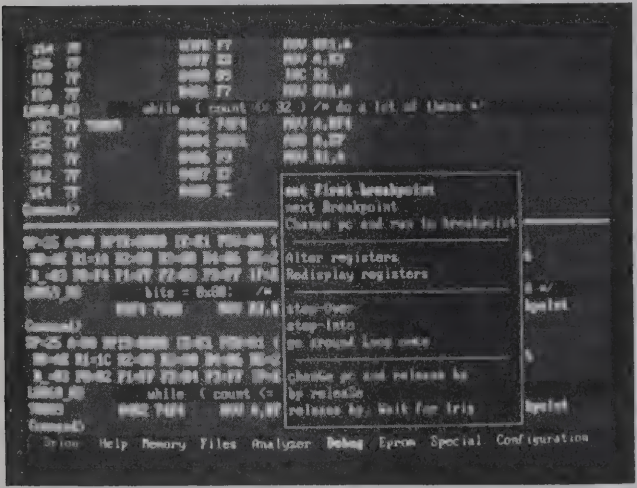
Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 451

UNILAB 8620

ANALYZER-EMULATOR

The UniLab 8620 provides an integrated feature set for rapid development of real-time embedded processor systems.


set first breakpoint
next Breakpoint
Change pc and run to breakpoint
Alter registers
Redisplay registers
step Over
step Into
go around loop once
change pc and release bp
bp release
release bp, wait for trig
Orion Help Memory Files Analyzer Debug Eprom Special Configuration

Upper screen shows real-time trace with intermixed high level source lnes while lower screen shows register contents from single-stepping. PopUp menus provide quick access to system functions.

Low-Cost Real-Time Debugging

The UniLab 8620 is a low-cost analyzer-emulator for development of 8-bit embedded systems. Its bus-state analyzer provides non-stop "on-the-fly" analysis of target activity while its debugger allows you to stop program execution with hardware or software breakpoints. The system works with a wide variety of third-party compilers and assemblers and integrates symbols and source information into the debug session.

Over 150 microprocessors and microcontrollers are supported with the same base unit. Inexpensive personality paks configure the system for each device.

KEY UNILAB 8620 FEATURES

- Symbolic debugging works with wide variety of compilers and assemblers
- "On-the-fly" trace provides non-stop, real-time analysis of target activity
- Multilevel triggering and trace filtering
- Program performance analysis
- Ultra fast program downloads via parallel PC interface

PROCESSORS SUPPORTED INCLUDE:

Intel	Motorola	Zilog	Hitachi	Rockwell
8051 family	6800/1/2/3	Z80	6301	65XX
8048 family	68HC05	Z180	6303	6502
8085	6809	Z8	64180	
	68HC11	Super8		

For powerful 16-bit development, Orion offers the 8800 Emulator/Analyzer

The 8800 is a full-featured development system for solving difficult problems in real-time 16-bit embedded systems.
Key features include:

- Choice of several popular high level debug interfaces (XRAY, Passkey, QuickFix)
- Non-stop analysis that lets you set and reset test conditions without disturbing full-speed, real-time target operation
- Clip-On Emulation™ for interfacing to soldered-in or surface mount processors
- Parallel logic design for minimal signal delays and target loading

PROCESSORS SUPPORTED INCLUDE:

Motorola	Intel	Zilog	IBM
68306	80C196	Z182	MC19620
68302	Family	Z181	MC19610
68EC000		Z180	MC19611
68000		Z84C15	MC19612
68HC11		Z80	MC19613

CALL ORION FOR MORE INFORMATION

ORION INSTRUMENTS

ORION Instruments, Inc. 180 Independence Drive, Menlo Park, CA 94025 USA
TOLL FREE: 800-729-7700. Fax: 415-327-9881

INTRODUCTION TO MICROPROCESSOR DEVELOPMENT SYSTEMS

This section describes the tools used in developing software programs for microprocessors. Microprocessors supported range from 2-bit slice families and 4-bit processors to 32-bit machines. Development systems described in the Master Selection Guide range from simple, single-user text-editing stations to multi-user computers dedicated to software development. Manufacturers are sequenced alphabetically, and each system is described by a listing of performance parameters.

MPU Deveopment Systems 452

MPU DEVELOPMENT SYSTEMS

Supported CPUs	Maximum No. of Users Stations	Communication Ports		User RAM		Floppy Disk			Hard Disk	Logic Analyzer	PROM Programmer	Printer
		Serial	Parallel	Supplied (Kbytes)	Maximum Capacity (Kbytes)	No.	Size (in.)	Capacity (Kbytes)	Capacity (Kbytes)			
1802/05/05AC/06, 64180R0/R1/Z, 6301V1/01X0/63701V0/63701Y, 6303R/03V1/03X/03Y/03Y0, 6309/09E, 6502/C02/03/04/05/06/07/10/12/13/14/15, 6800/02/08, 6801/01U4/68701/68701U4/03/03U4, 68HC05C4/C8/D2/P1, 6805 ASIC, 1468HC05E2/E3, 6809/B09/09E, 68HC11A0/A1/A8/E1/E2/E9, 68000/68008/68010, 8035/39/C39/40/48/8749/C49/50, 8051/51AH/C51/C51BH/C51FA (80C252), 8751/51H/51BH/C51, 8052/52AH/C52/52BH/C52T2, 87C52/52BH, 8031/31AH/C31/C31BH, 8032/32AH/C32/32BH/C32T2, 80C154/83C154/85C154, 8344/44AH, 8053AH/8753H, 80515/535, 80C152JA/C152JB/C152JC/C152JD, 80C321, 80C451, 80C552, 80C325, 80C452, 80C652, 8085/8085AH-2/80C85, 8086/80C867, 8088/80C88, 8096/97/8396/8397/8098/80C196, 8X300/305, NSC800, V20/30, Z80A/Z80B/Z80H, 80186/80C186 (16 MHz), 80188/80C188 (16 MHz), Z180	1	1	N/A	64 (1 MB for 80286)	192	As per host	As per host	As per host	as per host	x	Opt.	Opt.
ZA03, 6301R/X/Y/COLY/701Y, 6303 R/X/C03Y, 6309/E, 64180R0, 6502/ C02 (4MHZ), 6800/ 02/08, 6801/03/U4, 68HC05C4/C8/705C8/805C8, 68HC05DZ, 146805E2/E3, 6809/E, 68HC11AO/A1/A8, D3/E1/E2/E9/F1/, 8031/AH/C31/C31BH, 8032/AH/C32T2/BH, 8051/C51/AH/BH/FA, 80C52/AH/BH/T2, 80C154, 80C252, 80C321, 80C515, 80535, 80C552, 80C652, 8344/AH, 83C154, 85C154, 8751/H/BH/C51/, 87C52/H/BH, 8035, 8039/C39, 8040, 8048,8748, 8049,/C49, 8040, 8085/C85, Z80 (10MHZ) NSC800	1	1	N/A	64	64	As per host	As per Host	As per Host	As per Host	x	x	-
180ZBC, 1805AC, 1806, 64180R1,/Z, 68000/HC000, (16.7 MHE) 68010, 8086/C86, 8088/C88, 80186/C186, 80188/C188, 8096, 8396, 8796, 8097, 8397, 8797, 80194, 806196 KB/KC, 80198, Z180,	1	1	N/A	64	256	As per Host	As per Host	As per Host	As per Host	x	Opt.	x
86C010		-	488	-	1 MB	As per Host	As per Host	As per Host	As per Host	x	-	-
ADSP2100A (50 MHz)	1											
8051, 68HC11	1	1		64	64					opt.		
68000, 68008, 68010, 68020, 68030, 68040, 68302, 68320, 68340, 68F333, 80C186, 80C188, 80960	1	2			2MB					Opt.		
Z80A, Z80H, 64180	1	1		64	1 MB							
8035, 8039, 8040, 8048, 8050, 8748, 8749, 8080, 8085, Z80, MK3880/4, NSC-800	1	1		64	64							
68000, 68008, 68010, 68020, Z8001, Z8002, 8086, 8088, 80186, 80188, 80286, 80C86, 80C88, 80C186, 80C188	1	2		128	2 MB					opt.		
8051, 8031, 8751, 8052, 8032, 8752	1	1	0	48		As Per Host	As Per Host	As Per Host	As Per Host		Opt.	
8051, 8031, 8751, 80C51, 80C31, 87C51	1	1	0	4—28		As Per Host	As Per Host	As Per Host	As Per Host		Opt.	
8051, 8031, 8751, 8731, 8052, 8044, etc.	1	0	0	48		As Per Host	As Per Host	As Per Host	As Per Host		Opt.	

Software Support		Comments	Model	Source	Line
Standard	Optional				
Macro Cross-Assembler, Relocating Linker, Symbolic Debugger	C Cross-Compilers w/Source-Level Debugging, performance analysis hardware and software.	Over 80 microprocessors supported on the IBM PC; many are also supported on the Sun Workstation, Macintosh II and VAX systems.	EZ-Pro	Am Arium	
Macrocross assembler, Relocating Linker, Symbolic debugger.	C Cross Compliers W/Source-level debugging	Hosted on IBM AT and compatibles	EZ-PRO 1.5	Am Arium	
Macro Cross Assembler, Relocating Linker, Symbolic Debugger	C Cross Compliers W/Source-Level Debugging, Performance Analysis hardware and software	Hosted on IBM AT and compatibles.	EZ-PRO 2.1	Am Arium	
Macro Cross Assembler	C Cross Compilier w/ source-Level SDebugging, Performance Analysis hardware and software	Hosted ou IBM AT and compatibles, 40-Bit time stamp w/25 ns resolution.	EZ-PRO 3.7	Am Arium	
		In-Circuit Emulator with Trace Buffer	ADDS2100A-ICE	AD	5
Menu-driven emulator control software.	Compilers, assemblers, and other utility software available for a variety of languages.	Real-time transparent emulation, advanced breakpoint system, trace memory.	EC 7000	AppMicroSys	
Integrated source-level debugger/emulator control software	ANSI C/C + cross compiler, assembler and related utilities	In-circuit emulator, transparent, real-time operation, diagnostics, in-line assembler, memory and trace disassembler, real-time trace	EL Series	AppMicroSys	
Menu-driven emulator control software and symbolic debugger.	Compilers, assemblers, and other utility software available for a variety of languages.	Real-time transparent emulation with up to 1 million breakpoints, advance breakpoint system, 8Kx48-bit trace memory.	EL 800	AppMicroSys	
Software for operation of the emulator is supplied.	Remote control and symbolic debug package for MS/DOS operating systems.	Stand-alone in-circuit emulator. Real-time trace: 32 bits wide, 256 traces deep with disassembly. Diagnostic functions: standard and user-defined for debugging hardware in design, test and service.	EM Series	AppMicroSys	
Full high-level and symbolic debug packages available for various hosts (SUN, APOLLO, VAX, PC, and MicroVAX.	Compilers, assemblers, and other utility software is available for a variety of languages.	Stand-alone or hosted in-circuit emulator, real-time and transparent operation, diagnostic functions, in-line assembler, memory and trace disassembler, real-time trace (2048x72 bits).	ES Series	AppMicroSys	10
Debugger	Cross Assembler	Emulation not real-time, In-Circuit hardware emulation.	dICE-51	Cybernetic	
Debugger	Cross Assembler	Real-Time Emulation in-circuit, CMOS option.	d2 ICE-51	Cybernetic	
Debugger	Cross Assembler	Software simulation only, no hardware emulation.	Sim 8051	Cybernetic	

Bold face indicates additional data is provided on the page noted.

MPU DEVELOPMENT SYSTEMS (Cont'd)

Supported CPUs	Maximum No. of Users Stations	Communication Ports		User RAM		Floppy Disk			Hard Disk	Logic Analyzer	PROM Programmer	Printer
		Serial	Parallel	Supplied (Kbytes)	Maximum Capacity (Kbytes)	No.	Size (in.)	Capacity (Kbytes)	Capacity (Kbytes)			
All bit slices, 2901, 2903, 29203, 29501, 29116, 8X300, 8X305, 74S481, 3000, and macrologic. Also ECL10800, 10220. 1 to 4 WCS arrays.	4	3	1	512	160	2	5.25	2M		x	x	x
All Microcode devices (e.g., 29116, 2901, 29300, 29500, AS888, 2910, AS890, 29PC141, Weitek 1064)	1	3	2	640	640	1	5.25	1.4M	20 MB	x	Opt.	Opt.
All Microcoded Devices (e.g., 29116, 2901, 29300, 29500, AS888, 2910, AS890, 29PC141, Weitek 1064), All Bit-Slice Devices	1	3	2	640	640	2	5.25	740		x	Opt.	Opt.
All Microcoded Devices (e.g., 29116, 2910, 29300, 29500, AS888, 2910, AS890, 29PC141, Weitek 1064), All Bit-Slice Devices	1	3	2	640	640	1	5.25	370	10 MB	x	Opt.	Opt.
All Microcoded Devices (e.g., 29116, 2901, 29300, 29500, AS888, 2910, AS890, 29PC141, Weitek 1064)	1	3	2	640	640	2	5.25	740 K		x	Opt.	Opt.
Any	1	3	1			2	5.25	360	20 MB	x		
EC–1000	1	1								x		opt.
EM29PL141	1	3	2	640	640	1	5.25	1.4M	20MB	x	opt.	opt.
MIPS R2000, IDT79R2000	32	32		16 MB	80 MB				689 MB			
MCS–86, MCS–85, MCS–80 and MCS–48 families	1				64			250			Opt.	Opt.
8080A, 8085A, 8086 (iAPX86), 8088 (iAPX88), 8089, 8021, 8022, 8041A, 8741A, 8035, 8048, 8748, 8039, 8049, 8051	1	2	4			1		250			Opt.	Opt.
8080A, 8085A, 8086 (iAPX86), 8088 (iAPX88), 8089, 8021, 8022, 8041A, 8741A, 8035, 8048, 8748, 8039, 8049, 8051	1	2	4		64			250	7.3 MB		Opt.	
8080A, 8085A, 8086 (iAPX86), 8088 (iAPX88), 8089, 8021, 8022, 8041A, 8741A, 8035, 8048, 8748, 8039, 8049, 8051	8	2	4								Opt.	Opt.
Work station dependent	8	1	2	256		2						Opt.
LR3000(A) LR33000	2	2	7	8000	32000				400			
LR3000(A) LR330000	Unlim	2	7	8000	32000				400			
L64801, L64811, SPARC Architecture	1	2		8 MB	16 MB	1	1/4" Tape	150 MB	208 MB			Opt.
HD64180/Z180–8 MPU	1	1		64	64							
Z80–8 CPU	1	1		64	64							
TMS320C15–25 DSP	1	1		8	8							
TMS320C25–50 DSP	1	1		32	12							
TMS370C26 DSP	1	1		32	128							

Software Support					
Standard	**Optional**	**Comments**	**Model**	**Source**	**Line**
MENU Prompts: Editing, Target Control, Remote operation, display formatter, diagnostics, download models, TRACE dump, multiple arrays.	Universal meta-assembler up to 80 bits, MACRO's FORTRAN IV compatible or CP/M version.	Performance analysis measures target activity in 16 user categories. TRACE has 16-level Trigger logic.	DS370	HiLevel	
PC utilities, EPL programming language, patchwork-source code editor, META disassembler, PCTERM-VT100 terminal emulator	HALE-relocatable Linkable MACRO META assembler, EPL-VMS & EPL-UNIX programming language for VAX, DU-VMS, UNIX upload/ download for VAX	Also available are in-circuit emulators for 29116, 2910, AS888 and AS890.	DS3700/ CSIBM-AT	HiLevel	
PC Utilities, EPL-Programming Language, Patchwork-Source Code Editor, META Disassembler, PC TERM-VT100 Terminal Emulator	HALE-Relocatable, Linkable, MACRO META Assembler, EPL-VMS & EPL-UNIX Programming Language for VAX, DU-VMS, UNIX Upload/ Download for VAX	Also available are in-circuit emulators for 29116, 2910, AS888, and AS890	DS3700/ CSIBM-PC	HiLevel	
PC Utilities, EPL-Programming Language, Patchwork-Source Code Editor, META Disassembler, PC TERM-VT100 Terminal Emulator	HALE-Relocatable, Linkable, MACRO META Assembler, EPL-VMS & EPL-UNIX Programming Language for VAX, DU-VMS, UNIX Upload/ Download for VAX	Also available are in-circuit emulators for 29116, 2910, AS888, and AS890	DS3700/ CSIBM-XT	HiLevel	
PC Utilities, EPL-programming language, patchwork -source code editor, META disassembler, PC TERM-VT100 terminal emulator	HALE-Relocatable Linkable MACRO META Assembler, EPL-VMS & EPL-UNIX Programming Language for VAX, DU-VMS, UNIX-Upload/ Download for VAX	Also Available are in-circuit emulators for 29116, 2910, AS888 and AS890.	DS3700/ CSTI-PC	HiLevel	5
Menu-driven operating system		Logic State Analyzer, 256 Channels x 4K	DT3700	HiLevel	
Menu Prompts: Editing target control, remote operation, display formatter, diagnostics, download models, TRACE dump, multiple arrays	HALE-relocatable Linkable MACRO META assembler, EPL-VMS & EPL-UNIX programming language for VAX, DU-VMS, UNIX upload/ download for VAX		EC1000	HiLevel	
PC utilities, EPL programming language, patchwork-source code editor, META disassembler PCTERM-VT100 terminal emulator	HALE-relocatable Linkable MACRO META assembler, EPL-VMS & EPL-UNIX programming language for VAX, DU-VMS, UNIX upload/ download for VAX		EM29PL141	HiLevel	
UMIPS Operating System (Unix system V and BSD 4.3), Includes Utilities, C,Pascal	Fortran/V or BSD System Programmers Package, NFS/V or BSD, Fortran Compilers/V or /BSD	Tape Drive (9 track) cartridge at 6250/1600 bpi, 180 MB	M/1000	IDT	
ISIS--11 disk operating system with relocating macroassembler, linker, locater, and CRT-based CREDIT editor.	iPDS-FTRANS option enables file transfer between iPDS and any Intellec Development System. PL/M, FORTRAN, BASIC, PASCAL and COBOL software packages available.	Self-test diagnostic capability, built-in interfaces for high-speed paper tape reader/punch, printer and universal PROM programmer. iMDX557, iAPX resident processor card package is available to upgrade existing iMDX225 series II Development System to Series III. This package supports development of iAPX86/88 processors.	iMDX225	Intel	10
ISIS operating system, credit full screen copier, macroassembler for 8086/88 and 8080/85, linker and loader, debug–86 debugger.	Pascal, FORTRAN, PL/M, COBOL, BASIC, assemblers for 8089, 8048, 8051 families, utility packages for 8080/85/86/87/88/89 support mainframe link software.		IntellecIII	Intel	
ISIS 11 disk operating system; ASM–80 macroassembler for 8080, 8085; credit editor; link and locate utilities.	PL/M–80, FORTRAN, PASCAL, BASIS, COBOL, Utilities FSP arithmetic package for 8080 and 8085; AMS–86 macroassembler, PL/M–86, link and locate utilities for 8086; assemblers for 8048 and 8089.	In-circuit emulators for all CPUs.	INTELLEC11- MODEL245	Intel	
ISIS operating system at workstations, MDS-I operating system at network manager.		Network manager provides shared hard disk and printer spooling for use by up to 8 stations.	NDS-I	Intel	
High level language debugging network, management tools, export/import software, Ethernet Protocol.		Network resource manager provides shared Winchester hard disk, Model 740 cartridge disks and spooled line printer interface for work stations. All existing Intel development systems can be upgraded to be NDS-II work stations. Work stations communicate with the network resource manager via 10M bit Ethernet or local net interconnected with coax.	NDS-II	Intel	
RISC/OS RISC Windows C Compiler	X Windows		Magnuma	LSI Logic	15
RISC/OS RISC Windows C Compiler	X Windows		RC3220	LSI Logic	
SUN/OS, C	PASCAL, COBOL, FORTRAN, C, ADA		SPARCstation1	LSI Logic	
Assembly C		Software included.	MRZ180-8	Macrochip	
Assembly C		Software included.	MRZ80-8	Macrochip	
Assembly		Software included.	MR320C10-25	Macrochip	20
Assembly C		MS/DOS Software included.	MR320C25-50	Macrochip	
Assembly C		Software included.	MR320C26-40	Macrochip	

Bold face indicates additional data is provided on the page noted.

MPU DEVELOPMENT SYSTEMS (Cont'd)

Supported CPUs	Maximum No. of Users Stations	Communication Ports		User RAM		Floppy Disk			Hard Disk	Logic Analyzer	PROM Programmer	Printer
		Serial	Parallel	Supplied (Kbytes)	Maximum Capacity (Kbytes)	No.	Size (in.)	Capacity (Kbytes)	Capacity (Kbytes)			
TMS320E14 DSC	1	1		8	8							
TMS370CXXX MCU	1	1		16	16							
HD64180-10 NPU	1	1		64	64							
WDC65C02-10 CPU	1	1		64	64							
HD647180X-8 MCU	1	1		64	64							
PIC16C5X	1	0	1								x	
DSP56000, DSP56001	1	1		8				As per Host	As per Host			
M6805, M146805, M6804	1	1	1	8								
MC68HC11, MC6809, MC6801, MC6803, MC68010	1	2	2	32	256	1	5.25	655		1		opt.
MC68000	1	1	1	32	256							
MPU6805 Core		1		As Per Host	As Per Host			As Per Host	As Per Host			
MC68HC05B4/B6, MC68HC05C2/C3/C4/C8, MC68HC06L6, MC68HC705C8, MC68HC805C4, MC68HCL05C4/C8	1	1		As Per Host	As Per Host			As Per Host	As Per Host			
MC68000, 68010, 6800, 6809, 6802, 6805, 146805, 6801, 68120	2	2		256						Opt.	Opt.	Opt.
68020, 68010, 68008, 68000, 6801, 6809, 68HC11	8	6		2 MB		1	5.25	655	70 MB			
MC68HC11, MC6809, MC6801, MC6803, MC68000, MC68008, MC68010, MC68020, MC6804, MC6805, MC68120	3	opt.	opt.	384	16	1	5.25	655	40 MB	opt.	opt.	opt.
NS32008, NS32016, NS32032	2	2	1	128	128							
NS32008, NS32016	2	2	1	128	512							
NS32008, NS32016, NS32032, NS32132, NS32232	4	4	1	4 MB	8				40 MB			x
COP400 Series, NS455	1	3										Opt.
µPD70108, µPD70116 (V20/V30)		2	1	320	610	1	8	1 MB				
µPD70108, µPD70116 (V20/V30)		2	1	320	610	1	8	1 MB				
µPD70108, µPD70116 (V20/V30)	5	10	2	512	1 MB	2	8	1 MB	32 MB			

Software Support		Comments	Model	Source	Line
Standard	Optional				
Assembly		Software included.	MR320E14-20	Macrochip	
Assembly		Software included.	MR370-20	Macrochip	
Assembly C		Software included.	MR64180-10	Macrochip	
Assembly C		Software included.	MR65C02-10	Macrochip	
Assembly C		Software included.	MR7180-8	Macrochip	5
PICALC Assembler, PICSIM Simulator		Low cost development tool consisting of PC-Based Simulator and EPROM Programmer	PIC-PAK	Microchip	
MS-DOS, Assembler		Digital Signal Processor Development System	DSP56000ADS	Motorola	
In host.		Operates as a remote hardware/software development station to a host such as EXORmacs, VME/10.	HDS200	Motorola	
In host.		Operates as a hardware/software development station.	HDS300	Motorola	
In host.		Operates as a remote hardware/software development station to a host such as EXORmacs, VME/10.	HDS400	Motorola	10
Monitor, Debugger		Evaluation board for the MPU6805 microprocessor core. Provides design development tools for downloading programs from the host computer to user RAM.	MPU6805EVB	Motorola	
Monitor, Debugger, Assembler, Dissassembler			M68HC05EVM	Motorola	
VERSAdos multiasking, real-time, multiuser, logical I/O file management; Pascal compiler; macro and linking assembler; page, screen and file-oriented editor, symbolic debugger.	FORTRAN IV.	Optional real-time trace; ROM, RAM and disk autotest at power-on; board-level fault isolation.	M68000 (EXORmacs)	Motorola	
UNIX System V, C, Pascal	MC68020 Source Level Debugger for C Compiler		SYS1131DVLP	Motorola	
VERSAdos real-time operating system.	UNIX System V/68 operating system, PASCAL, FORTRAN, 'C"		VME/10	Motorola	15
TDS Firmware	EXEC	Development board for NS32008, NS32016, NS32032	DB32000	National	
TDS Firmware	MON16, EXEC, UNIX System V	Development board for NS32008, NS32016	DB32016	National	
UNIX System V	EXEC	Integrated Computer Module	ICM3216	National	
In host CPU		Microcontroller On Line Emulator; consists of a host CPU, a MOLE Brain Board, and a MOLE Personality board.	MOLE	National	
	Assembler, C	In-Circuit emulator operational on DEC VAX, Intel Series III and IBM PC.	IE70108-5	NEC	20
	Assembler, C	In-Circuit emulator operational on DEC VAX, Intel Series III and IBM PC.	IE70116-5	NEC	
MP/M–86	Assembler, C		MD086FD-10	NEC	

Bold face indicates additional data is provided on the page noted.

MPU DEVELOPMENT SYSTEMS (Cont'd)

Supported CPUs	Maximum No. of Users Stations	Communication Ports		User RAM		Floppy Disk			Hard Disk	Logic Analyzer	PROM Programmer	Printer
		Serial	Parallel	Supplied (Kbytes)	Maximum Capacity (Kbytes)	No.	Size (in.)	Capacity (Kbytes)	Capacity (Kbytes)			
63PO1M1, 6301V1, 6301X1, 6301Y0, 6303R, 6303X, 6303Y, 6305X2, 6305Y2, 6309, 6309E, 64180, 68PO1, 6805U1, 6805V1, 68P05V07; 8031, 80C31, 8032, 80C32, 8035,8039, 8040, 8044, 8048, 80C48, 8049, 8050, 8051, 80C51, 8052, 80C52, 8080, 8085, 80C85, 8086MAX, 8086MIN, 80C86MAX, 80C86MIN, 8088MAX, 8088MIN; 80C88MAX, 80C88MIN, 8096, 8096BH, 8097, 8097BH, 80C152JA, 80C152JB, 80186, 80C186, 80188, 80C188, 80C196, 80286, 80C321, 80C451, 80C452, 80C521, 80C535, 80C552, 8744, 8748, 8749, 87C51, 8752; NSC800, 87P50; V20MAX, V20MIN, V30MAX, V30MIN, V40, V40, V50, 78310; 80C51VS, 85C154VS; 6800, 6801, 6802, 6803, 68HC05C4, 68HC05C8, 6803U4, 6805E2, 6805E3, 6809, 6809E, 68HC11, 68HCC11F1, 68701, 68705R3, 68705U3, 68701U4, 68000, 68HC000, 68008; 1802, 1804, 1805, 1806; 6500/1, 6500/1EB, 6500/11, 6500/41, 6501Q, 6502, 65C02, 6510, 65/11EB, 6511Q, 6512, 65/41EB, 6541Q,; Z180, Z80, Z80C, Z8601, Z8603, Z8611, Z86C11, Z8612, Z8613, Z8681, Z86C81, Z8682, Z8691, Z86C91, Z8800, Z8801, Z8820, Z8822, Z8001, Z8002, Z8003, Z8004;			1	32	128						x	
6500 family.	1	2		16		2					Opt.	x
IMST414												
Z80H, Z80C, Super–8, Z8, 8085/80C85, 8048/49/50/C48, 8052/C51/C154, 6800, 6801/03, 6809, 6809E, 6309E, 68HC11, 68HC05, 6301V/03R, 6301X/03X, 6301Y/03Y, 6305U/V, 6305X/Y, 6305Z, 7810/11H, 78C10/11/14, 7807/09, 78310/312, M50734SP, M50745, M50747, M37450, 6502/65C02, MB89700, 64180Z/R, 647180, Z180, 8086/88, 80C86/C88, 80186/188, V20/V30, V40/V50, 68000/10/12, 68020, 80C186/188, 80286, 80386, 80386SX, 80376, V25, V33, V60, H8/532, H16	1		1	64 320 128	8 MB							
TMS7xxx, TMS7xCxx		2									y	
TMS32010, TMS32010–14, TMS32010–25, TMS32011, TMS320C10, TMS320C10–25, TMS320C15, TMS320E15, TMS320C17, TMS320E17	1	3		8	8					x		
TMS32020, TMS320C25	1	3		136	144					x		
TMS34010	1	3		256	256					x		x
TMS370	1	2			640	2	5.25	360	20 MB		x	x
TMS320C30				532	1 MB							
TMS320, TMS7000					64							
TMS320, TMS7000					64							
TMS320C30				-	-							
TMPN 3150F, TMPN 3120F	Unlim					0			0			
TLCS–42	1	2	1	384		1	5.25		10 MB		x	x
TMP47C434N, TMP47C634N	2											
TLCS–47	1	2	1	384		1	5.25		10 MB		x	x
TLCS–48	1	2	1	384		1	5.25		10 MB		x	x

Software Support		Comments	Model	Source	Line
Standard	Optional				
MS-DOS based PopUp menu interface with symbolic debug and high-level language support standard.		Integrated analyzer-emulator provides full-speed, real-time analysis. Includes 2.7 trace buffer, built-in EPROM Programmer extensive macro capabilities and Program Performance Analysis.	UniLab 8620	Orion	
Text editor, two-pass assembler, debugger/monitor in ROM.	PL/65 compiler.	Single step, real-time TRACE; software breakpoints; operational in-circuit emulator.	**6500**	**Rockwell (3760)**	
VAX-VMS		Cross-Software Package	IMSD600	SGS-Thomson	
Symbolic Debugger	Assembler, Microscope (Source Debugger)	Universal 8-bit to 32-bit in-circuit emulator.	SA98	Sophia	
Stand-alone device			EVM7000	TI	5
On-board assembler/RASSM	X-ASSM/Linker	Hardware breakpoint and trace, real-time in-circuit emulation. TMS320 first-generation XDS.	TMDS3262211	TI	
On-board assembler/RASSM	X-ASSM/Linker	Hardware breakpoint and trace, real-time in-circuit emulation. TMS32 second-generation XDS.	TMDS3262221	TI	
User Interface (debugger)	Assembler, C Compiler	Use with TI, IBM or IBM-compatible PCs. May also be used stand-alone with a dumb terminal.	TMDS34699-10000	TI	
Assembler/Linker		IBM-PC Based	TMDS3762210	TI	
TMS320C30 Assembler/Linker, C Compiler User Interface S/W, SPOX DSP Operating System			XDS1000	TI	10
Assembler, simulator, debug monitor, logic tracing with extended data/address probes.		Host independent. Utilizes host computer, requires external 5V supply.	XDS11	TI	
Assembler, simulator, debug monitor, logic tracing with extended data/address probes.		Host independent. Utilizes host computer.	XDS22	TI	
TMS320C30 Assembler/Linker, User Interface S/W			XDS500	TI	
SWN23100		Uses PC For Data Storage	BMN20000	Toshiba	
CP/M or MS-DOS	Debugger, Assembler	RTE 42 system evaluates TLCS42 MCU	BM4212A	Toshiba	15
			BM47C834	Toshiba	
CP/M or MS-DOS	Debugger, Assembler, or Compiler	RTE 47 system evaluates TLCS–47 MCU	BM4721	Toshiba	
CP/M or MS-DOS	Debugger, Macro-Assembler	RTE 48 system evaluates TLCS–48 MCU	BM4821	Toshiba	

Bold face indicates additional data is provided on the page noted.

MPU DEVELOPMENT SYSTEMS (Cont'd)

Supported CPUs	Maximum No. of Users Stations	Communication Ports		User RAM		Floppy Disk			Hard Disk	Logic Analyzer	PROM Programmer	Printer
		Serial	Parallel	Supplied (Kbytes)	Maximum Capacity (Kbytes)	No.	Size (in.)	Capacity (Kbytes)	Capacity (Kbytes)			
TLCS-Z80	1	2	1	384		1	5.25		10 MB		x	x
TMPZ84C00, Z80	1	2	1	64	64	2	8	1 MB			x	x
TMP84C011AF	1											
TMP84C013AF, TMP84C015AF	1											
TLCS-85	1	2	1	384		1	5.25		10MB		x	x
TMP90C840N, TMP90C841N	2											
80186, 80187, 80188, 80286,80287, 80386, 80387, V40, V50, 68000, 68010, 68020, 68881, 68030, 68882, Z80, Z80H, 6301 X/Y/V, 6303 X/Y/V, 64280, 6801/3	1	2	1	64/256	2 MB					opt.		opt.
8048, 8085, 8086, 8087, 8088, 80186, 80188, V20, V30, V40, V50, 6809, 6809E, 68000, 68008, 68010, Z80, Z80B, Z80H	1	2		64/128	16 MB					opt.	x	opt.

Software Support		Comments	Model	Source	Line
Standard	Optional				
CP/M or MS-DOS	Debugger, Macro-Assembler	RTE 80 system evaluates TLCS-Z80 MPU	BM8021	Toshiba	
CP/M compatible operating system	Macroassembler, RTE software	RTE 80 real-time emulator. BM1020 is real-time controller	BM8022	Toshiba	
			BM8026/24	Toshiba	
			BM8027/25	Toshiba	
CP/M or MS-DOS	Debugger, Macro-Assembler	RTE 85 system evaluates TLCS–85 MCU	BM8521	Toshiba	5
			BM9021	Toshiba	
MS-DOS standard operating system interface, standard High-level debug and symbolic debug	C, PASCSL and ADA Compilers, source-level Debuggers, assemblers, linkers available	Computer (AT-class) controlled emulator with up to one-million breakpoints and performance analysis.	ERX-Series	ZAX	
MS-DOS, VMS, Ultrix, Unix, standard operating system interface	C, PASCAL, and ADA Compilers, source-level Debuggers, Assemblers, Linkers, Symbolic Debug available	CRT or Host Computer controlled emulator with 4 hardware and 8 software breakpoints, 8048 built-in standard PROM programmer.	ICD-Series	ZAX	

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 500

GLOSSARY OF TERMS

Analog to Digital Converters

Linearity Error

The deviation of an actual bit transition value at any level over the range of the A/D Converter. The ideal output is accurate to ±0.5 LSB (least significant bit).

Conversion Time

The time required to complete a conversion over the specified temperature range.

Output Codes

The output of an A/D converter may be any of several codes. The most common are Unipolar Binary, Offset Binary, Complementary Binary, Complementary Offset Binary, and Two's Complement.

Digital to Analog Converters

Linearity Error

The deviation in ±LSB of the analog output from that provided by the ideal transfer function (a straight line drawn through the end points, i.e., all bits ON point and all bits OFF point).

Settling Time

The time required for the analog output voltage to settle within an error band of typically ±0.5 LSB after an instantaneous code change at the input.

Input Codes

The binary code for the input of a D/A converter. The most common are Unipolar Binary, Offset Binary, Complementary Binary, Complementary Offset Binary, and Two's Complement.

INTRODUCTION TO INTERFACE

In the Interface Section the selection parameters differ for each category; therefore each has its own format. Some of the products in this section, primarily analog to digital and digital to analog converters, may be hybrids; the hybrids listed are only those packaged to be compatible with ICs.

In addition to these circuits are devices used to interface to peripherals such as: display drivers, keyboard encoder-decoders, line circuits, and transmitter-receiver circuits.

Category

Analog Switches

- Switches with Drivers 502
- Switches without Drivers...... 507
- Multiplexers........................ 508

Analog to Digital Converters

- Binary Output..................... 513
- Decimal Output 560

Digital to Analog Converters ... 562

Display Drivers 606

Error Checking Circuits............ 612

Keyboard Encoders-Decoders ... 613

Line Circuits

Drivers

- Single Ended 614
- Differential..................... 616

Receivers

- Single Ended 619
- Differential..................... 620

Transceivers

- Single Ended 623
- Differential..................... 628

Memory Drivers 630

Peripheral Drivers 634

Sense Amplifiers..................... 641

Transmitters-Receivers 642

INTERFACE—Analog Switches/Multiplexers

Switches with Drivers

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
2xSPST	CMOS	25	± 15	± 15	DG421	Maxim	
		35	± 15	± 15, 5	DG421A	† Siliconix	
		70	± 15	± 15	DG200A	† Maxim	
4xSPST	CMOS	2.5K	± 15	± 15	MAX326	† Maxim	
		4.0K	± 15	± 15	MAX327	† Maxim	5
		25	± 15	± 15	DG411A	† Maxim	
					DG411C	Maxim	
					DG411D	Maxim	
					DG412A	Maxim	
					DG412C	Maxim	10
					DG412D	Maxim	
					DG413A	Maxim	
					DG413C	Maxim	
					DG413D	Maxim	
		50	± 15	± 15	HI201HS-8	† Maxim	15
			± 15	± 15	DG441A	† Maxim	
					DG441C	Maxim	
					DG441D	Maxim	
					DG442A	† Maxim	
					DG442C	Maxim	20
					DG442D	Maxim	
					DG444C	Maxim	
					DG444D	Maxim	
		75	± 15	± 15	IH5352C	Harris	
					IH5352I	Harris	25
					IH5352C	Maxim	
		85	± 15	± 15, 5	DG445	Siliconix	
		100	± 15	± 15	DG308AA	† Maxim	
					DG308AC	Maxim	
					DG308AD	Maxim	30
					DG309A	† Maxim	
					DG309C	Maxim	
					DG309D	Maxim	
4xSPST Wideband Video	D/CMOS	15	−5, 8	−5, 15	DG641	Siliconix	
SPST		35		± 20	MXDG417A	† Maxim	35
					MXDG417C	Maxim	
					MXDG418A	† Maxim	
					MXDG418C	Maxim	
					MXDG421A	† Maxim	
					MXDG421C	Maxim	40
	CMOS	25	± 15	± 15, 5	DG417A	Siliconix	
					DG418A	Siliconix	
		50	± 11	± 15,5	IH5140M	† Harris	
			± 15	± 15	DG305C	Maxim	
					IH5040M	† Maxim	45
					IH5041M	† Maxim	
					IH5140M	† Maxim	
					IH5141M	† Maxim	
		75	± 10	± 15,5	IH5140C	Harris	
			± 11	± 15,5	HI5040-2	† Harris	50
					HI5040-5	Harris	
					HI5040-7	Harris	
			± 15	± 15,5	IH5140C	Maxim	
		80	± 15	± 15	IH5040C	Maxim	
	PMOS	80–300	± 10	−20,10	TL610I	TI	55
		100–400	± 10	−20,10	TL610C	TI	
2xSPST		35		± 20	MXDG401A	† Maxim	
					MXDG401C	Maxim	
	CMOS	5	± 15	± 15	DG300A	† Harris	
		25	± 15	± 15	IH401A	Harris	60
				± 15, 5	**DG401**	**Harris (3637)**	
					DG401A	† Siliconix	
			± 60	± 60	MAX348C	Maxim	
					MAX348E	Maxim	
					MAX348M	† Maxim	65
						(Continued)	
2xSPST	CMOS					(Cont'd)	
		30 *	± 10	± 15	CWB2269	Calogic	
		35	± 15	± 15	IH5048C	Maxim	
					IH5048M	† Maxim	
				12, 30, ± 4.5 to ± 20	DG401A	† Maxim	
		45	± 15	12, 30, ± 4.5 to ± 20	DG401C	Maxim	70
					DG401D	Maxim	
		50	± 11	± 15,5	IH5141M	† Harris	
			± 15	± 15	HI300	Harris	
					HI300-2	† Harris	
					HI300-5	Harris	75
					HI304	Harris	
					HI304-2	† Harris	
					HI304-5	Harris	
					HI381	Harris	
					HI381-2	† Harris	80
					HI381-5	Harris	
					DG300AA	† Maxim	
					DG300AB	Maxim	
					DG300AC	Maxim	
					DG300C	Maxim	85
					DG304AA	† Maxim	
					DG304AB	Maxim	
					DG304AC	Maxim	
					DG304C	Maxim	
					DG381AA	† Maxim	90
					DG381AB	Maxim	
					DG381AC	Maxim	
					DG381C	Maxim	
					DG300AA	† Siliconix	
					DG300AC	Siliconix	95
					DG304AA	† Siliconix	
					DG304AC	Siliconix	
					DG381AA	† Siliconix	
					DG381AC	Siliconix	
				± 15,5	HI5048-2	† Harris	100
					HI5048-5	Harris	
					HI5048-7	Harris	
			± 15	± 15	DG301A	† Harris	
					DG302A	† Harris	
					DG303A	† Harris	105
		70	± 15	± 15	DG200A	Harris	
					DG200B	Harris	
					DG200C	Harris	
					HI200	Harris	
					HI200-2	† Harris	110
					HI200-4	Harris	
					HI200-7	Harris	
					DG200AA	Maxim	
					DG200AC	Maxim	
					DG200AA	† Siliconix	115
		75	± 10	± 15,5	IH5141C	Harris	
			± 11	± 15,5	DG200	Harris	
			± 15	± 15	IH5341	Harris	
					IH5341C	Harris	
					IH5341I	Harris	120
					IH5341M	Harris	
					IH5041C	Maxim	
					IH5141C	Maxim	
					IH5341	Maxim	
					IH5341C	Maxim	125
					IH5341M	† Maxim	
				± 15,5	HI5041-2	† Harris	
					HI5041-5	Harris	
					HI5041-7	Harris	
			± 60	± 60	MAX341C	Maxim	130
					MAX341E	Maxim	
					MAX341M	† Maxim	
		80	± 15	± 15	HI200-5	Harris	
					DG200AC	Siliconix	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Switches with Drivers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source		Line
2xSPST	CMOS						(Cont'd)	
		90	±15	±15	**AD7592DIB**	**AD**	**(3534)**	
					AD7592DIT	**AD**	**(3534)**	
		100 *	±10	±15	CWB5341	Calogic		
	D/CMOS	60	-5/8	15,-5	DG542A	† Siliconix		
	JFET	10	-7.5 to 15	±15,5	DG180A	† Siliconix		5
		30	-7.5 to 15	±15,5	DG181A	† Harris		
					DG181A	† Siliconix		
		50	-7.5 to 15	±15,5	DG181B	Harris		
		75	-10 to 15	±15,5	DG182A	† Harris		
					DG182A	† Siliconix		10
		100	-10 to 15	±15,5	DG182B	Harris		
			±10	±15,5	TL182C	TI		
					TL182I	TI		
4xSPST					DG202	Maxim		
		35		±20	MXDG411A	† Maxim		15
					MXDG411C	Maxim		
					MXDG412A	† Maxim		
					MXDG412C	Maxim		
					MXDG413A	† Maxim		
					MXDG413C	Maxim		20
		80		±20	MXDG441A	† Maxim		
					MXDG441C	Maxim		
					MXDG442A	† Maxim		
					MXDG442C	Maxim		
		85		±20	MXDG44C	Maxim		25
					MXDG444A	† Maxim		
					MXDG444C	Maxim		
					MXDG445A	† Maxim		
					MXDG445C	Maxim		
	Bipolar	2.5	±2	±5	CLC533	Comlinear		30
	CMOS	00	±7.5	±7.5	TLC4016I	TI		
		2.5K	±15	±15	MAX326C	Maxim		
					MAX326M	† Maxim		
		4K	±15	±15	MAX327C	Maxim		
					MAX327M	† Maxim		35
		20	±7.5	±7.5	TLC4016M	† TI		
		25	±15	±15, 5	DG411	Harris		
					DG412	Harris		
					DG413	Harris		
					DG411A	† Siliconix		40
					DG412A	† Siliconix		
					DG413A	† Siliconix		
			0 to 10	-0.5 to 10.5	CD54HCT4066	† Harris		
					CD54HC4066	† Harris		
					CD74HCT4066	Harris		45
					54HC4066	† Rochester		
		30	0 to 12	2 to 12	TLC4016	TI		
					TLC4066	TI		
		40 *	±10	±15	CWB201	Calogic		
					CWB211	Calogic		50
					CWB308	Calogic		
					CWB309	Calogic		
		50	±15	±15	HI201HS	Harris		
					HI201HS-2	† Harris		
					HI201HS-4	Harris		55
					HI201HS-5	**Harris**	**(3637)**	
					HI201HS-2	† Maxim		
					HI201HS-5	Maxim		
					HI201HS-6	Maxim		
					HI201HS-9	Maxim		60
					DG271C	Siliconix		
		60	±15	±15	**ADG221A**	**AD**	**(3534)**	
					ADG222A	**AD**	**(3534)**	
		70	-5/8	15,-3	DG541A	† Siliconix		
			±15	±15	HI201-2	† Harris		65
							(Continued)	
4xSPST	CMOS						(Cont'd)	
		75	±15	±15	IH5352M	Harris		
					IH5342C	Maxim		
					IH5352	Maxim		
					IH5352M	† Maxim		
		80	±10	±15,5	IH5053	Harris		70
			±15	±15	ADG201A	† AD		
					HI201	Harris		
					HI201-4	Harris		
					HI201-5	Harris		
					HI201-7	Harris		75
					HI201-9	Harris		
		85	±15	±15	DG441	Harris		
					DG442	Harris		
					DG441A	† Siliconix		
					DG442A	† Siliconix		80
				±15, 5	DG444	Siliconix		
		90	±15	±15	**AD7590DIB**	**AD**	**(3534)**	
					AD7590DIK	**AD**	**(3534)**	
					AD7590DIT	**AD**	**(3534)**	
					AD7591DIB	**AD**	**(3534)**	85
					AD7591DIK	**AD**	**(3534)**	
					AD7591DIT	**AD**	**(3534)**	
					DG221C	Siliconix		
		100	±15	±15	ADG201B	AD		
					ADG201C	AD		90
					AD7510DIJ	**AD**	**(3534)**	
					AD7510DIK	**AD**	**(3534)**	
					AD7510DIS	**† AD**	**(3534)**	
					AD7511DIJ	**AD**	**(3534)**	
					AD7511DIK	**AD**	**(3534)**	95
					AD7511DIS	**† AD**	**(3534)**	
					AD7511DIT	**† AD**	**(3534)**	
					DG308A	† Harris		
					DG308AC	Harris		
					DG309	† Harris		100
					DG308AC	Siliconix		
			±22	±22	NJU201A	NJR		
			0 to 15	-0.5 to 15	SN54HC4016	† TI		
					SN54HC4066	† TI		
		145	±15	±15	ADG201AB	AD		105
					ADG201AK	AD		
					ADG201AT	AD		
					ADG202AB	AD		
					ADG202AK	AD		
					ADG202AT	AD		110
					ADG221B	**AD**	**(3534)**	
					ADG221K	**AD**	**(3534)**	
					ADG221T	**AD**	**(3534)**	
					ADG222B	**AD**	**(3534)**	
					ADG222K	**AD**	**(3534)**	115
					ADG222T	**AD**	**(3534)**	
		175	±15	±15	ADG202A	† AD		
					DG201AA	Harris		
					DG201AB	Harris		
					DG201AC	Harris		120
					DG202	† Harris		
					DG202A	Harris		
					DG202B	Harris		
					DG211	Harris		
					DG211C	Harris		125
					DG212	Harris		
					DG212C	Harris		
					DG201AA	Maxim		
					DG201AC	Maxim		
					DG201C	Maxim		130
					DG201M	† Maxim		
					DG202A	Maxim		
					DG211C	Maxim		
					DG212C	Maxim		
					MAX331	† Maxim		135
					MAX331M	† Maxim		
					MAX332	† Maxim		
							(Continued)	

DT^1 means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Switches with Drivers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
4xSPST	CMOS	175	±15	±15		(Cont'd)	
					MAX332M	† Maxim	
					DG201AA	† Siliconix	
					DG202A	† Siliconix	
				±15, 5	DG211C	Siliconix	
					DG212C	Siliconix	5
			±20	±20	NJU211	NJR	
		200	±7.5	±7.5	TLC4066I	TI	
					TLC4066M	† TI	
			±15	±15	DG202C	Harris	
					DG202C	Maxim	10
					DG201AC	† Siliconix	
					DG202C	Siliconix	
			±22	±22	NJU7301	NJR	
			±15	±15	DG201A	† Harris	
			15	3–15	BCL4416B	R&E Intl	15
					SCL4416B	R&E Intl	
		280	±7.5	±7.5	GD4066B	‡ GoldStar	
					CD4066B	‡ Harris	
					CD74HC4066	Harris	
					CD4066A	‡ Micrel	20
					CD4066B	‡ Micrel	
					MC14066BC	Motorola	
					MC54HC4066	† Motorola	
					MC74HC4066	Motorola	
					CD4066BC	National	25
					CD4066BM	† National	
					MM54HC4066	† National	
					MM74HC4066	National	
					HEF4066B	Philips	
					HEF4066BD	† Philips	30
					74HCT4066	Philips	
					74HC4066	Philips	
					74LV4066	ℓ Philips	
					BCL4066B	R&E Intl	
					SCL4066B	R&E Intl	35
					BU4066BC	ROHM	
					HCC4066B	† SGS-Thomson	
					HCF4066B	SGS-Thomson	
					M74HC4066	SGS-Thomson	
					SN74HC4066	TI	40
					TL4066B	TLSI	
					TC4066B	**Toshiba (3838)**	
					TC74HC4066A	**Toshiba (3836)**	
		400	±7.5	±7.5	MC14016BC	Motorola	
					BU4016B	ROHM	45
					TC4016B	**Toshiba (3838)**	
		850	±7.5	±7.5	GD4016B	† GoldStar	
					CD4016A	† Harris	
					CD4016B	† Harris	
					CD54HCT4316	† Harris	50
					CD54HC4316	† Harris	
					CD74HCT4316	Harris	
					CD74HC4016	Harris	
					CD74HC4316	Harris	
					CD4016A	‡ Micrel	55
					CD4016B	‡ Micrel	
					MC54HC4016	† Motorola	
					MC54HC4316	† Motorola	
					MC74HC4016	Motorola	
					MC74HC4316	Motorola	60
					CD4016BC	National	
					CD4016BM	† National	
					MM54HC4016	† National	
					MM54HC4316	† National	

(Continued)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
4xSPST	CMOS	850	±7.5	±7.5		(Cont'd)	
					MM74HC4016	National	65
					MM74HC4316	National	
					HEF4016	† Philips	
					HEF4016B	† Philips	
					74HCT4316	Philips	
					74HC4016	Philips	70
					74HC4316	Philips	
					74LV4316	ℓ Philips	
					54HC4016	† Rochester	
					54HC4316	† Rochester	
					HCC4016B	† SGS-Thomson	75
					HCF4016B	SGS-Thomson	
					M74HC4316	SGS-Thomson	
					TC74HC4016A	**Toshiba (3836)**	
					TC74HC4316A	**Toshiba (3836)**	
	CMOS w/Latch						
		90	±15	±15	DG221A	† Siliconix	80
		100	±15	±15	DG308AA	Harris	
					DG309A	Harris	
					DG309C	Harris	
					DG308AA	† Siliconix	
					DG309A	† Siliconix	85
					DG309C	Siliconix	
	D/CMOS						
		60	–5/8	15,–5	DG540A	† Siliconix	
	FET	80	±10	±15	**SW201B**	**‡ AD (3534)**	
		150	±10	±15	**SW201G**	**AD (3534)**	
	JFET	50	±10	±10	SD5002	Siliconix	90
		75	±10	±15	SW7510A	† AD	
					SW7510B	† AD	
					SW7510E	AD	
					SW7510F	AD	
					SW7511A	† AD	95
					SW7511B	† AD	
					SW7511E	AD	
					SW7511F	AD	
		150	10	15	**SW202G**	**AD (3534)**	
	MOS	95	16	3 to 16	TC4201C	TeledyneC	100
					TC4202C	TeledyneC	
					TC4203C	TeledyneC	
					TC441C	TeledyneC	
					TC442C	TeledyneC	
					TC446C	TeledyneC	105
4xSPST, Break-Before-Make							
		50	±15	±15	MAX334C	Maxim	
					MAX334E	Maxim	
					MAX334M	† Maxim	
4xSPST Var. Comb. of Normally On/Off, with Disable							
	FET	80	±10	±15	**SW06B**	**‡ AD (3534)**	
		100	±10	±15	**SW06F**	**AD (3534)**	110
		150	±10	±15	**SW06G**	**AD (3534)**	
4xSPST Various Combinations of Normally On/Off							
	FET	80 *	±10	±15	**SW201B**	**‡ AD (3534)**	
		85	±10	±15	SW01B	‡ AD	
					SW01F	AD	
					SW02F	AD	115
	JFET	200	±10	±15,0	LF11201	† National	
					LF11202	† National	
					LF11331	† National	
					LF11332	† National	
					LF11333	† National	120
		250	±10	±15,0	LF13201	National	
					LF13202	National	
					LF13331	National	
					LF13332	National	
					LF13333	National	125
	PMOS	200–600	±10	–20,10,5	AH0015	National	
					AH0015C	National	
2xSPDT	CMOS	25	±15	±15	DG423	Maxim	
		50	±15	±15	HI302-2	† Harris	
					HI302-5	Harris	130

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Switches with Drivers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
2xSPDT	CMOS	50	±15	±15		(Cont'd)	
					HI390-2	† Harris	
					HI390-5	Harris	
2xSPDT[1]	CMOS	50	±15	±15, 5	DG5143	Siliconix	
2xSPDT[1] Wideband Video	D/CMOS	8	-5, 8	-5, 15	DG643	Siliconix	
SPDT		35		±20	MXDG423A	† Maxim	5
					MXDG423C	Maxim	
	Bipolar	2.5	±2	±5	CLC532	Comlinear	
	CMOS	25	±15	±15	DG419A	† Siliconix	
		35	±15	±15	IH5050C	Maxim	
					IH5050M	† Maxim	10
		50	±15	±15	HI301-2	† Harris	
					HI301-5	Harris	
					DG301C	Maxim	
					DG387C	Maxim	
	DMOS	5	-5 to 8	-5 to 15	DG642	Siliconix	15
	GaAs	—	20 dBm	-5	**TQ9151**	**TriQuint (3843)**	
					TQ9152	**TriQuint (3843)**	
					TQ9153	**TriQuint (3843)**	
	PMOS	100–400	±10	-20,10	TL601I	TI	
					TL607I	TI	20
		200–600	±10	-20,10	TL601C	TI	
					TL607C	TI	
SPDT Video	CMOS	20	9	4–7	TK15065Z	Toko	
					TK15066Z	Toko	
					TK15067Z	Toko	25
				5	TK15065	Toko	
					TK15066	Toko	
					TK15067	Toko	
				8	TK15110	Toko	
					TK15210	Toko	30
SPDT, Dual, Video	CMOS	20	9	8	TK15111	Toko	
SPDT[1]	CMOS	50	±11	±15,5	IH5142M	† Harris	
			±15	±15	DG301AA	Harris	
					DG301AB	Harris	
					HI305	Harris	35
					HI305-2	† Harris	
					HI305-5	Harris	
					HI387	Harris	
					HI387-2	† Harris	
					HI387-5	Harris	40
					DG301AA	† Maxim	
					DG301AB	Maxim	
					DG301AC	Maxim	
					DG305AA	† Maxim	
					DG305AB	Maxim	45
					DG305AC	Maxim	
					DG387AA	† Maxim	
					DG387AB	Maxim	
					DG387AC	Maxim	
					IH5142M	† Maxim	50
					DG301AA	† Siliconix	
					DG301AC	Siliconix	
					DG305AA	Siliconix	
					DG387AA	† Siliconix	
					DG387AC	Siliconix	55
				±15,5	HI5050-2	† Harris	
					HI5050-5	Harris	
					HI5050-7	Harris	
		75	±10	±15,5	IH5142C	Harris	
			±15	±15	IH5042M	† Maxim	60
					IH5142C	Maxim	
						(Continued)	

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
SPDT[1]	CMOS	75	±15			(Cont'd)	
				±15,5	HI5042-2	† Harris	
					HI5042-5	Harris	
					HI5042-7	Harris	
		80	±15	±15	IH5042C	Maxim	65
	JFET	10	-7.5 to 15	±15,5	DG186A	† Siliconix	
		30	-7.5 to 15	±15,5	DG187A	† Harris	
					DG187A	† Siliconix	
		50	-7.5 to 15	±15,5	DG187B	Harris	
		75	-10 to 15	±15,5	DG188A	† Harris	70
					DG188A	† Siliconix	
		100	±10	±15,5	TL188C	TI	
					TL188I	TI	
	PMOS	100–400	±10	-20,10	TL604I	TI	
		200–600	±10	-20,10	TL604C	TI	75
2xSPDT	CMOS	25	±14	±15	IH5151	Harris	
					IH5151M	† Harris	
			±15	±15	**DG403**	**Harris (3637)**	
					DG403A	† Siliconix	
		30	±14	±15	IH5151C	Harris	80
		35	±15	±15	IH5051C	Maxim	
					IH5051M	† Maxim	
				±15, 5	DG425A	† Siliconix	
		40	±15	±15	IH5352	Harris	
		50	±15	±15	DG303C	Maxim	85
					DG307C	Maxim	
					DG390C	Maxim	
		75	±15	±15	HS303RH	‡ Harris	
					HS307RH	‡ Harris	
					HS390RH	‡ Harris	90
			±60	±60	MAX343C	Maxim	
					MAX343E	Maxim	
					MAX343M	† Maxim	
		125	±15	±15	DG485	Siliconix	
2xSPDT Audio	CMOS	20	9	4.5–10	TK15120M	Toko	95
			12	1.8–15	TK15022Z	Toko	
				3–20	TK15021Z	Toko	
2xSPDT Video	CMOS	20	9	5–10	TK15064Z	Toko	
2xSPDT[1]	CMOS	35	±15	±15, 5	DG423A	† Siliconix	
		50	±11	±15,5	IH5143M	† Harris	100
			±15	±15	DG303AA	Harris	
					DG303AB	Harris	
					DG303AC	Harris	
					HI307	Harris	
					HI307-2	† Harris	105
					HI307-5	Harris	
					DG303AA	† Maxim	
					DG303AB	Maxim	
					DG303AC	Maxim	
					DG307AA	† Maxim	110
					DG307AB	Maxim	
					DG307AC	Maxim	
					DG390AA	† Maxim	
					DG390AB	Maxim	
					DG390AC	Maxim	115
					IH5143M	† Maxim	
					DG303AA	† Siliconix	
					DG303AC	Siliconix	
					DG307AA	† Siliconix	
					DG307AC	Siliconix	120
					DG390AA	† Siliconix	
					DG390AC	Siliconix	
				±15,5	HI5051-2	† Harris	
					HI5051-5	Harris	
					HI5051-7	Harris	125
					DG243A	† Siliconix	
					DG243C	Siliconix	
						(Continued)	

DT[1] means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Switches with Drivers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
2xSPDT[1]	CMOS	50	±15	±15,5	(Cont'd)		
					DG5043A	† Siliconix	
					DG5043C	Siliconix	
		75	±10	±15,5	IH5143C	Harris	
			±15	±15	IH5043M	Harris	
					IH5043M	† Maxim	5
					IH5143C	Maxim	
				±15,5	HI5043-2	† Harris	
					HI5043-5	Harris	
					HI5043-7	Harris	
		80	±10	±15,5	IH5043	Harris	10
			±15	±15	IH5043C	Harris	
					IH5043C	Maxim	
		100	±15	±15	**AD7512DIJ**	**AD (3534)**	
					AD7512DIK	**AD (3534)**	
					AD7512DIS	**† AD (3534)**	15
					AD7512DIT	**† AD (3534)**	
	JFET	10	−7.5 to 15	±15,5	DG189A	† Siliconix	
		30	−7.5 to 15	±15,5	DG190A	† Harris	
					DG190B	Harris	
					DG190A	† Siliconix	20
		75	−10 to 15	±15,5	DG191A	† Harris	
					DG191A	† Siliconix	
		100	−10 to 15	±15,5	DG191B	Harris	
		150	±10	±15,5	TL191C	TI	
					TL191I	TI	25
3xSPDT	CMOS	280	±7.5	±7.5	GD4053B	† GoldStar	
					CD4053B	† Harris	
					CD54HCT4053	† Harris	
					CD54HC4053	† Harris	
					CD74HCT4053	Harris	30
					CD74HCT4353	Harris	
					CD74HC4053	Harris	
					CD74HC4353	Harris	
					CD4053A	‡ Micrel	
					CD4053B	‡ Micrel	35
					MC14053BC	Motorola	
					MC54HC4053	† Motorola	
					MC54HC4353	† Motorola	
					MC74HC4053	Motorola	
					MC74HC4353	Motorola	40
					CD4053BC	National	
					CD4053BM	† National	
					HEF4053B	Philips	
					HEF4053BD	† Philips	
					74HCT4353	Philips	45
					74HC4353	Philips	
					BCL4053B	R&E Intl	
					SCL4053B	R&E Intl	
					HCC4053B	† SGS-Thomson	
					HCF4053B	SGS-Thomson	50
					M74HC4053	SGS-Thomson	
					M74HC4353	SGS-Thomson	
					TC4053B	**Toshiba (3838)**	
					TC74HC4353A	Toshiba	
4xSPDT	CMOS	—	—	8	ML14551B	Lansdale	55
					MC14551BC	Motorola	
		175	±15	±15	MAX333C	Maxim	
					MAX333E	Maxim	
					MAX333M	† Maxim	
	DMOS	60	−5 to 7	−5 to 15	DG611	Siliconix	60
					DG612	Siliconix	
					DG613	Siliconix	
2xDPST	CMOS	25	±15	±15	DG425	Maxim	
DPST		35		±20	MXDG419A	† Maxim	
					MXDG419C	Maxim	65
					(Continued)		
DPST		35		±20	(Cont'd)		
					MXDG425A	† Maxim	
					MXDG425C	Maxim	
	CMOS	50	±15	±15	DG384AC	Siliconix	
		75	±11	±15,5	IH5144C	Harris	
					IH5144M	† Harris	70
			±15	±15	IH5044M	† Maxim	
					IH5144C	Maxim	
					IH5144M	† Maxim	
				±15,5	HI5044-2	† Harris	
					HI5044-5	Harris	75
					HI5044-7	Harris	
		80	±15	±15	IH5044C	Maxim	
2xDPST		35		±20	MXDG403A	† Maxim	
					MXDG403C	Maxim	
					MXDG405A	† Maxim	80
					MXDG405C	Maxim	
	CMOS	25	±15	±15, 5	DG405	Harris	
					DG405A	† Siliconix	
		35	±15	±15	IH5049C	Maxim	
					IH5049M	† Maxim	85
				12, 30, ±4.5 to ±20	DG403M	† Maxim	
					DG405M	† Maxim	
		45	±15	12, 30, ±4.5 to ±20	DG403C	Maxim	
					DG403D	Maxim	
					DG405C	Maxim	90
					DG405D	Maxim	
		50	±11	±15,5	IH5145M	† Harris	
			±15	±15	HI306	Harris	
					HI306-2	† Harris	
					HI306-5	Harris	95
					HI384	Harris	
					HI384-2	† Harris	
					HI384-5	Harris	
					DG302A	Maxim	
					DG302AA	† Maxim	100
					DG302AB	Maxim	
					DG302AC	Maxim	
					DG302C	Maxim	
					DG306AA	† Maxim	
					DG306AB	Maxim	105
					DG306AC	Maxim	
					DG306C	Maxim	
					DG384AA	† Maxim	
					DG384AB	Maxim	
					DG384AC	Maxim	110
					DG384C	Maxim	
					IH5145M	† Maxim	
					DG302AA	† Siliconix	
					DG302AC	Siliconix	
					DG306AA	† Siliconix	115
					DG306AC	Siliconix	
					DG384AA	† Siliconix	
				±15,5	HI5049-2	† Harris	
					HI5049-5	Harris	
					HI5049-7	Harris	120
		75	±10	±15,5	IH5145C	Harris	
			±15	±15	IH5045M	† Maxim	
					IH5145C	Maxim	
				±15,5	HI5045-2	† Harris	
					HI5045-5	Harris	125
					HI5045-7	Harris	
			±60	±60	MAX345C	Maxim	
					MAX345E	Maxim	
					MAX345M	† Maxim	
		80	±15	±15	IH5045C	Maxim	130
					(Continued)		

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Switches with Drivers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
2xDPST						(Cont'd)	
	CMOS-RH	75	±15	±15	HS302RH	‡ Harris	
					HS306RH	‡ Harris	
					HS384RH	‡ Harris	
	JFET	10	−7.5 to 15	±15,5	DG183A	† Siliconix	
		30	−7.5 to 15	±15,5	DG184A	† Harris	5
					DG184A	† Siliconix	
			±10	−18,12	DG129A	† Siliconix	
		50	−7.5 to 15	±15,5	DG184B	Harris	
		75	−10 to 15	±15,5	DG185A	† Harris	
					DG185A	† Siliconix	10
		100	−10 to 15	±15,5	DG185B	Harris	
		150	±10	±15,5	TL185C	TI	
					TL185I	TI	
2xDPST Common Output	PMOS	200–600	±10	−20,10,5	AH0019	National	
					AH0019C	National	15
DPDT	PMOS	200–600	±10	−20,10,5	AH0014	National	
					AH0014C	National	
DPDT[1]	CMOS	50	±15	±15,5	HI5046A-2	† Harris	
					HI5046A-5	Harris	
					HI5046A-7	Harris	20
		75	±15	±15,5	HI5046-2	† Harris	
					HI5046-5	Harris	
					HI5046-7	Harris	
1xSPST	CMOS	25	±15	±15	DG417	Maxim	
					DG418	Maxim	25
1xSPDT	CMOS	25	±15	±15	DG419	Maxim	
8-Channel	DMOS	30	−110 to 90	±110	USH5008	Universal	
1xSPST	CMOS	45 *	±10	±15	CWB2214	Calogic	
2xSP3T Audio	CMOS	20	12	1.8–16	TK15023Z	Toko	
2x4PDT Audio	CMOS	20	9	1.8–16	TK15080D	Toko	30
2x4PST Audio	CMOS	20	9	1.8–16	TK1508D	Toko	
		120	20	−.5 to +20	CD4529B	Harris	
4 Channel Video	CMOS	800	±3V	12V	CA3256	Harris	
4PDT, Dual, Video	CMOS	20	9	5	TK15080	Toko	
4PST	CMOS	50	±15	±15,5	HI5047A-2	† Harris	35
					HI5047A-5	Harris	
					HI5047A-7	Harris	
		75	±15	±15,5	HI5047-2	† Harris	
					HI5047-5	Harris	
					HI5047-7	Harris	40

Switches without Drivers

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
4xSPST	CMOS	30	±13	44	**ADG201HSA**	**AD (3534)**	
					ADG201HSB	**AD (3534)**	
					ADG201HSJ	**AD (3534)**	
					ADG201HSK	**AD (3534)**	
					ADG201HSS	**AD (3534)**	45
					ADG201HST	**AD (3534)**	
		50	+−5	+−5	**ADG511B**	**AD (3534)**	
					ADG511T	**† AD (3534)**	
					ADG512B	**AD (3534)**	
					ADG512T	**† AD (3534)**	50
SPST	JFET	150	±0.2		IH5022	Harris	
					IH5022C	Harris	
					IH5022M	† Harris	
					IH5024	**Harris (3637)**	
						(Continued)	

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
SPST	JFET	150	±0.2			(Cont'd)	
					IH5024C	**Harris (3637)**	55
					IH5024M	**† Harris (3637)**	
2xSPST	CMOS	55	±50	±20	HV348	Supertex	
		100	±50	±20	HV341	Supertex	
	JFET	100	±0.2		IH5017	Harris	
					IH5017C	Harris	60
					IH5017M	† Harris	
		150	−15 to 30	30	AH5020C	National	
			±0.2		IH5020	Harris	
					IH5020C	Harris	
					IH5020M	† Harris	65
2xSPST Common Output	JFET	100	±0.2		IH5019	Harris	
					IH5019C	Harris	
					IH5019M	† Harris	
		150	±0.2		IH5018	Harris	
					IH5018C	Harris	70
					IH5018M	† Harris	
3xSPST	JFET	150	±0.2		IH5016	Harris	
					IH5016C	Harris	
					IH5016M	† Harris	
3xSPST Common Output	JFET	150	±0.2		IH5014	Harris	75
					IH5014C	Harris	
					IH5014M	† Harris	
4xSPST	CMOS	30	±15	44	**ADG201HS**	**† AD (3534)**	
		115	±15	44	ADG211A	† AD	
					ADG212A	† AD	80
	D-MOS	70	±5	10	SD5001	TeledyneC	
			±7.5	15	SD5002	TeledyneC	
			±10	20	SD5000	TeledyneC	
	DMOS	50	±10	−10, 15	SD5000	Siliconix	
					SD5001	Siliconix	85
					SD5002	Siliconix	
					SD5400	Siliconix	
					SD5401	Siliconix	
	JFET	100	±0.2		IH5011	Harris	
					IH5011C	Harris	90
					IH5011M	† Harris	
					AH5011C	National	
		150	±0.2		IH5012	Harris	
					IH5012C	Harris	
					IH5012M	† Harris	95
					AH5012C	National	
4xSPST Common Output	JFET	100	±0.2		IH5009	Harris	
					IH5009C	Harris	
					IH5009M	† Harris	
					AH5009C	National	100
		150	±0.2		IH5010	Harris	
					IH5010C	Harris	
					IH5010M	† Harris	
					AH5010C	National	
SPDT	GaAs	50		5	MRFIC2003	Motorola	105
2xSPDT	CMOS	25		1.8	TK15022	ℓ Toko	
				3	TK15021	ℓ Toko	
					TK15023	ℓ Toko	
					TK15025	ℓ Toko	
					TK15026	ℓ Toko	110
					TK15027	ℓ Toko	
					TK15030	ℓ Toko	
					TK15052	ℓ Toko	
					TK15062	ℓ Toko	
					TK15064	ℓ Toko	115
		95	±7.5	±7.5	TC444	† TeledyneC	
		100	±50	±20	HV343	Supertex	
2xDPST	CMOS	100	±50	±20	HV345	Supertex	

DT[1] means four terminals with a pair of normally open and normally closed contacts.

INTERFACE–Analog Switches/Multiplexers (Cont'd)

Switches without Drivers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Dual Audio Switch	FET	85	14.2	22	**SSM2402**	**AD (3534)**	
					SSM2412	**AD (3534)**	
Quad Analog Switch					HC2003	Hughes	
Quad FET	DMOS	70	±5	±5	SD5001	Universal	
			±7.5	±7.5	SD50002	Universal	5
			±10	±10	SD5000	Universal	
Eight Outputs Solid-State DIP Switch					HC2001	Hughes	
1-of–8 Decode 8-Channel	HVCMOS	40	±15	140	HV1514	Supertex	
				160	HV1516	Supertex	
4-Channel High-Voltage	HVCMOS	25	±15	140	HV1014	Supertex	10
				160	HV1016	Supertex	
8-Channel High-Voltage	HVCMOS	22	±10	140	HV2114	Supertex	
					HV2214	Supertex	
				160	HV2116	Supertex	
					HV2216	Supertex	15
		40	±15	140	HV1214	Supertex	
					HV1414	Supertex	
					HV1614	Supertex	
					HV1814	Supertex	
				160	HV1216	Supertex	20
					HV1416	Supertex	
					HV1616	Supertex	
					HV1816	Supertex	
8x4 Array	CMOS	75	0.5	13	MT8806A	Mitel	
8x4 Video Crosspoint Array	DMOS	90	–5 to 8	–10 to 15	DG884	Siliconix	25
8x8 Array	CMOS	75	0.5	13	MT8809A	Mitel	
8x16 Array	CMOS	75	0.5	13	MT8816A	Mitel	
16x16 Crosspoint Switch Array	CMOS	250	±13V	±13V	**AD75019**	**AD (3524, 3538)**	
		300	±13	±13	**AD75019J**	**AD (3524, 3538)**	
1x1 HDTV Video	Bipolar		–2.4 to 3	±5	GX4201	Gennum	30
1x1 Video	Bipolar		–1.2 TO 2	±8	GX401	Gennum	

Multiplexers

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Audio Signals, Dual 2-Mode					M51551	Mitsubishi	
Audio/Video Switch					GL3812	GoldStar	
CMOS Analog Multiplexer, 4-Channel Differential	CMOS	1500	±15	±15	HI1-0509A-2	† Burr-Brown	
CMOS Analog Multiplexer, 8-Channel Differential	CMOS	1500	±15	±15	HI1-0507A-2	† Burr-Brown	35
CMOS Analog Multiplexer, 8-Channel Single-Ended	CMOS	1500	±15	±15	HI1-0508A-2	† Burr-Brown	
CMOS Analog Multiplexer, 16-Channel Differential	CMOS	1500	±15	±15	HI1-0506A-2	† Burr-Brown	
CMOS Analog Multiplexer, 4-Channel	Diff	500	±10	±15	DG459	Harris	
					DG459	Siliconix	
CMOS Analog Multiplexer, 8-Channel	CMOS	500	±10	±15	DG458	Harris	40
					DG458	Siliconix	
Crosspoint Switch, 8x12					GM62093	GoldStar	
Crosspoint Switches					CD22100	Harris	
					CD22101	Harris	
					CD22102	Harris	45
					CD74HCT22106	Harris	
					CD74HC22106	Harris	
					MC142100	Motorola	
					RC4444	Raytheon	
Data Selector, 8-Channel					HC2004	Hughes	50
High Current Switch (to drive power transistor switches)					SG3629	Linfinity Micro	
4xSPST	CMOS		±15	±15	DG201HS	† Siliconix	
		35	–5, 12	–5, 12	DG601	Siliconix	
4xSPDT Wideband Video	D/CMOS	100	–2, 2	–5, 12	DG894	Siliconix	
3xSPDT	CMOS	280	±7.5	±7.5	BU4053BC	ROHM	55
Dual 4-Channel	CMOS	100	±-6	2 to 12	**TC74HC4352A**	**Toshiba (3836)**	
Dual 4-Channel Analog Multiplexer	HC				M74HC4052	SGS-Thomson	
Triple 2-Channel	CMOS	50	±15	5	TC74HC5353A	Toshiba	
					MM54HC4053	† National	
					MM74HC4053	National	60
					74LV4053	ℓ Philips	
Triple 2-Channel Analog Multiplexer	HC				M74HC4053	SGS-Thomson	
Four Channel, Single-Ended					**MX850**	**Datel (3570)**	
Eight Channel, Single-Ended					**MX826C**	**Datel (3570)**	
1-of–8	CMOS	300	±18	±18	MX7501	† Maxim	65
					MX7503	† Maxim	
2 Channel	CMOS	100	±-6	2 to 12	IH6201	Harris	
					TC74HC4353A	**Toshiba (3836)**	
2 Channel, Dual, Single-Ended, Video		880000	±4.2	±5	**MPC102A**	**Burr-Brown (3470)**	
2-Channel Differential, Wideband, Video	D/CMOS	90	–5 to 10	–5,15	DG534A	† Siliconix	70
2-of–8	CMOS	300	±18	±18	MX7502	† Maxim	
4 Channel	CMOS	300	±15	±15	ADG509AB	AD	
					ADG509AK	AD	
					ADG509AT	AD	
	CMOS/D-MOS	40 •	±10	±15	CWB4500	Calogic	75
4 Channel Differential		1800	±15	±15	HI3-0509A-5	Burr-Brown	
	CMOS	100	±15	±20	DG409	Harris	
					DG409A	Siliconix	
		250	±15	±15	**MVD409**	**Datel (3570)**	
		270	±7.5	±7.5	ML14529B	Lansdale	80
					MC14529BC	Motorola	
					CD4529BC	National	
					CD4529BM	† National	
		280	±7.5	±7.5	GD4052B	† GoldStar	
					CD4052B	† Harris	85
					CD54HCT4052	† Harris	
					CD54HC4052	† Harris	
					CD54HC4352	Harris	
					CD74HCT4052	Harris	
					CD74HCT4352	Harris	90
					CD74HC4052	Harris	
					CD74HC4352	Harris	
					CD4052A	‡ Micrel	
					CD4052B	‡ Micrel	
					MC14052BC	Motorola	95

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Multiplexers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
4 Channel Differential	CMOS	280	±7.5	±7.5	(Cont'd)		
					MC54HC4052	† Motorola	
					MC54HC4352	† Motorola	
					MC74HC4052	Motorola	
					MC74HC4352	Motorola	
					CD4052BC	National	5
					CD4052BM	† National	
					MM54HC4052	† National	
					MM74HC4052	National	
					74HCT4352	Philips	
					74HC4352	Philips	10
					74LV4052	ℓ Philips	
					BCL4052B	R&E Intl	
					SCL4052B	R&E Intl	
					HCC4052B	† SGS-Thomson	
					HCF4052B	SGS-Thomson	15
					M74HC4352	SGS-Thomson	
					TC4052B	**Toshiba (3838)**	
		300	±15	±15	AD7502J	AD	
					AD7502K	AD	
					AD7502S	† AD	20
					HI509-2	† Harris	
					HI509-4	Harris	
					HI509-5	Harris	
					IH6208M	† Harris	
					IH6208M	† Maxim	25
		350	±15	±15	IH6208C	Harris	
					IH6208C	Maxim	
		400	±15	±15	DG509AA	Harris	
					HI1828A	Harris	
					HI1828A-2	† Harris	30
					HI1828A-5	Harris	
					DG509AA	† Maxim	
					DG509AA	† Siliconix	
		450	±15	±15	DG509AB	Harris	
					DG509AC	Harris	35
					DG509AB	Maxim	
					DG509AC	Maxim	
					DG506AC	Siliconix	
		900	±10	±15	HI539-2	† Harris	
					HI539-4	Harris	40
					HI539-5	Harris	
		1500	±15	±15	**MXD409**	**Datel (3570)**	
					HI509A-2	† Harris	
				±20	HI549-2	† Harris	
		1800	±15	±15	HI509A-5	Harris	45
				±20	HI549-4	Harris	
					HI549-5	Harris	
		2000	±15	±15	MAX389C	Maxim	
					MAX389E	Maxim	
					MAX389M	† Maxim	50
	JFET	260	−15 to 11.5	±15	**MUX24A**	**† AD (3524)**	
					MUX24E	**AD (3524)**	
		350 *	−15 to 12	±15	LF13509	National	
		370	−15 to 12	±15	**MUX24B**	**† AD (3524)**	
					MUX24F	**AD (3524)**	55
4 Channel Differential, Video	CMOS	150	±15	±15	MAX311C	Maxim	
					MAX311E	Maxim	
					MAX311M	† Maxim	
4 Channel (dual)	CMOS	300	±15	±15	ADG509A	AD	
					ADG529A	**AD (3524)**	60
4 Channel Video		880000	±4.2	±5	**MPC100A**	**Burr-Brown (3470)**	
	CMOS	150	±6	±15	LT1204C	LinearTech	
		270	±7.5	±7.5	MC14529BC	Motorola	
					CD4529BC	National	
					CD4529BM	† National	65
		450	±15	±15	**HI524-2**	**† Harris (3637)**	
					HI524-5	**Harris (3637)**	
4 Channel, with Enable	CMOS/D-MOS	160	±10	±15	CDG4500	TeledyneC	
4 Channel with Input Latch	CMOS	450	±15	±15	DG529C	Siliconix	
	D/CMOS	400	±15	±15	DG529A	Harris	70
					DG529A	† Siliconix	
4 Channel/Dual Differential	CMOS	100	±15	±15	DG409A	Maxim	
					DG409C	Maxim	
					DG409D	Maxim	
4-Channel Differential	CMOS	280	±7.5	±7.5	BU4052BC	ROHM	75
	D/CMOS	90	−5 to 10	−5,15	DG538A	† Siliconix	
4-Channel (dual)	CMOS	300	±15	±15	**ADG529AB**	**AD (3524)**	
					ADG529AK	**AD (3524)**	
					ADG529AT	**AD (3524)**	
4-Channel SE		120	±15	±15	**MX850MC**	**Datel (3570)**	80
		140	±15	±15	**MX850MM**	**Datel (3570)**	
4-Channel Wideband	CMOS	1500	±10	±15	**HI524-8**	**Harris (3637)**	
4x1 Video Crosspoint Switch	Bipolar		−2 to 4	±8	GX414A	Gennum	
4x1 Video, Low Power			−2.4 to 3.6	±4.5, ±11	GX4314L	Gennum	
8 Channel		1800	±15	±15	HI3-0508A-5	Burr-Brown	85
	CMOS	100	±-6	2 to 12	**TC74HC4351A**	**Toshiba (3836)**	
			±15	±20	DG408	Harris	
					DG408A	Siliconix	
		250	±15	±15	**MV808**	**Datel (3570)**	
		280	±7.5	±7.5	GD4051B	† GoldStar	90
					CD4051B	† Harris	
					CD54HCT4051	† Harris	
					CD54HC4051	† Harris	
					CD54HC4351	Harris	
					CD54HC4353	† Harris	95
					CD74HCT4051	Harris	
					CD74HCT4351	Harris	
					CD74HC4051	Harris	
					CD74HC4351	Harris	
					CD4051A	‡ Micrel	100
					CD4051B	‡ Micrel	
					MC14051BC	Motorola	
					MC54HC4051	† Motorola	
					MC54HC4351	† Motorola	
					MC74HC4051	Motorola	105
					MC74HC4351	Motorola	
					MM54HC4051	† National	
					MM74HC4051	National	
					HEF4051B	Philips	
					HEF4051BD	† Philips	110
					HEF4052B	Philips	
					HEF4052BD	† Philips	
					74HCT4351	Philips	
					74HC4351	Philips	
					74LV4051	ℓ Philips	115
					BCL4051B	R&E Intl	
					SCL4051B	R&E Intl	
					HCC4051B	† SGS-Thomson	
						(Continued)	

DT^1 means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Multiplexers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
8 Channel	CMOS	280	±7.5	±7.5		(Cont'd)	
					HCF4051B	SGS-Thomson	
					M74HC4351	SGS-Thomson	
					TC4051B	**Toshiba (3838)**	
			±15	±15	**ADG507AB**	**AD (3524)**	
					ADG507AK	**AD (3524)**	5
					ADG507AT	**AD (3524)**	
		300	±15	±15	ADG508A	AD	
					ADG508AB	AD	
					ADG508AK	AD	
					ADG508AT	AD	10
					ADG527AB	**AD (3524)**	
					ADG527AK	**AD (3524)**	
					ADG527AT	**AD (3524)**	
					ADG528A	**AD (3524)**	
					ADG528AB	**AD (3524)**	15
					ADG528AK	**AD (3524)**	
					ADG528AT	**AD (3524)**	
					AD7501J	AD	
					AD7501K	AD	
					AD7501S	† AD	20
					AD7503J	AD	
					AD7503K	AD	
					AD7503S	† AD	
					HI508-2	† Harris	
					HI508-4	Harris	25
					HI508-5	Harris	
					HS508ARH	‡ Harris	
					IH6108M	† Harris	
					IH6108M	† Maxim	
		350	±15	±15	IH6108C	Harris	30
					IH6108C	Maxim	
		400	±15	±15	DG508AA	Harris	
					DG528A	Harris	
					DG508AA	† Maxim	
					DG508AA	† Siliconix	35
					DG528A	† Siliconix	
				±15,5	HI1818A	Harris	
					HI1818A-2	† Harris	
		450	±15	±15	DG508AB	Harris	
					DG508AC	Harris	40
					DG508AB	Maxim	
					DG508AC	Maxim	
					DG508AC	Siliconix	
		750	±15	±15	**MX818C**	**Datel (3570)**	
		1500	±15	±15	**MX808**	**Datel (3570)**	45
					HI508A-2	† Harris	
				±20	HI548-2	† Harris	
					HI548-4	Harris	
					HI548-5	Harris	
		1800	±15	±15	HI508A-5	Harris	50
	JFET	260	−15 to 11.5	±15	**MUX08E**	**AD (3524)**	
		300	−15 to 10.4	±15	**MUX08B/883**	**† AD (3524)**	
			−15 to 12	±15	**MUX08A**	**† AD (3524)**	
		350 *	−15 to 12	±15	LF13508	National	
		370	−15 to 12	±25	**MUX08F**	**AD (3524)**	55
					MUX88F	AD	
		400	−15 to 12	±15	**MUX08B**	**† AD (3524)**	
8 Channel Differential		1800	±15	±15	HI3-0507A-5	Burr-Brown	
	CMOS	100	±15	±15	DG407	† Siliconix	
		250	±7.5	±7.5	MC14097BC	Motorola	60
		270	±15	±15	**MVD807**	**Datel (3570)**	
		280	±7.5	±7.5	CD4097B	† Harris	
					HCC4097B	† SGS-Thomson	
					HCF4097B	SGS-Thomson	
						(Continued)	
8 Channel Differential	CMOS					(Cont'd)	
		400	±15	±15	**AD7507S**	**† AD (3524)**	65
					AD7507T	**† AD (3524)**	
					HI507-2	† Harris	
					HI507-4	Harris	
					HI507-5	Harris	
					HI507-8	† Harris	70
					DG507AA	† Siliconix	
		450	±15	±15	**AD7507J**	**AD (3524)**	
					AD7507K	**AD (3524)**	
					DG507AC	Siliconix	
					DG528C	Siliconix	75
		600	±10	±15	HI518-2	† Harris	
					HI518-5	Harris	
		750	±15	±15	**MPC800K**	**Burr-Brown (3470)**	
					MPC800S	**† Burr-Brown (3470)**	
		1300	±15	±15	MPC8D	Burr-Brown	80
		1500	±15	±15	**MXD807**	**Datel (3570)**	
					HI507A-2	† Harris	
				±20	HI547-2	† Harris	
		1800	±15	±15	**MPC507A**	**Burr-Brown (3470)**	
					MPC509A	**Burr-Brown (3470)**	85
					HI507A-4	Harris	
					HI507A-5	Harris	
					HI507A-8	† Harris	
				±20	HI547-4	Harris	
					HI547-5	Harris	90
	JFET	300	−15 to 11	±15	**MUX28A**	**AD (3524)**	
					MUX28B	**AD (3524)**	
					MUX28B/883	**† AD (3524)**	
					MUX28E	**AD (3524)**	
		450	−15 to 11.5	±15	**MUX28F**	**AD (3524)**	95
8 Channel Differential w/Latch	CMOS	100	±15	±15	DG429	† Siliconix	
8 Channel (dual)	CMOS	100	±15	±4.5 to ±20	DG407C	Maxim	
					DG407D	Maxim	
					DG407M	† Maxim	
		280	±15	±15	**ADG507A**	**AD (3524)**	100
					ADG527A	**AD (3524)**	
8 Channel Latched	CMOS	1500	±15	±15	HI508L-2	† Maxim	
		1800	±15	±15	HI508L-5	Maxim	
8 Channel Video	CMOS	150	±15	±15	MAX310C	Maxim	
					MAX310E	Maxim	105
					MAX310M	† Maxim	
8 Channel w/Latch	CMOS	100	±15	±15	DG428	† Siliconix	
8 Channel, BCD Input, Latch	PMOS	—	60	0–70	**LS7110**	**LSI Comp (3683)**	
8 Channel Single-Ended	CMOS	100	±15	±15	DG408A	Maxim	
					DG408C	Maxim	110
					DG408D	Maxim	
		1800	±15	±15	**MPC508A**	**Burr-Brown (3470)**	
		2000	±15	±15	MAX388C	Maxim	
					MAX388E	Maxim	
					MAX388M	† Maxim	115
8-Bit Channel Analog Multiplexer	HC				M74HC4051	SGS-Thomson	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Multiplexers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
8-Channel	CMOS	270	±5	5 to 15	CD4051BC	National	
					CD4051BM	National	
					CD4501BM	† National	
		280	±7.5	±7.5	BU4051BC	ROHM	
8-Channel Differential		400	±15	±15	MX7507S	† Maxim	5
					MX7507T	† Maxim	
		450	±15	±15	MX7507J	Maxim	
					MX7507K	Maxim	
	CMOS	400	±15	±15	DG507AA	Harris	
					DG507AA	† Maxim	10
					IH6216M	† Maxim	
		450	±15	±15	DG507AB	Harris	
					DG507AC	Harris	
					DG507AB	Maxim	
					DG507AC	Maxim	15
					IH6216C	Maxim	
8-Channel SE/4 DI		750	±15	±15	**MPC801K**	**Burr-Brown (3470)**	
					MPC801S	**† Burr-Brown (3470)**	
8-Channel SE/4-Channel Differential	CMOS	750	±14	±15	HI518-8	Harris	
16 Channel		1800	±15	±15	HI3-0506A-5	Burr-Brown	20
	CMOS	—	±15	±15	**TC5023B**	**Toshiba (3838)**	
		100	±15	±4.5 to ±20	DG406C	Maxim	
					DG406D	Maxim	
					DG406M	† Maxim	
				±15	DG406	† Siliconix	25
		250	±15	±15	MC14067BC	Motorola	
		270	±15	±15	**MV1606**	**Datel (3570)**	
					MV1606M	**† Datel (3570)**	
		280	±7.5	±7.5	GD4067B	GoldStar	
					CD4067B	† Harris	30
					CD4067BE	Harris	
					CD54HCT4067	† Harris	
					CD54HC4067	† Harris	
					CD74HCT4067	Harris	
					CD74HC4067	Harris	35
					HEF4067B	Philips	
					HEF4067BD	† Philips	
					74HCT4067	Philips	
					74HC4067	Philips	
					HCC4067B	† SGS-Thomson	40
					HCF4067B	SGS-Thomson	
			±15	±15	**ADG506A**	**AD (3524)**	
					ADG506AB	**AD (3524)**	
					ADG506AK	**AD (3524)**	
					ADG506AT	**AD (3524)**	45
					ADG526A	**AD (3524)**	
		300	±15	±15	**ADG526AB**	**AD (3524)**	
					ADG526AK	**AD (3524)**	
					ADG526AT	**AD (3524)**	
		400	±15	±15	AD7506S	† AD	50
					AD7506T	† AD	
					HI506-2	† Harris	
					HI506-4	Harris	
					HI506-5	Harris	
					DG506A	Siliconix	55
		450	±15	±15	AD7506J	AD	
					AD7506K	AD	
					DG506C	Siliconix	
		600	±10	±15	HI516-2	† Harris	
					HI516-5	Harris	60
16 Channel	CMOS					(Cont'd)	
		750	±15	±15	**MX1616C**	**Datel (3570)**	
		1500	±15	±15	**MX1606**	**Datel (3570)**	
					HI506A-2	† Harris	
				±20	HI546-2	† Harris	
		1800	±15	±15	HI506A-4	Harris	65
					HI506A-5	Harris	
					HI506A-8	† Harris	
				±20	HI546-4	Harris	
					HI546-5	Harris	
		5000	±5 to 15	±15,5	HS1840RH	‡ Harris	70
	D/CMOS	90	0 to 10	0 to 15	DG536A	ℓ Siliconix	
	JFET	300	−15 to 11	±15	**MUX16A**	**† AD (3524)**	
					MUX16B/883	**† AD (3524)**	
					MUX16E	**AD (3524)**	
		450	−15 to 11.5	±15	**MUX16B**	**† AD (3524)**	75
					MUX16F	**AD (3524)**	
16 Channel Single-Ended	CMOS	1800	±15	±15	**MPC506A**	**Burr-Brown (3470)**	
16-Channel		400	±15	±15	MX7506S	† Maxim	
					MX7506T	† Maxim	
		450	±15	±15	MX7506J	Maxim	80
					MX7506K	Maxim	
	CMOS	400	±15	±15	DG506AA	Harris	
					DG506AA	† Maxim	
					IH6116M	† Maxim	
		450	±15	±15	DG506AB	Harris	85
					DG506AC	Harris	
					DG506AB	Maxim	
					DG506AC	Maxim	
					IH6116C	Maxim	
16-Channel SE/8-Channel Differential	CMOS	750	±15	±15	HI516-8	Harris	90
16-Channel Wideband Video/ Latch	D/CMOS	90	0 to 10	0 to 15	DG535A	ℓ† Siliconix	
1-of–8 Multiplexer	CMOS	1900	±18	±18	MAX328C	Maxim	
		2200	±18	±18	MAX328M	† Maxim	
16-Channel/ Dual 8-Channel Latchable Multiplexer	CMOS	400	±15	±15	DG527	† Harris	
					DG527A	Harris	95
					DG527B	Harris	
					DG527C	Harris	
16-Channel/Dual 8 Channel Analog Multiplexer	CMOS	400	±15	±15	DG506A	† Harris	
					DG507A	† Harris	
16-Channel/Dual 8-Channel Latchable	CMOS	400	±15	±15	DG526	† Harris	100
					DG526A	Harris	
					DG526B	Harris	
					DG526C	Harris	
2-Channel, Triple	CMOS	200	±20	±20	NJU4053B	NJR	
2-of–8 Multiplexer	CMOS	1900	±18	±18	MAX329C	Maxim	105
		2200	±18	±18	MAX329M	† Maxim	
2x1 Fast Toggle	Bipolar		−2.5 to 3.5	±5	GY4102A	Gennum	
4 Channel Differential	CMOS	1500	±15	±15	HI509A-2	† Maxim	
					MAX359M	† Maxim	
		1800	±15	±15	HI509A-5	Maxim	110
					MAX359C	Maxim	

(Continued)

DT[1] means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches/Multiplexers (Cont'd)

Multiplexers (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
4 Channel Differential, Latched							
	CMOS	1500	±15	±15	MAX369M	† Maxim	
		1800	±15	±15	MAX369C	Maxim	
4 Channel Video							
	Bip	500	±10	±15	**HA2444**	**† Harris (3637)**	
4-Channel							
	CMOS	220	±20	±20	NJU4052B	NJR	
		300	±20	±20	NJU4066B	NJR	5
4x1 HDTV Video							
	Bipolar		-2.4 to 3	±4.5	GX4404	Gennum	
				±5	GX4314	Gennum	
4x1 Video							
	Bipolar		-1.2 to 5	±7, ±12	GX214A	Gennum	
8 Channel							
	CMOS	400	±15	±15	DG528M	† Maxim	
					DG529A	† Maxim	10
		450	±15	±15	DG528C	Maxim	
					DG528D	Maxim	
					DG528E	Maxim	
					DG529C	Maxim	
					DG529D	Maxim	15
					DG529E	Maxim	
		1500	±15	±15	HI508A-2	† Maxim	
					MAX358M	Maxim	
					MAX368M	† Maxim	
		1800	±15	±15	HI508A-5	Maxim	20
					MAX358C	Maxim	
					MAX368C	Maxim	
		3000	±15	±15	MAX378C	Maxim	
					MAX378M	† Maxim	
8 Channel Differential							
	CMOS	3000	±15	±15	MAX379C	Maxim	25
					MAX379M	† Maxim	
8 Channel, High Voltage Bi-Directional							
	CMOS/DMOS						
		25	200	220	ECI21HV	† ECI Semi	
		40	400	450	ECI41HV	† ECI Semi	
8-Channel							
	CMOS	200	±20	±20	NJU4051B	NJR	
					NJU7304	NJR	30
		300	±15	±15	DG508A	† Harris	
8-Channel/Dual 4-Channel Analog Multiplexer							
	CMOS	400	±15	±15	DG509A	† Harris	
8-Channel/Dual 4-Channel Latchable							
	CMOS	400	±15	±15	DG528	† Harris	
					DG528B	Harris	
8-Channel/Dual 4-Channel Latchable Multiplexer							
	CMOS	400	±15	±15	DG529	† Harris	35
					DG529B	Harris	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		
12	1	1		x												**AD7586**	**AD (3508)**	
3 1/2			800											x		KS7126C	Samsung	
4		20		x						x			x		x	M62302	Mitsubishi	
	1/2	0.03 *	800	x		x								x		UAB1005	SGS-Thomson	
				x		x								x		UAC1005	† SGS-Thomson	5
4 (flash)	1/4		30	x												**CA3304**	**Harris (3639)**	
			35	x												**CA3304A**	**Harris (3639)**	
		25		x				x						x		TDC1044	TRWLSI	
4 1/2			30						x			x				TC835	TeledyneC	
6		0.03	200	x										x		TL5501	TI	10
	—	0.13		x										x		AD9000J	AD	
		75 MHz		x										x		AD9000S	† AD	
	1/4			x										x		µPC661	NEC	
		0.02	450	x	x						x			x		SDA5010	Siemens	
	1/2			x										x		µPD6951C/G	NEC	15
			800	x									x	x		MP3306A	MicroPwr	
		0.01		x										x		MN5904	MicroNet	
				x										x		MN5904E	MicroNet	
				x										x		MN5904H	† MicroNet	
				x										x		MN5905	MicroNet	20
				x										x		MN5905E	MicroNet	
				x										x		MN5905H	† MicroNet	
		0.04	135 *	x							x			x		MP7686K	MicroPwr	
				x							x			x		MP7686T	MicroPwr	
		0.05	60	x		x	x	x						x		**CXD1172**	**Sony (3794)**	25
			300	x										x		TDA8706	Philips	
		0.07	80	x	x		x	x						x		LC89066	Sanyo	
			700	x	x									x		ZN440CJ	GEC Plessey	
		0.10	55 *	x										x		**CA3306C**	**Harris (3639)**	
			700	x	x									x		ZN441CJ	GEC Plessey	30
		0.66	150	x										x		MP7682B	MicroPwr	
				x										x		MP7682K	MicroPwr	
				x										x		MP7682T	MicroPwr	
		20 MSPS	40	x							x		x	x		**CXD1172A**	**Sony (3794)**	
		100	15	x							x		x	x		KAD0206	Samsung	35
	3/4	0.04	135 *	x							x			x		MP7686J	MicroPwr	
				x							x			x		MP7686S	MicroPwr	
	0.5 *	0.05 *		x							x			x		**SM6104**	**Seponix (3703)**	
	1	0.01	200 *	x										x		**MN5909**	**MicroNet (3691)**	
				x										x		**MN5909E**	**MicroNet (3691)**	40
				x										x		**MN5909H**	**† MicroNet (3691)**	
		0.02	190 *	x										x		**MN5906**	**MicroNet (3691)**	
				x										x		**MN5906E**	**MicroNet (3691)**	
				x										x		**MN5906H**	**† MicroNet (3691)**	
		0.03	20 *	x	x						x			x		MP76L86A	MicroPwr	45
		0.166	20	x							x			x		MP7686A	MicroPwr	
		0.66	150	x										x		MP7682A	MicroPwr	
				x										x		MP7682J	MicroPwr	
				x										x		MP7682S	MicroPwr	
		15	900	x							x			x		MP3306	MicroPwr	50
		100	270											x		MB40576	Fujitsu	
	2	9	132	x										x		NE5037	Philips	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE–Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
6 (A/D - D/A combination)	1	0.05	300	x									x	x		MB40176	Fujitsu	
6 (flash)	1/2		70	x												**CA3306**	**Harris (3639)**	
				x												**CA3306A**	**Harris (3639)**	
6 (video digital converter)	1/4	0.05	1000	x	x		x							x		TDC1046	TRWLSI	
6 x 3	1	0.07	675	x										x		**MN5911**	**MicroNet (3691)**	5
7		1000	25 *	x											x	TL507C	TI	
				x											x	TL507I	TI	
	1/2		30	x									x	x		USC1072	‡ Universal	
			100	x									x	x		USC1073	‡ Universal	
			150	x									x	x		USC1071	‡ Universal	10
		0.03	385	x												**ADC207MC**	**Datel (3569)**	
				x												**ADC207MM**	**Datel (3569)**	
		0.04		x			x	x				x				MC10321	Motorola	
		0.05	385	x										x		**ADC207/883**	**† Datel (3569)**	
7 (flash)	1/2		150	x									x	x		USC1070	‡ Universal	15
		0.05	1000	x				x						x		TDC1047	TRWLSI	
		0.06		x				x								TDC1147	TRWLSI	
8																TDC1035	† TRWLSI	
			325 *	x										x		**TDA8714**	**Philips (3751)**	
		1 *		x							x			x		**SM6011**	**Seponix (3703)**	20
		30 MSPS		x						x				x		BT252	Brooktree	
	1/4	0.0067	2200	x	x	x	x	x	x					x		HADC77200	† Signal Proc	
		9	125 *	x	x								x	x		ZN447E	GEC Plessey	
		15		x									x	x		AD670B	AD	
				x									x	x		AD670K	AD	25
		110	15	x										x		ADC0801	† National	
				x										x		ADC0801C	National	
	1/2			x										x		µPC659	NEC	
		—	15 *							x						MC14443	Motorola	
			850 *	x										x		TDA8718	Philips	30
			1000	x										x		**HI5701B-9**	**Harris (3639)**	
				x										x		**HI5701K-5**	**Harris (3639)**	
			5000	x							x			x		MN6901	MicroNet	
			7500	x							x			x		MN6900	MicroNet	
		0.0067	2200	x	x	x	x	x	x			x		x		HADC77100	† Signal Proc	35
		0.01	300	x		x							x	x		**TDA8703**	**Philips (3749)**	
				x		x							x	x		**TDA8703T**	**Philips (3749)**	
			425	x										x		TDE8715D	Philips	
			1100	x		x		x						x		CX20116	Sony	
			1500		x								x	x		AD9003K	AD	40
		0.013	1000	x												**AD9012**	**AD (3508)**	
		0.02	415	x				x						x		TDA8713	Philips	
			425	x										x		TDA8715	Philips	
		0.03	25 *	x	x						x		x	x		MP87L85A	MicroPwr	
		0.033	500 *	x		x		x						x		IDT75C48	† IDT	45
				x										x		IDT75C58	† IDT	
		0.04	1250	x												**ADC228C**	**Datel (3569)**	
				x												**ADC228MC**	**Datel (3569)**	
		0.05	200													LC89086	Sanyo	
			300	x							x			x		MP7690K	MicroPwr	50
				x							x			x		MP7690T	MicroPwr	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1/2	0.05															(Cont'd)	
			320	x	x	x	x							x		**ADC304**	**Datel (3569)**	
			400 *		x	x	x	x	x	x	x	x	x		x	IR3K06	Sharp	
			600	x										x		**ADC208MC**	**Datel (3569)**	
				x										x		**ADC208MM**	**† Datel (3569)**	
			1200	x							x		x	x		KSV3208	Samsung	5
			4075	x	x	x	x	x					x	x		ADCB304E	Datel	
		0.06 *	1000 *		x		x	x	x	x	x	x	x		x	IR3K04A	Sharp	
		0.066	300	x							x			x		MP7684AK	MicroPwr	
				x							x			x		MP7690AB	MicroPwr	
				x							x			x		MP7690AT	† MicroPwr	10
			350	x							x			x		MP7684AT	† MicroPwr	
				x							x			x		MP8780J	MicroPwr	
		0.1	1000	x		x							x	x		SP1070	† Sipex	
			1800	x				x					x	x		HS1068	† Sipex	
		0.10	300	x										x		MP7684K	MicroPwr	15
				x										x		MP7684T	† MicroPwr	
		0.2	100 *	x										x		MP7683B	MicroPwr	
				x										x		MP7683K	MicroPwr	
				x										x		MP7683T	MicroPwr	
			561	x				x					x	x		SP1078	† Sipex	20
		0.3	20 *	x	x								x	x		MP87L75A	MicroPwr	
		0.32	875	x						x	x			x		ML2258BI	MicroLinear	
				x						x	x			x		ML2258BM	† MicroLinear	
		0.4		x							x			x		MX7821K	Maxim	
				x							x			x		MX7821T	† Maxim	25
			400	x										x		TDC1001	TRWLSI	
		0.6	50	x							x				x	LTC1196	ℓ LinearTech	
				x							x				x	LTC1198	ℓ LinearTech	
			80	x						x				x		**AD7824L**	**AD (3509)**	
				x						x				x		**AD7828L**	**AD (3509)**	30
			100	x						x				x		**AD7824C**	**AD (3509)**	
				x						x				x		**AD7824U**	**AD (3509)**	
				x						x				x		**AD7828C**	**AD (3509)**	
				x						x				x		**AD7828U**	**AD (3509)**	
			1250	x	x			x						x	x	ADC815MC	Datel	35
				x	x			x						x	x	ADC815MM	Datel	
		0.83	100	x						x	x			x		ML2264BC	MicroLinear	
				x						x	x			x		ML2264BI	MicroLinear	
				x						x	x			x		ML2264BM	† MicroLinear	
		0.85	75	x							x			x		ML2261BC	MicroLinear	40
				x							x			x		ML2261BI	MicroLinear	
		0.9	1550	x		x	x						x	x	x	**MN5101**	**MicroNet (3690)**	
				x		x	x						x	x	x	**MN5101H**	**† MicroNet (3690)**	
		1 *		x									x		x	**AD7669J**	**AD (3507, 3509, 3516)**	
		1	1250	x	x			x						x	x	ADC825MC	Datel	45
				x	x			x						x	x	ADC825MM	Datel	
						x	x	x					x	x	x	**MN5825**	**† MicroNet (3690)**	
		1.3	25	x							x			x		MAX150	† Maxim	
		1.5	1550	x		x	x						x	x	x	**MN5100**	**MicroNet (3690)**	
				x		x	x						x	x	x	**MN5100H**	**† MicroNet (3690)**	50
		1.52	875	x							x			x		KAD0820A	Samsung	
		1.6	50	x							x			x		ADC0820BCD	Maxim	
				x							x			x		ADC0820BCN	Maxim (Continued)	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1/2	1.6	50	x							x			x		ADC0820BD	† Maxim	
				x							x		x	x		MAX150BE	Maxim	
				x							x		x	x		MAX150BL	Maxim	
				x							x		x	x		MAX150BM	† Maxim	
				x							x			x		MX7820C	Maxim	5
				x							x			x		MX7820L	Maxim	
				x							x			x		MX7820U	† Maxim	
			75	x							x					AD7820L	AD	
				x							x					AD7820U	† AD	
		2	20	x						x	x		x		x	ADC08231	National	10
				x						x	x		x		x	ADC08231BI	National	
				x						x	x		x		x	ADC08234	National	
				x						x	x		x		x	ADC08234BI	National	
				x						x	x		x		x	ADC08238	National	
				x						x	x		x		x	ADC08238BI	National	15
			50	x						x	x		x	x		MAX154BC	Maxim	
				x						x	x		x	x		MAX154BE	Maxim	
				x						x	x		x	x		MAX154BM	† Maxim	
				x						x	x		x	x		MAX158BC	Maxim	
				x						x	x		x	x		MAX158BE	Maxim	20
				x						x	x		x	x		MAX158BM	† Maxim	
			80	x						x	x			x		MX7824C	Maxim	
				x						x	x			x		MX7824L	Maxim	
				x						x	x			x		MX7824U	† Maxim	
				x						x	x			x		MX7828C	Maxim	25
				x						x	x			x		MX7828L	Maxim	
				x						x	x			x		MX7828U	† Maxim	
			1300	x									x	x		**MN5160**	**MicroNet (3690)**	
				x									x	x		**MN5160H**	**† MicroNet (3692)**	
		2.5	35 *	x							x			x		ADC0820B	National	30
			50 *	x							x			x		ADC0820BC	TI	
				x							x			x		ADC0820BCI	TI	
				x							x			x		TLC0820BC	TI	
				x							x			x		TLC0820BI	TI	
				x							x			x		TLC0820BM	† TI	35
			75	x						x	x			x		MAX154	† Maxim	
				x						x	x			x		MAX158	† Maxim	
			915			x							x	x	x	**MN5140**	**MicroNet (3690)**	
						x							x	x	x	**MN5140H**	**† MicroNet (3690)**	
					x								x	x	x	**MN5141**	**MicroNet (3690)**	40
					x								x	x	x	**MN5141H**	**† MicroNet (3690)**	
					x								x	x	x	**MN5142**	**MicroNet (3690)**	
					x								x	x	x	**MN5142H**	**† MicroNet (3690)**	
				x									x	x	x	**MN5143**	**MicroNet (3690)**	
				x									x	x	x	MN5143H	† MicroNet	45
			1000			x							x	x	x	**MN5130**	**MicroNet (3690)**	
						x							x	x	x	**MN5130H**	**† MicroNet (3690)**	
					x								x	x	x	**MN5131**	**MicroNet (3690)**	
					x								x	x	x	**MN5131H**	**† MicroNet (3690)**	
					x								x	x	x	**MN5132**	**MicroNet (3690)**	50
					x								x	x	x	**MN5132H**	**† MicroNet (3690)**	
				x									x	x	x	**MN5133**	**MicroNet (3690)**	
				x									x	x	x	**MN5133H**	**† MicroNet (3690)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ±LSB	Conversion Time ±½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1/2	2.5	1000	x	x	x							x	x	x	MN5150	(Cont'd) MicroNet	
				x	x	x							x	x	x	**MN5150H**	**† MicroNet (3690)**	
			1690	x							x			x		ADC0820B	Philips	
		2.8	500	x		x	x	x			x					LTC1099AC	LinearTech	
				x		x	x	x			x					LTC1099AI	LinearTech	5
				x		x	x	x			x					LTC1099AM	† LinearTech	
			650			x	x	x					x	x	x	HSADC82	Sipex	
		3.8	120	x	x				x	x			x	x		MAX155A	† Maxim	
				x	x					x	x		x	x		MAX156A	† Maxim	
				x	x					x	x		x	x		MAX156B	† Maxim	10
		4	25	x										x		MAX160	† Maxim	
		5		x									x			**AD9058**	**AD (3508)**	
			15 *								x					AD7575K	AD	
		5 *	15 *	x							x		x	x		MAX166AC	Maxim	
				x							x		x	x		MAX166AE	Maxim	15
				x							x		x	x		MAX166AM	† Maxim	
				x							x		x	x		MAX166CC	Maxim	
				x							x		x	x		MAX166CE	Maxim	
				x							x		x	x		MAX166CM	† Maxim	
		5	30	x										x		MAX160C	Maxim	20
				x										x		MAX160E	Maxim	
				x										x		MAX160M	† Maxim	
			35	x							x		x	x		MAX165AC	Maxim	
				x							x		x	x		MAX165AE	Maxim	
				x							x		x	x		MAX165AM	† Maxim	25
				x							x		x	x		MAX166A	† Maxim	
				x							x			x		MX7575B	Maxim	
				x							x			x		MX7575K	Maxim	
				x							x			x		MX7575T	† Maxim	
		6	12.5	x							x		x		x	ML2280BC	MicroLinear	30
				x							x		x		x	ML2280BI	MicroLinear	
				x							x		x		x	ML2280BM	† MicroLinear	
				x						x			x		x	ML2281BC	MicroLinear	
				x						x			x		x	ML2281BI	MicroLinear	
				x						x			x		x	ML2281BM	† MicroLinear	35
				x						x			x		x	ML2282BC	MicroLinear	
				x						x			x		x	ML2282BI	MicroLinear	
				x						x			x		x	ML2282BM	† MicroLinear	
				x							x		x		x	ML2283BC	MicroLinear	
				x							x		x		x	ML2283BI	MicroLinear	40
				x							x		x		x	ML2283BM	† MicroLinear	
				x						x			x		x	ML2284BC	MicroLinear	
				x						x			x		x	ML2284BI	MicroLinear	
				x						x			x		x	ML2284BM	† MicroLinear	
				x						x			x		x	ML2288BC	MicroLinear	45
				x						x			x		x	ML2288BI	MicroLinear	
				x						x			x		x	ML2288BM	† MicroLinear	
			1000			x							x	x	x	MN5120	MicroNet	
						x							x	x	x	MN5120H	† MicroNet	
					x								x	x	x	MN5121	MicroNet	50
					x								x	x	x	MN5121H	† MicroNet	
					x								x	x	x	MN5122	MicroNet	
					x								x	x	x	MN5122H	† MicroNet	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1/2	6	1000	x									x	x	x	MN5123	MicroNet	
				x									x	x	x	MN5123H	† MicroNet	
		8	20	x		x	x	x		x	x	x	x	x	x	ADC08021B	National	
				x		x	x	x		x	x	x	x	x	x	ADC08032B	National	
				x		x	x	x		x	x	x	x	x	x	ADC08034B	National	5
				x		x	x	x		x	x	x	x	x	x	ADC08038B	National	
				x						x	x		x		x	ADC08131BI	National	
				x						x	x		x		x	ADC08134BI	National	
				x						x	x		x		x	ADC08138BI	National	
		8.5 *	875	x						x				x		ML2252BC	MicroLinear	10
				x						x				x		ML2252BI	MicroLinear	
				x						x				x		ML2252BM	† MicroLinear	
				x						x				x		ML2259BC	MicroLinear	
				x						x				x		ML2259BI	MicroLinear	
				x						x				x		ML2259BM	† MicroLinear	15
		9	150	x						x	x				x	TLC540	TI	
				x						x	x				x	TLC540M	† TI	
				x						x	x				x	TLC540I	TI	
				x						x	x				x	TLC545C	TI	
				x						x	x				x	TLC545M	† TI	20
			125 *	x	x								x	x		ZN448E	GEC Plessey	
				x	x								x	x		ZN448J	† GEC Plessey	
		10	250	x						x	x		x		x	MC145040	Motorola	
				x												LA08	American Micro	
			1000	x										x		MX7576B	Maxim	25
				x										x		MX7576K	Maxim	
				x										x		MX7576T	† Maxim	
			50	x	x									x		**AD7821B**	**AD (3508)**	
				x	x									x		**AD7821K**	**AD (3508)**	
				x	x									x		**AD7821T**	**† AD (3508)**	30
			450	x	x									x		MX7821	† Maxim	
		15		x									x	x		AD670A	AD	
				x									x	x		AD670J	AD	
				x									x	x		AD670S	† AD	
			100	x						x	x			x		TLC532A	TI	35
				x						x	x			x		TLC532AI	TI	
				x						x	x			x		TLC532AM	† TI	
			15	x						x	x	x		x		SDA1808	Siemens	
			30	x	x		x						x			**AD7574B**	**AD (3510)**	
				x	x		x						x			**AD7574K**	**AD (3510)**	40
				x	x		x						x			**AD7574T**	**† AD (3510)**	
				x	x		x						x	x		MX7574B	Maxim	
				x	x		x						x	x		MX7574K	Maxim	
				x	x		x						x	x		MX7574T	† Maxim	
			125 *	x	x								x	x		ZN427E-8	GEC Plessey	45
				x	x								x	x		ZN427J-8	† GEC Plessey	
			450	x	x	x	x	x						x		**PM7574A**	**† AD (3510)**	
				x	x	x	x	x						x		**PM7574E**	**AD (3510)**	
				x	x	x	x	x						x		**PM7574G**	**AD (3510)**	
		16		x											x	LTC1096	LinearTech	50
				x						x					x	LTC1098	LinearTech	
			15	x						x					x	ADC0819BC	National	
				x						x					x	ADC0819BI	National	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1/2																(Cont'd)	
		16.25	250	x	x						x			x	x	CS7820	Crystal	
		17	150	x						x	x				x	TLC541I	TI	
				x						x	x				x	TLC541M	† TI	
				x						x	x				x	TLC546C	TI	
				x						x	x				x	TLC546M	† TI	5
				x							x				x	TLC548C	TI	
				x							x				x	TLC548I	TI	
				x							x				x	TLC548M	† TI	
				x							x				x	TLC549C	TI	
				x							x				x	TLC549I	TI	10
		18	500	x											x	ADC0851BI	National	
		19	150	x							x				x	TLC549	TI	
				x							x				x	TLC549M	† TI	
		20		x		x	x	x		x	x				x	TLC542C	TI	
				x		x	x	x		x	x				x	TLC542I	TI	15
			250	x						x	x		x		x	MC145041	Motorola	
			1000	x						x				x		MAX161	† Maxim	
			500	x				x						x		TDC1038	† TRWLSI	
				x				x						x		TDC1058	† TRWLSI	
		20 MSPS	60	x							x		x	x		CXD1175A	Sony	20
				x									x	x		**CXD1176**	**Sony (3794)**	
			60 *	x									x			**CXD1176Q**	**Sony (3794)**	
			600	x				x						x		ADC0881C	National	
			700	x				x						x		ADC0882C	National	
			830	x				x					x	x		CXA1096M	Sony	25
			1480	x				x			x		x	x		CXA1096P	Sony	
		25	1000	x						x				x		MAX161C	Maxim	
				x						x				x		MAX161E	Maxim	
				x						x				x		MAX161M	† Maxim	
		30	—	x									x			AD673J	AD	30
				x									x			AD673S	† AD	
			150	x						x	x			x		TLC533A	TI	
				x						x	x			x		TLC533AI	TI	
				x						x	x			x		TLC533AM	† TI	
		30 MSPS	500 *	x									x	x		BT218	Brooktree	35
		32		x						x	x				x	ADC0811	National	
				x						x					x	ADC0834BI	TI	
				x						x					x	ADC0838B	TI	
				x						x					x	ADC0838BC	TI	
				x						x					x	ADC0838BI	TI	40
				x						x					x	ADC084BC	TI	
										x	x				x	ADC0811BC	National	
										x	x				x	ADC0811BJ	† National	
			55	x						x	x			x		MC14442	Motorola	
			100	x							x				x	ADC0831BC	TI	45
				x											x	ADC0831BI	TI	
				x							x				x	ADC0832BC	TI	
				x											x	ADC0832BI	TI	
		35 MSPS	90	x									x	x		**CXD1179**	**Sony (3794)**	
			100 *	x									x			**CXD1179Q**	**Sony (3794)**	50
		40	174	x						x				x		ADC0844B	National	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1/2	40	174	x						x				x		ADC0848B	National	
				x						x				x		ADC0848C	National	
			175 *	x	x								x	x		AD570J	AD	
				x	x								x	x		AD570S	† AD	
		60	174	x												ADC0841B	† National	5
		66	1690	x										x		ADC0803-1	Philips	
		66.6	40	x						x				x		MX7581C	Maxim	
				x						x				x		MX7581L	Maxim	
		66.7	1200	x	x	x								x		MX7581U	Maxim	
		75 MSPS	580	x									x	x		CXA1386	Sony	10
		80	174	x											x	ADC0831B	National	
				x											x	ADC0832B	National	
				x											x	ADC0833B	National	
				x											x	ADC0834B	National	
				x											x	ADC0838B	National	15
			875	x						x					x	ADC0832B	TI	
				x						x					x	ADC0834B	TI	
		100 *	175	x										x		ADC0802	† Harris	
				x										x		ADC0803	† Harris	
				x										x		ADC0802	† National	20
			174	x										x		ADC0802C	National	
				x										x		ADC0803C	National	
		100		x						x				x		ADC0808	National	
				x						x				x		ADC0816C	National	
				x						x				x		ADC0816	† National	25
		100 *	875	x										x		ADC0803C	Philips	
		100	875	x						x	x			x		KAD0808	Samsung	
				x										x		ADC0803C	TI	
		125 MSPS	870	x									x	x		CXA1396	Sony	
		150 MSPS	750 *	x										x		AD9002B	AD	30
				x										x		**AD9002T**	**AD (3508)**	
		200 MSPS	1450	x		x		x					x	x		CXA1076A	Sony	
		250 MSPS	1400	x									x	x		CXA1166	Sony	
		256		x						x				x		ADC0829	National	
		300		x						x						L530	SGS-Thomson	35
			500	x		x	x	x		x				x	x	ADC0830	National	
		300 MSPS	1450	x		x		x					x	x		CXA1176A	Sony	
		500 MSPS	2200	x								x	x	x		CXA1276	Sony	
		560	100	x						x	x			x		ADC08061BI	National	
				x						x	x			x		ADC08062BI	National	40
				x						x	x			x		ADC08064BI	National	
				x						x	x			x		ADC08068BI	National	
				x						x	x		x	x		ADC08161BI	National	
				x						x	x		x	x		ADC08164BI	National	
				x						x	x		x	x		ADC08168BI	National	45
	3/4	0.005	550	x				x						x		**AD9048K**	**AD (3508)**	
				x				x						x		**AD9048T**	**AD (3508)**	
		0.01	850 *	x										x		TDA8716	Philips	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	3/4	0.05	300	x							x			x		MP7690J	MicroPwr	
				x							x			x		MP7690S	MicroPwr	
			420	x		x	x	x			x					**AD9048**	**AD (3508)**	
			1000	x			x	x						x		**HI5700A**	**Harris (3639)**	
				x			x	x						x		**HI5700A-9**	**Harris (3639)**	5
				x			x	x						x		**HI5700J**	**Harris (3639)**	
				x			x	x						x		**HI5700J-5**	**Harris (3639)**	
				x			x	x						x		**HI5700S/883**	**† Harris (3639)**	
		0.066	300	x							x			x		MP7684AJ	MicroPwr	
				x							x			x		MP7684AS	MicroPwr	10
				x							x			x		MP7690AA	MicroPwr	
				x							x			x		MP7690AS	† MicroPwr	
		0.10	300	x										x		MP7684J	MicroPwr	
				x										x		MP7684S	† MicroPwr	
		0.2	85 *	x							x		x	x		MP8775A	MicroPwr	15
		0.333	100	x							x			x		MP7693B	MicroPwr	
		0.4	100 *	x							x			x		MP7783J	MicroPwr	
		5 MSPS	85 *	x									x	x		MP8785A	MicroPwr	
		6	25	x	x									x		ADC908A	† AD	
				x	x									x		ADC908E	† AD	20
				x	x									x		ADC908G	AD	
		15	30	x	x		x						x			**AD7574A**	**AD (3510)**	
				x	x		x						x			**AD7574J**	**AD (3510)**	
				x	x		x						x			**AD7574S**	**† AD (3510)**	
				x	x		x						x	x		MX7574A	Maxim	25
				x	x		x						x	x		MX7574J	Maxim	
				x	x		x						x	x		MX7574S	† Maxim	
			450	x	x	x	x	x						x		**PM7574B**	**† AD (3510)**	
				x	x	x	x	x						x		**PM7574F**	**AD (3510)**	
				x	x	x	x	x						x		**PM7574H**	**AD (3510)**	30
		20	30	x	x		x						x			MP7574B	MicroPwr	
				x	x		x						x			MP7574K	MicroPwr	
					x		x						x			MP7574T	MicroPwr	
	3/4 *	20 MSPS	555	x									x	x		**HI-5700**	**Harris (3639)**	
	3/4	66.6	—	x												AD7581K	AD	35
			40	x						x				x		MX7581B	Maxim	
				x						x				x		MX7581K	Maxim	
		66.7	1200	x	x	x								x		MX7581T	Maxim	
		100	30	x						x	x			x		ADC0808	† TI	
			875	x						x	x			x		KAD0809	Samsung	40
		116	15	x		x	x	x		x				x	x	ADC0808M	† TI	
	7/8	6	25	x	x									x		ADC908B	† AD	
				x	x									x		ADC908F	AD	
				x	x									x		ADC908H	AD	
		20	30	x	x		x						x			MP7574A	† MicroPwr	45
				x	x		x						x			MP7574J	MicroPwr	
				x	x		x						x			MP7574S	† MicroPwr	
	0.1	0.025	500	x									x	x		MB40558	Fujitsu	
	0.2%	0.05 *	150 *	x							x					TLC5502-5	TI	
	0.4%	0.04 *	190 *	x							x					TLC5503-2	TI	50
		0.05 *	150 *	x							x					TLC5503-5	TI	
	0.5	0.004	2100	x										x		**HI1166**	**Harris (3639)**	
		0.013	1170	x										x		**HI1386**	**Harris (3639)**	

(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In—Multiplexed Inputs
S&H—Sample and Hold

Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	0.5																(Cont'd)	
		0.025	250 *	x							x			x		TMC1175C40	Raytheon	
		0.03	180	x							x		x	x		RC6200	Raytheon	
		0.033	215 *	x							x			x		TMC1175C30	Raytheon	
		0.05	108	x							x		x	x		**HI1175**	**Harris (3639)**	
				x							x		x	x		**HI1176**	**Harris (3639)**	5
			175 *	x							x			x		TMC1175C20	Raytheon	
		0.1	76 *	x							x			x		TMC1173C10	Raytheon	
		0.2	61 *	x							x			x		TMC1173C5	Raytheon	
	0.5 *	0.65 *		x							x			x		**SM6103**	**Seponix (3703)**	
		0.7 *		x						x	x			x		**SM6106**	**Seponix (3703)**	10
	0.5	9.0		x												TLC545I	TI	
		17		x												TLC546I	TI	
	0.6	0.05	350	x										x		**MN5902**	**MicroNet (3691)**	
				x										x		**MN5902E**	**MicroNet (3691)**	
				x										x		**MN5902H**	**† MicroNet (3691)**	15
			715	x										x		**ADC208/883**	**Datel (3569)**	
				x										x		**ADC208/883B**	**Datel (3569)**	
	0.7	0.002	3800	x										x		**HI1276**	**Harris (3639)**	
	0.75	100	150	x						x	x			x		TL0808	TI	
	0.8	0.008	870 *	x										x		**ADC317**	**Datel (3569)**	20
			1610	x										x		**HI1396**	**Harris (3639)**	
	1		45 *	x	x						x			x		TC35071	Toshiba	
			1400										x	x		SP1072	† Sipex	
		0.0033	2000	x		x		x						x		AD9028	† AD	
				x		x		x						x		AD9038	† AD	25
		0.005	360	x									x	x		TDF8704-2	Philips	
			550	x				x						x		**AD9048J**	**AD (3508)**	
				x				x						x		**AD9048S**	**AD (3508)**	
		0.0067	750	x										x		**AD9002**	**† AD (3508)**	
		0.02	360	x									x	x		TDF8704-5	Philips	30
		0.025	360	x									x	x		TDF8704-4	Philips	
		0.03	45 *	x	x						x		x	x		MP76L90A	MicroPwr	
		0.04	480	x									x	x		MB40578	Fujitsu	
		0.05	400	x										x		HS9008RH	‡ Harris	
		0.07	350	x										x		**MN5908**	**MicroNet (3691)**	35
				x										x		**MN5908E**	**MicroNet (3691)**	
				x										x		**MN5908H**	**† MicroNet (3691)**	
		0.15	1750			x							x	x		AD9502	† AD	
		0.2	100 *	x										x		MP7683A	MicroPwr	
				x										x		MP7683J	MicroPwr	40
				x										x		MP7683S	MicroPwr	
		0.32	875	x						x	x			x		ML2258CI	MicroLinear	
		0.35	130	x			x	x		x					x	GM0832	GoldStar	
		0.6	100	x						x				x		**AD7824B**	**AD (3509)**	
				x						x				x		**AD7828B**	**AD (3509)**	45
		0.7		x							x			x		MAX153C	Maxim	
				x							x			x		MAX153M	† Maxim	
		0.83	100	x						x	x			x		ML2264CC	MicroLinear	
				x						x	x			x		ML2264CI	MicroLinear	
				x						x	x			x		ML2264CM	† MicroLinear	50
		0.85	75	x							x			x		ML2261CC	MicroLinear	
				x							x			x		ML2261CI	MicroLinear	
		1.2	75	x							x			x		TLC0820A	TI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1																(Cont'd)	
		1.5	75	x							x			x		ADC0820C	National	
		1.52	875	x							x			x		KAD0820	Samsung	
		1.6	40													**AD7824K**	**AD (3509)**	
																AD7824T	**† AD (3509)**	
																AD7828K	**AD (3509)**	5
																AD7828T	**† AD (3509)**	
			50	x							x			x		ADC0820CCD	Maxim	
				x							x			x		ADC0820CCN	Maxim	
				x							x			x		ADC0820CD	† Maxim	
				x							x		x	x		MAX150CC	Maxim	10
				x							x		x	x		MAX150CE	Maxim	
				x							x		x	x		MAX150CM	† Maxim	
				x							x			x		MX7820B	Maxim	
				x							x			x		MX7820K	Maxim	
				x							x			x		MX7820T	† Maxim	15
			75	x							x					AD7820K	AD	
				x							x					AD7820T	† AD	
			80	x	x						x			x		MP0820	MicroPwr	
		2	20	x						x	x		x		x	ADC08231CI	National	
				x						x	x		x		x	ADC08231CM	† National	20
				x						x	x		x		x	ADC08234CI	National	
				x						x	x		x		x	ADC08234CM	† National	
				x						x	x		x		x	ADC08238CI	National	
				x						x	x		x		x	ADC08238CM	† National	
			50	x						x	x		x	x		MAX154CC	Maxim	25
				x						x	x		x	x		MAX154CE	Maxim	
				x						x	x		x	x		MAX154CM	† Maxim	
				x						x	x		x	x		MAX158CC	Maxim	
				x						x	x		x	x		MAX158CE	Maxim	
				x						x	x		x	x		MAX158CM	† Maxim	30
			60	x							x		x	x		**AD7569**	**† AD (3507, 3509, 3516)**	
				x							x		x		x	**AD7569J**	**AD (3507, 3509, 3516)**	
				x							x		x		x	**AD7569K**	**AD (3507, 3516)**	
				x							x		x		x	**AD7569S**	**AD (3507, 3509, 3516)**	
				x							x		x		x	**AD7569T**	**AD (3507, 3509, 3516)**	35
			80	x						x	x			x		MX7824B	Maxim	
				x						x	x			x		MX7824K	Maxim	
				x						x	x			x		MX7824T	† Maxim	
				x						x	x			x		MX7828B	Maxim	
				x						x	x			x		MX7828K	Maxim	40
				x						x	x			x		MX7828T	† Maxim	
		2.5	50 *	x							x			x		ADC0820CC	TI	
				x							x			x		ADC0820CCI	TI	
				x			x	x					x	x		TLC0820AC	TI	
				x							x			x		TLC0820AI	TI	45
				x							x			x		TLC0820AM	† TI	
			75	x	x	x	x	x	x		x	x		x	x	LTC1099C	LinearTech	
			1010		x										x	HS5131B	† Sipex	
					x										x	HS5131C	Sipex	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1	2.5															(Cont'd)	
			1690	x							x			x		ADC0820C	Philips	
		2.8	500	x		x	x	x			x					LTC1099I	LinearTech	
				x		x	x	x			x					LTC1099M	LinearTech	
		3.8	120	x	x					x	x		x	x		MAX155B	† Maxim	
		5	15 *								x					AD7575J	AD	5
		5 *	15 *	x							x		x	x		MAX166BC	Maxim	
				x							x		x	x		MAX166BE	Maxim	
				x							x		x	x		MAX166BM	† Maxim	
				x							x		x	x		MAX166DC	Maxim	
				x							x		x	x		MAX166DE	Maxim	10
				x							x		x	x		MAX166DM	† Maxim	
		5	35	x							x		x	x		MAX165B	† Maxim	
				x							x		x	x		MAX165BC	Maxim	
				x							x		x	x		MAX165BE	Maxim	
				x							x		x	x		MAX165BM	† Maxim	15
				x							x		x	x		MAX166B	† Maxim	
				x							x			x		MX7575A	Maxim	
				x							x			x		MX7575J	Maxim	
				x							x			x		MX7575S	† Maxim	
		6	12.5	x							x		x		x	ML2280CC	MicroLinear	20
				x							x		x		x	ML2280CI	MicroLinear	
				x						x			x		x	ML2281CC	MicroLinear	
				x						x			x		x	ML2281CI	MicroLinear	
				x						x			x		x	ML2282CC	MicroLinear	
				x						x			x		x	ML2282CI	MicroLinear	25
				x							x		x		x	ML2283CC	MicroLinear	
				x							x		x		x	ML2283CI	MicroLinear	
				x						x			x		x	ML2284CC	MicroLinear	
				x						x			x		x	ML2284CI	MicroLinear	
				x						x			x		x	ML2288CC	MicroLinear	30
				x						x			x		x	ML2288CI	MicroLinear	
		8	20	x		x	x	x		x	x	x	x	x	x	ADC08031C	National	
				x		x	x	x		x	x	x	x	x	x	ADC08031CM	† National	
				x		x	x	x		x	x	x	x	x	x	ADC08032C	National	
				x		x	x	x		x	x	x	x	x	x	ADC08032CM	† National	35
				x		x	x	x		x	x	x	x	x	x	ADC08034C	National	
				x		x	x	x		x	x	x	x	x	x	ADC08034CM	† National	
				x		x	x	x		x	x	x	x	x	x	ADC08038C	National	
				x		x	x	x		x	x	x	x	x	x	ADC08038CM	† National	
				x						x	x		x		x	ADC08131CI	National	40
				x						x	x		x		x	ADC08131CM	† National	
				x						x	x		x		x	ADC08134CI	National	
				x						x	x		x		x	ADC08134CM	† National	
				x						x	x		x		x	ADC08138CI	National	
				x						x	x		x		x	ADC08138CM	† National	45
		8.5 *	15	x						x				x		ML2252CC	MicroLinear	
				x						x				x		ML2252CI	MicroLinear	
				x						x				x		ML2259CC	MicroLinear	
				x						x				x		ML2259CI	MicroLinear	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1																(Cont'd)	
		9	125	x	x								x	x		ZN449E	GEC Plessey	
				x	x								x	x		ZN449J	GEC Plessey	
		10	15 *	x										x		**AD7576B**	**AD (3509)**	
				x										x		**AD7576K**	**AD (3509)**	
				x										x		**AD7576S**	**† AD (3509)**	5
			35	x										x		MX7576A	Maxim	
				x										x		MX7576J	Maxim	
				x										x		MX7576S	† Maxim	
		15	15	x										x		AD7575T	AD	
		16	15	x						x					x	ADC0819CC	National	10
				x						x					x	ADC0819CI	National	
		18	150	x						x	x				x	TLC541	TI	
			500	x											x	ADC0851CI	National	
				x											x	ADC0851CM	† National	
				x											x	ADC0858CM	† National	15
		20	150	x		x	x	x		x	x				x	TLC542M	† TI	
		32		x						x					x	ADC0834A	TI	
				x						x					x	ADC0834AC	TI	
				x						x					x	ADC0834AI	TI	
				x						x					x	ADC0838A	TI	20
				x						x					x	ADC0838AC	TI	
				x						x					x	ADC0838AI	TI	
			12.5	x						x					x	ADC0831C	National	
				x						x					x	ADC0832C	National	
				x						x					x	ADC0833C	National	25
				x						x					x	ADC0834C	National	
				x						x					x	ADC0838C	National	
			15 *							x	x				x	ADC0811CC	National	
										x	x				x	ADC0811CJ	† National	
			100	x											x	ADC0831AC	TI	30
				x											x	ADC0831AI	TI	
				x							x				x	ADC0832AC	TI	
				x											x	ADC0832AI	TI	
		40	12.5	x						x				x		ADC0844B	National	
		66	1690	x										x		ADC0804-1	Philips	35
		100 *	12.5	x										x		ADC0804	† Harris	
				x										x		ADC0804C	National	
				x										x		ADC0804C	Philips	
		100	15	x						x				x		ADC0809C	National	
				x						x				x		ADC0817	National	40
				x						x				x		ADC0809M	† TI	
			875	x						x	x			x		KAD0817	Samsung	
				x										x		ADC0805C	TI	
		110 *		x							x			x		MSM5204	OKI	
		110	12.5	x										x		ADC0805C	National	45
				x										x		ADC0805C	Philips	
		114	15	x			x	x						x	x	ADC0804C	TI	
		150 MSPS	750 *	x										x		**AD9002A**	**AD (3508)**	
				x										x		**AD9002S**	**AD (3508)**	
		325 MSPS *	2000		x			x						x		AD9028K	AD	50
					x			x						x		AD9028T/883	† AD	
																	(Continued)	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8	1	325 MSPS *	2200		x			x						x		AD9038J	AD (Cont'd)	
					x			x						x		AD9038T/883	† AD	
		560	174	x						x	x			x		ADC08061CI	National	
				x						x	x			x		ADC08061CM	† National	
				x						x	x			x		ADC08062CI	National	5
				x						x	x			x		ADC08062CM	† National	
				x						x	x			x		ADC08064CI	National	
				x						x	x			x		ADC08064CM	† National	
				x						x	x			x		ADC08068CI	National	
				x						x	x			x		ADC08068CM	† National	10
				x						x	x		x	x		ADC08161CI	National	
				x						x	x		x	x		ADC08161CM	† National	
				x						x	x		x	x		ADC08164CI	National	
				x						x	x		x	x		ADC08164CM	† National	
				x						x	x		x	x		ADC08168CI	National	15
				x						x	x		x	x		ADC08168CM	† National	
		2000		x									x		x	**TC5091A**	**Toshiba (3838)**	
			300	x									x		x	**TC5090A**	**Toshiba (3838)**	
	1/2	0.05	390	x		x		x						x		CXA1096	Sony	
			1850	x									x	x		ADC-228/883	† Datel	20
				x									x	x		ADC-228MM	† Datel	
	1.2	100 MSPS *	955 *	x										x		**AD9012S**	**AD (3508)**	
				x										x		**AD9012T**	**AD (3508)**	
		325 MSPS *	2000		x			x						x		AD9028J	AD	
					x			x						x		AD9028S/883	† AD	25
			2200		x			x						x		AD9038K	AD	
					x			x						x		AD9038S/883	† AD	
	1.25	60 MSPS	960	x										x		**AD9058K**	**AD (3508)**	
				x										x		**AD9058T/883**	**† AD (3508)**	
	1 1/4	100	150	x						x	x			x		TL0809	TI	30
				x						x	x			x		ADC0809	TI	
	1.4	50 MSPS *	960	x										x		**AD9058J**	**AD (3508)**	
	1.5	90	300					x		x	x				x	PCF8591	Philips	
	1.875	66.7	1200	x	x	x								x		MX7581S	Maxim	
	1 7/8	66.6	40	x						x				x		MX7581A	Maxim	35
				x						x				x		MX7581J	Maxim	
	2	10	15 *	x										x		**AD7576A**	**AD (3509)**	
				x										x		**AD7576J**	**AD (3509)**	
				x										x		**AD7576S**	**† AD (3509)**	
		15	15	x										x		AD7575S	AD	40
		50	255	x										x		ADC0800P	† National	
				x										x		ADC0800PC	National	
	1Msps	0.66	40	x										x		MAX153	Maxim	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
8 (A/D and 10 D/A Video)	1/2	0.026	1200										x	x		KSV3100A	Samsung	
8 (A/D, D/A)	1/2	0.05	1200	x							x		x	x		KSV3100AN-7	Samsung	
				x							x		x	x		KSV3110-9	Samsung	
				x							x		x	x		KSV3110N-10	Samsung	
8 (A/D,D/A)	1/2	0.05	1200	x							x		x	x		KSV3110N-8	Samsung	5
8 (analog to pulse width converter for microprocessor systems)	1/2	32	50 *							x						MC14447	Motorola	
			75 *							x						µA9708C	National	
										x						µA9708M	† National	
8 (flash)	1/2	0.05	1320	x										x		TDC1048	† TRWLSI	
				x										x		TDC1048	TRWLSI	10
	1		150	x												**CA3318**	**Harris (3639)**	
				x												**CA3318C**	**Harris (3639)**	
8 (quad)	1/2	5	38	x			x	x								MB86021	Fujitsu	
8 Video Flash Converter	1/2	0.05														MC10319	Motorola	
9	1	1	30 *	x										x		MP7696A	MicroPwr	15
		20 MSPS	1230	x							x		x	x		CX20220A-2	Sony	
9 (flash)	1/2	0.033		x			x	x								TDC1049	TRWLSI	
10	1/2	0.025		x									x			CAV1040	AD	
		0.05	7500	x										x		TDC1020	† TRWLSI	
		0.425	1700	x	x		x									ADC510BMC	Datel	20
		0.45	1700	x	x		x									ADC510BMM	Datel	
		0.8	2900	x				x					x	x	x	ADC816/883	† Datel	
			3600	x	x			x					x	x	x	ADC816MC	Datel	
				x	x			x					x	x	x	ADC816MM	Datel	
		1	500 *	x	x								x	x	x	ZN433BJ-10	GEC Plessey	25
				x	x								x	x	x	ZN433CJ-10	GEC Plessey	
				x	x								x	x	x	ZN433J-10	† GEC Plessey	
		1.4	2900	x				x					x	x	x	ADC826/883	† Datel	
			3600	x	x			x					x	x	x	ADC826MC	Datel	
				x	x			x					x	x	x	ADC826MM	† Datel	30
		1.5	875	x							x			x		ML2271BC	MicroLinear	
				x							x			x		ML2271BI	MicroLinear	
				x							x			x		ML2271BM	† MicroLinear	
		1.8	755 *	x	x								x	x	x	AD579K	AD	
				x	x								x	x	x	AD579T	† AD	35
		2	775	x	x									x		AD579T/883B	† AD	
		2.2	755 *	x	x								x	x	x	AD579J	AD	
		5	150	x			x	x			x		x			HI7152B	Harris	
				x							x		x	x		HI7152B-9	Harris	
				x			x	x			x		x			HI7152K	Harris	40
				x							x		x	x		HI7152K-5	Harris	
			215	x				x								MAX173C	Maxim	
				x				x								MAX173M	Maxim	
			975	x			x	x						x		**ADC84-10**	**MicroNet (3690)**	
				x			x	x						x		**ADC85-10**	**MicroNet (3690)**	45
				x			x	x						x		**ADC85C-10**	**MicroNet (3690)**	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE–Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
10	1/2	6	400 *													**ADC910E**	**AD** (Cont'd) **(3509)**	
		10	150	x	x						x		x	x		HI7151B-9	Harris	
				x	x						x		x	x		HI7151K-5	Harris	
				x	x						x		x	x		HI7151T-2	† Harris	
			1800			x	x	x					x	x	x	ADADC85-10	AD	5
		13		x												CA3310	Harris	
			15													CA3310A	Harris	
		14	20	x		x	x	x		x	x				x	ADC1031B	National	
				x		x	x	x		x	x				x	ADC1034B	National	
				x		x	x	x		x	x				x	ADC1038B	National	10
		15	—	x									x			**AD573K**	**AD (3510)**	
				x									x			**AD573S**	**† AD (3510)**	
			360	x	x								x	x		ZN501AJ	GEC Plessey	
		18.5	50	x										x		**AD7579K**	**AD (3510)**	
				x										x		**AD7580K**	**AD (3510)**	15
		20		x									x		x	AD575K	AD	
			12.5	x				x		x	x				x	LTC1090C	LinearTech	
				x				x		x	x				x	LTC1091C	LinearTech	
				x				x			x				x	LTC1092AC	LinearTech	
				x				x			x				x	LTC1092C	LinearTech	20
			350 *	x	x								x	x	x	ZN432BJ-10	GEC Plessey	
				x	x								x	x	x	ZN432CJ-10	GEC Plessey	
				x	x								x	x	x	ZN432E-10	GEC Plessey	
				x	x								x	x	x	ZN432J-10	† GEC Plessey	
			380	x		x	x	x					x	x	x	ZN503AJ	† GEC Plessey	25
				x		x	x	x					x	x	x	ZN504CJ	GEC Plessey	
				x		x	x	x					x	x	x	ZN504E	GEC Plessey	
			770	x		x	x	x					x	x	x	TL503	† TI	
		20 MSPS	310	x		x		x			x					CXA1496	Sony	
		21	15	x			x	x		x	x	x			x	TLC1540C	TI	30
				x			x	x		x	x	x			x	TLC1540I	TI	
				x			x	x		x	x	x			x	TLC1540M	† TI	
			800			x	x	x					x	x	x	ADADC80Z-10	† AD	
		22	705	x			x	x						x		**ADC80-10**	**MicroNet (3690)**	
		40 MSPS	250	x		x		x			x					CXA1694	Sony	35
		50	100	x				x						x	x	ADC1025	National	
			875	x										x		ADC1005	National	
		526	24	x						x					x	M62301	Mitsubishi	
	1/2 *	600 *	235	x						x	x			x		ADC10461CI	National	
				x						x	x			x		ADC10461CM	† National	40
				x						x	x			x		ADC10462CI	National	
				x						x	x			x		ADC10462CM	† National	
				x						x	x			x		ADC10464CI	National	
				x						x	x			x		ADC10464CM	† National	
	1/2	6000	25	x								x		x		TC8704	TeledyneC	45
	3/4	1	30	x							x			x		MP7695A	MicroPwr	
				x							x			x		MP7695S	† MicroPwr	
		6	400 *													**ADC910A**	**AD (3509)**	
																ADC910G	**AD (3509)** (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ±LSB	Conversion Time ±½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
10																(Cont'd)		
	±1.0	.05	1300	x							x			x		SPT7820	† Signal Proc	
		0.025	1300	x							x			x		SPT7824	† Signal Proc	
		0.05	25 *	x	x						x	x	x	x		MP87L84A	MicroPwr	
	0.5	10	150					x			x			x		HI7151B	Harris	
								x			x			x		HI7151K	Harris	5
	0.6	4.4	33	x						x	x		x	x		ADC10154BI	National	
				x						x	x		x	x		ADC10158BI	National	
	1	0.025	1300	x							x			x		SPT7814	Signal Proc	
		0.03		x	x					x				x		MP87L95A	MicroPwr	
				x	x					x				x		MP87L98A	MicroPwr	10
				x	x					x				x		MP87L99A	MicroPwr	
			25 *	x	x								x	x		MP87L82A	MicroPwr	
		0.05	300	x							x			x		SPT7810	Signal Proc	
		0.75 MSPS	30 *	x										x		MP87095A	ℓ°‡ MicroPwr	
				x						x			x	x		MP87098A	MicroPwr	15
				x						x			x	x		MP87099A	MicroPwr	
		1 MSPS	30 *	x						x			x	x		MP87198A	MicroPwr	
				x										x		MP8796A	MicroPwr	
				x						x			x	x		MP8799A	MicroPwr	
		1.5	875	x							x			x		ML2271CC	MicroLinear	20
				x							x			x		ML2271CI	MicroLinear	
				x							x			x		ML2271CM	† MicroLinear	
		1.5 MSPS	30 *	x						x				x		MP8795A	MicroPwr	
				x						x			x	x		MP8795S	† MicroPwr	
				x						x				x		MP8798A	MicroPwr	25
		1.8	235	x		x	x	x			x			x	x	ADC1061C	National	
				x		x	x	x			x			x	x	ADC1061CM	† National	
		2		x												**AD9060**	**AD (3508)**	
		2.5	275	x			x	x					x		x	MAX151AC	Maxim	
			425	x		x	x						x		x	MAX151AM	† Maxim	30
				x		x	x						x		x	MAX151BM	† Maxim	
		4.4	33	x						x	x		x	x		ADC10154CI	National	
				x						x	x		x	x		ADC10154CM	† National	
				x						x	x		x	x		ADC10158CI	National	
				x						x	x		x	x		ADC10158CM	† National	35
		5		x												**AD9020**	**AD (3508)**	
			37	x						x	x		x		x	ADC10731	National	
				x						x	x		x		x	ADC10732	National	
				x						x	x		x		x	ADC10734	National	
				x						x	x		x		x	ADC10738	National	40
			150	x			x	x			x		x			HI7152A	Harris	
				x							x		x	x		HI7152A-9	Harris	
				x			x	x			x		x			HI7152J	Harris	
				x							x		x	x		HI7152J-5	Harris	
				x							x		x	x		HI7152S-2	† Harris	45
								x		x	x			x		HI7153A	Harris	
				x				x					x	x		HI7153A-9	Harris	
				x				x					x	x		HI7153J-5	Harris	
				x				x					x	x		HI7153S-2	† Harris	
				x				x					x	x		HI7153S/883	† Harris	50

(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In—Multiplexed Inputs
S&H—Sample and Hold

Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
10	1																(Cont'd)	
		5 MSPS	175	x							x		x	x		MP8782A	MicroPwr	
				x							x		x	x		MP8784A	MicroPwr	
				x							x		x	x		MP8784S	† MicroPwr	
		6	40	x										x		TLC1550I	TI	
				x										x		TLC1551I	TI	5
			400 *													**ADC910B**	**AD (3509)**	
																ADC910F	**AD (3509)**	
																ADC910H	**AD (3509)**	
			1100			x	x	x					x	x	x	ADADC84-10	AD	
		10	150					x			x			x		HI7151A	Harris	10
				x	x						x		x	x		HI7151A-9	Harris	
								x			x			x		HI7151J	Harris	
				x	x						x		x	x		HI7151J-5	Harris	
				x	x						x		x	x		HI7151S-2	† Harris	
		11	300	x	x					x					x	TC35080	Toshiba	15
				x	x											TC35081	Toshiba	
				x	x									x		TC35082	Toshiba	
		14	20	x		x	x	x		x	x				x	ADC1031C	National	
				x		x	x	x		x	x				x	ADC1031CM	† National	
				x		x	x	x		x	x				x	ADC1034C	National	20
				x		x	x	x		x	x				x	ADC1034CM	† National	
				x		x	x	x		x	x				x	ADC1038C	National	
				x		x	x	x		x	x				x	ADC1038CM	† National	
		15	—	x									x			**AD573J**	**AD (3510)**	
			360	x	x								x	x		ZN502CJ	GEC Plessey	25
				x	x								x	x		ZN502E	GEC Plessey	
			770	x	x								x	x		TL502	TI	
		18.5	50	x										x		**AD7579J**	**AD (3510)**	
				x										x		**AD7579S**	**AD (3510)**	
				x										x		**AD7580J**	**AD (3510)**	30
				x										x		**AD7580S**	**AD (3510)**	
			100	X							X			X		**AD7579**	**† AD (3510)**	
			100	X							X			X		**AD7580**	**† AD (3510)**	
		20		x									x		x	AD575J	AD	
				x									x		x	AD575S	† AD	35
		20 MSPS	250 *	x									x			CXA1496Q	Sony	
			310 *	x				x			x		x	x		CXA1496A	Sony	
			1230	x							x		x	x		CX20220A-1	Sony	
		21		x										x		MC145050	Motorola	
			15	x			x	x		x	x	x			x	TLC1541C	TI	40
				x			x	x		x	x	x			x	TLC1541I	TI	
				x			x	x		x	x	x			x	TLC1541M	† TI	
		40	800	x	x									x		**AD571J**	**AD (3510)**	
				x	x									x		**AD571K**	**AD (3510)**	
				x	x									x		**AD571S**	**AD (3510)**	45
		88		x									x	x		MC145051	Motorola	
				x									x	x		MC145053	Motorola	
		200	—	x										x		ADC1001C	National	
				x										x		ADC1021C	National	
		360 *	235	x						x	x			x		ADC10662CI	National	50
				x						x	x			x		ADC10662CM	† National	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
10	1	360 *	235														(Cont'd)	
				x						x	x			x		ADC10664CI	National	
				x						x	x			x		ADC10664CM	† National	
	1.1	0.9	235	x						x	x			x		ADC10061BI	National	
				x						x	x			x		ADC10062BI	National	
				x						x	x			x		ADC10064BI	National	5
	1.25	5	59	x						x	x		x		x	ADC10831	National	
				x						x	x		x		x	ADC10832	National	
				x						x	x		x		x	ADC10834	National	
				x						x	x		x		x	ADC10838	National	
	1.5	0.9	235	x						x	x			x		ADC10061CI	National	10
				x						x	x			x		ADC10061CM	† National	
				x						x	x			x		ADC10062CI	National	
				x						x	x			x		ADC10062CM	† National	
				x						x	x			x		ADC10064CI	National	
				x						x	x			x		ADC10064CM	† National	15
		2.5	275	x			x	x					x		x	MAX151BC	Maxim	
		11	300	x	x					x				x		TC35083	Toshiba	
	2	14		x											x	CDP68HC68A2	Harris	
		18 MSPS	1500	x										x		**AD773J**	**AD** (3508)	
				x										x		AD773K	AD	20
		60 MSPS	3400		x			x						x		**AD9020E/883**	† **AD** (3508)	
					x			x						x		**AD9020K**	**AD** (3508)	
					x			x						x		**AD9020S/883**	† **AD** (3508)	
					x			x						x		**AD9020T/883**	† **AD** (3508)	
	2.0	75 MSPS	3500	x		x		x						x		**AD9060K**	**AD** (3508)	25
				x		x		x						x		**AD9060S**	**AD** (3508)	
				x		x		x						x		**AD9060T**	**AD** (3508)	
	2.5	60 MSPS	3400		x			x						x		**AD9020J**	**AD** (3508)	
		75 MSPS	3500	x		x		x						x		**AD9060J**	**AD** (3508)	
11	2	1	100	x	x									x	x	MP7685T	† MicroPwr	30
		2	100	x	x									x	x	MP7685J	MicroPwr	
				x	x									x	x	MP7685S	† MicroPwr	
	2 1/4	1	100	x	x									x	x	MP7685K	MicroPwr	
12		1/2	27.5	x				x	x		x			x		ML2233BC	MicroLinear	
		0.5	1000	x	x									x		AD671J-500	AD	35
				x	x									x		**AD671K-500**	**AD** (3508)	
				x	x									x		**AD671S-500**	**AD** (3508)	
		0.75	1000	x	x									x		**AD671J-750**	**AD** (3508)	
				x	x									x		**AD671K-750**	**AD** (3508)	
				x	x									x		**AD671S-750**	**AD** (3508)	40
		1.5	12.5	x							x		x		x	MAX186	Maxim	
				x							x				x	MAX188	Maxim	
		20	1400	x	x					x			x		x	DAS863	† Adv Analog	
		100		x						x				x		**AD7582B**	**AD** (3510)	
				x						x				x		**AD7582K**	**AD** (3510)	45
				x						x				x		**AD7582T**	† **AD** (3510)	
	1/4	7	120	x												LA5012	American Micro	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1/4	10	745			x	x	x					x	x	x	ADC84	† Adv Analog	
						x	x	x					x	x	x	ADC85	† Adv Analog	
					x	x	x	x					x	x	x	ADC87	† Adv Analog	
		13	470			x	x						x	x	x	ADC5211	‡ Adv Analog	
						x	x						x	x	x	ADC5212	Adv Analog	5
			590			x	x						x	x	x	ADC5210	‡ Adv Analog	
						x	x						x	x	x	ADC5213	‡ Adv Analog	
						x	x						x	x	x	ADC5214	‡ Adv Analog	
						x	x						x	x	x	ADC5215	‡ Adv Analog	
						x	x						x	x	x	ADC5216	‡ Adv Analog	10
						x	x						x	x	x	ADC5217	‡ Adv Analog	
						x	x						x	x	x	ADC5610	‡ Adv Analog	
						x	x						x	x	x	ADC5611	‡ Adv Analog	
						x	x						x	x	x	ADC5612	‡ Adv Analog	
						x	x						x	x	x	ADC5613	‡ Adv Analog	15
						x	x						x	x	x	ADC5614	‡ Adv Analog	
						x	x						x	x	x	ADC5615	‡ Adv Analog	
						x	x						x	x	x	ADC5616	‡ Adv Analog	
						x	x						x	x	x	ADC5617	‡ Adv Analog	
						x	x						x	x	x	NE5217	‡ Philips	20
						x	x						x	x	x	SA5217	‡ Philips	
		50	590			x	x						x	x	x	ADC5200	‡ Adv Analog	
						x	x						x	x	x	ADC5201	‡ Adv Analog	
						x	x						x	x	x	ADC5202	‡ Adv Analog	
						x	x						x	x	x	ADC5203	‡ Adv Analog	25
						x	x						x	x	x	ADC5204	‡ Adv Analog	
						x	x						x	x	x	ADC5205	‡ Adv Analog	
						x	x						x	x	x	ADC5206	‡ Adv Analog	
						x	x						x	x	x	ADC5207	‡ Adv Analog	
		50 ms	215	x					x	x		x		x		MAX133	Maxim	30
		50000 ms	215	x					x	x		x		x		MAX134	Maxim	
	1/2	—	1500									x	x			MP2316	Analogic	
					x			x	x			x	x			MP2321	Analogic	
			2735	x	x			x		x	x		x	x		DAS5712	Adv Analog	
		0.1	4300		x		x				x		x	x		**ADS130MC**	**Datel** **(3569)**	35
		0.2	2700	x									x	x		SP9550	† Sipex	
		0.3	2100	x	x	x	x						x	x		ADC530MC	Datel	
				x	x	x	x						x	x		ADC530MM	† Datel	
		0.5	1800	x	x								x	x		ADC500BMC	Datel	
				x	x	x	x						x	x		ADC500BMM	Datel	40
			2600	x	x		x	x			x					ADC00305	ILC-DDC	
			3000	x	x		x	x			x					ADC00302	† ILC-DDC	
			3200	x	x	x	x				x		x	x		**ADS132M**	**Datel** **(3569)**	
				x	x	x	x				x		x	x		**ADS132MC**	**Datel** **(3569)**	
				x	x	x	x				x		x	x		**ADS132MM**	**Datel** **(3569)**	45
		0.55	1800	x	x	x	x						x	x		ADC505BMC	Datel	
				x	x								x	x		ADC505BMM	Datel	
		0.6	3000	x									x	x	x	ADC6012	† Adv Analog	
					x								x	x	x	ADC6013	† Adv Analog	
		0.7	1800	x	x	x	x						x	x		ADC508MC	Datel	50
				x	x	x	x						x	x		ADC508MM	Datel	
		0.8		x												ADCB500	Datel	
		0.91		x												ADCB505	Datel	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ±LSB	Conversion Time ±½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1/2	1	250					x			x		x	x		**ADS7810**	**Burr-Brown (3473)**	
								x			x		x	x		**ADS7819**	**Burr-Brown (3473)**	
			1700		x	x							x	x	x	**ADC601K**	**Burr-Brown (3472)**	
					x	x							x	x	x	ADC6015	† Burr-Brown	
			2200	x							x			x		AD9003	† AD	5
			2700		x								x	x	x	ADC5246	‡ Adv Analog	
				x		x					x		x	x		ADS105MC	Datel	
					x		x				x		x	x		ADS106MC	Datel	
			2700	x									x	x	x	ADC5245	‡ Adv Analog	
		1 MHz	3000	x	x			x			x			x		HAS1201K	AD	10
				x	x			x			x			x		HAS1201S	† AD	
		1.25	1000	x	x						x			x		CS5412-A	Crystal	
				x	x						x			x		CS5412-B	Crystal	
				x	x						x			x		CS5412-J	Crystal	
				x	x						x			x		CS5412-K	Crystal	15
				x	x						x			x		CS5412-S	† Crystal	
				x	x						x			x		CS5412-T	Crystal	
		1.5	2350 *		x	x							x	x	x	**ADC803B**	**Burr-Brown (3472)**	
					x	x							x	x	x	**ADC803S**	**Burr-Brown (3472)**	
		1.56	1800			x	x						x			HAS1202A	AD	20
		2	1800 *	x	x			x					x	x	x	ADH8516-12	ILC-DDC	
			2200	x	x			x					x	x	x	ADC817AMC	Datel	
			2700			x	x	x						x	x	ADC810MC	Datel	
						x	x	x						x	x	ADC810MM	Datel	
			2850	x							x				x	HAS1204	AD	25
		2 MSPS	200 *	x		x		x					x		x	MP8792A	MicroPwr	
		2.2	1800 *			x	x						x			HAS1202	AD	
		3	75 *	x							x			x		LTC1272-3AC	LinearTech	
			215	x		x	x	x			x		x			**ADS7800K**	**Burr-Brown (3473)**	
				x									x	x		MAX162AC	Maxim	30
				x									x	x		MAX162AI	Maxim	
				x									x	x		MAX162AM	† Maxim	
					x						x		x	x		ADS7800B	MicroNet	
					x						x		x	x		ADS7800K	MicroNet	
				x							x		x	x		SP7800A	Sipex	35
			775 *	x	x								x	x		AD578L	AD	
				x	x								x	x	x	MX578L	Maxim	
			775	x	x								x	x	x	MX578T	† Maxim	
			2200	x	x			x					x	x	x	ADC827AMC	Datel	
		3.125	155	x	x									x		MAX183A	† Maxim	40
		3.5	172	x							x		x		x	MAX176AC	Maxim	
				x							x		x		x	MAX176AE	Maxim	
		4	1550			x	x	x			x		x	x	x	ADC6010	† Adv Analog	
			2700			x	x	x						x	x	ADC811MC	Datel	
						x	x	x						x	x	ADC811MM	Datel	45
		4.5	555	x	x									x		AD578T/883B	† AD	
			755 *	x	x								x	x	x	AD578K	AD	
			775 *	x	x								x	x	x	MX578K	Maxim	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source
12	1/2	4.5	775	x	x								x	x	x	MX578S	† Maxim
			875 *	x		x	x	x							x	AD578T	† AD
		5	75 *	x							x			x		LTC1272-5AC	LinearTech
			100 *										x			AD7572K	AD
													x			AD7572T	† AD
			155	x	x									x		MAX184A	† Maxim
			215	x									x		x	MAX170A	† Maxim
				x									x	x		MX7572	† Maxim
				x									x	x		MX7572C05	Maxim
				x									x	x		MX7572L05	Maxim
				x									x	x		MX7572U05	† Maxim
			1120		x								x	x		HS9342B	† Sipex
					x								x	x		HS9342C	Sipex
		5.8	265	x			x	x					x		x	MAX171AC	Maxim
		6	555	x	x									x		AD578S/883B	† AD
			775 *	x	x								x	x	x	AD578J	AD
				x	x								x	x	x	MX578J	Maxim
			875 *	x		x	x	x							x	AD578S	† AD
		7.2	250	x	x						x			x	x	CS5012	Crystal
		7.5	25	x	x						x		x	x	x	MAX190A	† Maxim
		7.7	113	x							x			x		ADC12451	National
		8		x				x								**AD7868**	**AD (3507, 3514)**
				x				x								**AD7875**	**AD (3509)**
				x				x								**AD7876**	**AD (3509)**
			75 *	x							x			x		LTC1272-8AC	LinearTech
			150	x			x	x					x			MAX174AC	Maxim
				x			x	x					x			MAX174AM	† Maxim
				x			x	x					x			MAX174BC	Maxim
				x			x	x					x			MAX174BM	† Maxim
			825	x	x								x	x		**AD774BK**	**AD (3509)**
			975	x			x	x						x		**ADC84-12**	**MicroNet (3690)**
				x			x	x						x		**ADC85-12**	**MicroNet (3690)**
				x			x	x						x		**ADC85C-12**	**MicroNet (3690)**
			1425	x			x	x						x		**ADC87**	**MicroNet (3690)**
			1500		x						x		x	x		**AD1332**	**AD (3509)**
		8.125	155	x	x					x	x		x	x		MAX180A	† Maxim
				x	x					x	x		x	x		MAX181A	† Maxim
		8.5	10										x			**ADS7803**	**Burr-Brown (3473)**
			10 *										x			**ADS7803B**	**Burr-Brown (3473)**
			120										x			**ADS774K**	**Burr-Brown (3473)**
													x			**ADS774T**	**Burr-Brown (3473)**
				x							x		x	x		ADS774K	MicroNet
			450	x	x								x	x		**ADC774KH**	**Burr-Brown (3473)**
				x	x								x	x		**ADC774KP**	**Burr-Brown (3473)**
				x	x								x	x		**ADC774TH**	**† Burr-Brown (3473)**
			720	x	x								x	x		HI774K-5	Harris
				x	x								x	x		HI774L-5	Harris
				x	x								x	x		HI774T-2	Harris

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																	**(Cont'd)**	
12	1/2	8.5	720														(Cont'd)	
				x	x								x	x		HI774U-2	† Harris	
				x	x								x	x		HI774U/883	† Harris	
	1/2 *	9	95			x							x	x	x	**AD7870J**	**AD (3509)**	
	1/2	9	95			x							x	x	x	**AD7870L**	**AD (3509)**	
	1/2 *	9	95			x							x	x	x	**AD7870S**	**AD (3509)**	5
	1/2	9	95			x							x	x	x	**AD7875L**	**AD (3509)**	
			350	x										x		MP774T	† MicroPwr	
			360	x							x		x	x		MP774K	MicroPwr	
		9 *	1750	x	x					x	x		x	x		**HDAS16MC**	**Datel (3569)**	
				x	x					x	x		x	x		**HDAS8MC**	**Datel (3569)**	10
		9.25	95.5	x									x	x		**AD7878J**	**AD (3509)**	
				x									x	x		**AD7878K**	**AD (3509)**	
				x									x	x		**AD7878L**	**AD (3509)**	
				x									x	x		**AD7878S**	**AD (3509)**	
		9.5		x							x		x		x	MAX191	Maxim	15
		10		x		x	x	x						x	x	AD7672	AD	
			100	x										x		**ADS7808**	**Burr-Brown (3473)**	
			155	x	x									x		MAX185A	† Maxim	
			179	x										x		AD7672L	AD	
			215	x									x	x		MAX172A	† Maxim	20
			450 *			x	x	x					x	x	x	ADC84	Burr-Brown	
						x	x	x					x	x	x	ADC84-12	Burr-Brown	
						x	x	x					x	x	x	**ADC84KG-12**	**Burr-Brown (3473)**	
						x	x	x					x	x	x	**ADC85H**	**Burr-Brown (3473)**	
						x	x	x					x	x	x	**ADC87H**	**Burr-Brown (3473)**	25
						x	x	x					x	x	x	**ADC87H-12**	**Burr-Brown (3473)**	
			575	x	x								x	x		**AD1674K**	**AD (3509)**	
			660		x						x		x	x		ADS807K	Burr-Brown	
					x						x		x	x		ADS808K	Burr-Brown	
			850	x	x			x			x		x	x		ADS807S	Burr-Brown	30
				x	x			x			x		x	x		ADS808S	Burr-Brown	
			1100			x	x	x					x	x	x	ADADC84-12	AD	
						x	x	x					x	x		ADADC85S-12/883B	† AD	
						x	x	x					x	x		AD5240K	AD	
			1200			x	x	x					x	x	x	HSADC85B	† Sipex	35
						x	x	x					x	x	x	HSADC85C	Sipex	
			1500			x	x	x					x	x		ADADC85C-10	AD	
						x	x	x					x	x		ADADC85C-12	AD	
						x	x	x					x	x		ADADC85S-10	AD	
						x	x	x					x	x		ADADC85S-12	AD	40
			1800			x	x	x					x	x	x	ADADC85-12	AD	
			2000	x	x					x	x		x	x		HS9403B	† Sipex	
				x	x					x	x		x	x		HS9403C	Sipex	
		12	85	x		x	x	x								ADC912B	† AD	
				x		x	x	x								ADC912E	AD	45
				x				x						x		TLC1225I	TI	
			150	x	x								x	x		SP674	† Sipex	
			215	x									x	x		MX7572C12	Maxim	
				x									x	x		MX7572L	Maxim	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1/2	12	215	x									x	x		MX7572L12	Maxim	
				x									x	x		MX7572U12 †	Maxim	
			500	x						x	x				x	LTC1291BC	LinearTech	
				x						x	x				x	LTC1291BI	LinearTech	
				x						x	x				x	LTC1291BM †	LinearTech	5
				x						x	x				x	LTC1291CC	LinearTech	
				x						x	x				x	LTC1291CI	LinearTech	
				x						x	x				x	LTC1291CM †	LinearTech	
				x							x				x	LTC1292BC	LinearTech	
				x							x				x	LTC1292BI	LinearTech	10
				x							x				x	LTC1292BM †	LinearTech	
				x							x				x	LTC1292CC	LinearTech	
				x							x				x	LTC1292CI	LinearTech	
				x							x				x	LTC1292CM †	LinearTech	
				x							x				x	LTC1294BC	LinearTech	15
				x							x				x	LTC1294BI	LinearTech	
				x							x				x	LTC1294BM †	LinearTech	
				x							x				x	LTC1294CC	LinearTech	
				x							x				x	LTC1294CI	LinearTech	
				x							x				x	LTC1294CM †	LinearTech	20
			720	x	x								x	x	x	**ADC674A**	**† Adv Analog (3473)**	
			1450	x	x					x	x		x	x		SP9415	† Sipex	
		12.5		x							x		x	x		MAX190AC	Maxim	
				x							x		x	x		MAX190AM	† Maxim	
				x							x		x	x		MAX190BC	Maxim	25
				x							x		x	x		MAX190BM	† Maxim	
			135	x									x	x		AD7572L	AD	
				x									x	x		AD7572U	AD	
		13	500	x							x				x	LTC1290BC	LinearTech	
				x							x				x	LTC1290BI	LinearTech	30
				x							x				x	LTC1290BM †	LinearTech	
				x							x				x	LTC1290CC	LinearTech	
				x							x				x	LTC1290CI	LinearTech	
				x							x				x	LTC1290CM †	LinearTech	
			745	x										x	x	**MN5213**	**MicroNet (3690)**	35
				x										x	x	**MN5213H**	**† MicroNet (3690)**	
							x							x	x	**MN5214**	**MicroNet (3690)**	
							x							x	x	**MN5214H**	**† MicroNet (3690)**	
							x							x	x	**MN5215**	**MicroNet (3690)**	
							x							x	x	**MN5215H**	**† MicroNet (3690)**	40
			915			x	x						x	x	x	**MN5210**	**MicroNet (3690)**	
						x	x						x	x	x	**MN5210H**	**† MicroNet (3690)**	
						x	x						x	x	x	**MN5211**	**MicroNet (3690)**	
						x	x						x	x	x	MN5211H	† MicroNet	
						x	x						x	x	x	**MN5212**	**MicroNet (3690)**	45
						x	x						x	x	x	**MN5212H**	**† MicroNet (3690)**	
						x	x						x	x	x	**MN5216**	**MicroNet (3690)**	
						x	x						x	x	x	**MN5216H**	**† MicroNet (3690)**	
			1000				x						x	x	x	AD5212B	AD	
							x						x	x	x	AD5212T	† AD	50
							x							x	x	AD5214B	AD	
							x							x	x	AD5214T	† AD	
							x							x	x	AD5215B	AD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																	**(Cont'd)**	
12	1/2	13	1000														(Cont'd)	
							x							x	x	AD5215T	AD	
							x						x	x	x	NE5211	Philips	
							x						x	x	x	NE5212	Philips	
							x						x	x	x	NE5212A	Philips	
							x							x	x	NE5214	Philips	5
							x						x	x	x	SA5211	Philips	
							x						x	x	x	SA5212	Philips	
							x						x	x	x	SA5212A	Philips	
							x							x	x	SA5214	Philips	
							x						x	x	x	SE5212A	Philips	10
		13.8	70	x							x			x		ADC12441	National	
		14	40	x		x	x	x			x			x	x	ADC1241B	National	
		15		x	x		x	x					x	x	x	AD674S	† AD	
				x	x		x	x					x	x	x	AD674T	† AD	
				x	x		x	x					x	x	x	AD674U	† AD	15
			150	x			x						x			MX674AK	Maxim	
				x			x	x					x			MX674AL	Maxim	
				x			x	x					x			MX674AU	Maxim	
				x	x				x		x		x	x		HADC674Z	† Signal Proc	
			450	x	x								x	x		**ADC674AK**	**Burr-Brown (3473)**	20
				x	x								x	x		**ADC674AT**	**† Burr-Brown (3473)**	
				x	x								x	x		HI674AU/883	† Harris	
			720	x	x								x	x		AD674AL	AD	
				x	x								x	x		AD674AT	AD	
				x	x								x	x		HI674AK	Harris	25
				x	x								x	x		HI674AK-5	Harris	
				x	x								x	x		HI674AL	Harris	
				x	x								x	x		HI674AL-5	Harris	
				x	x								x	x		HI674AT	Harris	
				x	x								x	x		HI674AT-2	Harris	30
				x	x								x	x		HI674AT/883	† Harris	
				x	x								x	x		HI674AU-2	† Harris	
			825	x	x								x	x		**AD674BK**	**AD (3510)**	
		17	10	x				x								**ADC7802B**	**Burr-Brown (3473)**	
			450 *		x		x						x		x	**ADC804**	**Burr-Brown (3473)**	35
					x		x						x		x	**ADC804B**	**Burr-Brown (3473)**	
					x		x						x		x	**ADC804S**	**† Burr-Brown (3473)**	
		20	720	x	x								x	x		**ADC574A**	**† Adv Analog (3473)**	
				x	x								x	x		MP574AK	MicroPwr	
				x	x								x	x		MP574AT	† MicroPwr	40
			1100			x	x	x					x	x	x	ADCHX12BC	Datel	
		24	500	x							x				x	LT1287BC	ℓ LinearTech	
				x							x				x	LT1287BI	ℓ LinearTech	
				x							x				x	LT1287CC	ℓ LinearTech	
				x							x				x	LT1287CI	ℓ LinearTech	45
		25	25	x				x			x		x	x	x	**ADS7806**	**Burr-Brown (3473)**	
			100	x							x		x	x		ADS574K	MicroNet (Continued)	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE–Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1/2	25	150	x			x	x					x			MX574AK	Maxim (Cont'd)	
				x			x	x					x			MX574AL	Maxim	
				x			x	x					x			MX574AT	† Maxim	
				x			x	x					x			MX574AU	† Maxim	
				x	x				x		x		x	x		HADC574Z	† Signal Proc	5
			450 *	x	x								x	x		**ADC574AK**	**Burr-Brown (3473)**	
				x	x								x	x		**ADC574AS**	**† Burr-Brown (3473)**	
			595		x	x	x	x					x	x	x	**ADC80AG**	**Burr-Brown (3473)**	
					x	x	x	x					x	x	x	**ADC80AG-12**	**Burr-Brown (3473)**	
			705	x		x	x	x			x			x	x	**ADC80MAH-12**	**Burr-Brown (3473)**	10
				x			x	x						x		**ADC80-12**	**MicroNet (3690)**	
			720	x	x								x	x		HI574AK	Harris	
				x	x								x	x		HI574AL	Harris	
				x	x								x	x		HI574AL-5	Harris	
				x	x								x	x		MP574AU	† MicroPwr	15
			725	x	x								x		x	**AD574AK**	**AD (3510)**	
				x	x								x	x		HI574AK-5	Harris	
				x	x								x	x		HI574AT/883	† Harris	
				x	x								x	x		HI574AU/883	† Harris	
				x	x								x	x		MN574A	† MicroNet	20
			800			x	x	x					x	x	x	ADADC80-12	AD	
						x	x	x					x	x	x	ADADC80Z-12	† AD	
			900	x	x								x	x	x	AD572S	AD	
				x	x								x	x	x	AD572S/883B	† AD	
			925	x	x			x					x	x	x	AD572A	AD	25
				x	x			x					x	x	x	AD572B	AD	
			950	x						x	x		x	x		**MN7145K**	**MicroNet (3691)**	
				x						x	x		x	x		**MN7145T**	**† MicroNet (3691)**	
				x						x	x		x	x		**MN7145T/B**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7146K**	**MicroNet (3691)**	30
					x					x	x		x	x		**MN7146T**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7146T/B**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7147K**	**MicroNet (3691)**	
					x					x	x		x	x		**MN7147T**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7147T/B**	**† MicroNet (3691)**	35
			1000										x	x		**ADS574J**	**Burr-Brown (3473)**	
													x	x		**ADS574K**	**Burr-Brown (3473)**	
													x	x		**ADS574S**	**Burr-Brown (3473)**	
													x	x		**ADS574T**	**Burr-Brown (3473)**	
			1300	x	x					x	x		x	x		HS9414	† Sipex	40
		26	500	x							x				x	LTC1289BC	ℓ LinearTech	
				x							x				x	LTC1289CC	ℓ LinearTech	
		27.5	300					x	x	x	x		x	x		ML2200BC	MicroLinear	
								x	x		x			x		ML2230BC	MicroLinear (Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1/2																(Cont'd)	
		30	750	x	x								x	x		HS574AK	Sipex	
				x	x								x	x		HS574AL	Sipex	
				x	x								x	x		HS574ATB	† Sipex	
				x	x								x	x		HS574AUB	† Sipex	
			780	x	x								x		x	**AD574AT**	**† AD (3510)**	5
				x	x								x		x	AD574K	AD	
				x									x		x	AD574L	AD	
				x	x								x		x	AD574S	† AD	
				x	x								x		x	AD574T	† AD	
				x									x		x	AD574U	† AD	10
				x	x								x	x	x	HI574AT-2	† Harris	
				x	x								x	x		HI574AU-2	† Harris	
			800	x	x						x		x	x		HS9474K	Sipex	
				x	x						x		x	x		HS9474TB	† Sipex	
			1100	x	x					x	x		x	x		HS9410K	Sipex	15
				x	x					x	x		x	x		HS9410TB	† Sipex	
			1340	x	x					x	x		x	x		HS9408K	Sipex	
				x	x					x	x		x	x		HS9408TB	† Sipex	
			1520	x	x					x	x		x	x		HS9404K	Sipex	
				x	x					x	x		x	x		HS9404TB	† Sipex	20
		31.5		x						x	x				x	ML2222	MicroLinear	
		35	725	x	x								x	x		**AD574AL**	**AD (3510)**	
				x	x								x	x		**AD574AU**	**AD (3510)**	
		50	725	x										x	x	NE5204	† Philips	
				x										x	x	SA5204	† Philips	25
			745	x										x	x	**MN5203**	**MicroNet (3690)**	
				x										x	x	**MN5203H**	**† MicroNet (3690)**	
							x							x	x	**MN5204**	**MicroNet (3690)**	
							x							x	x	**MN5204H**	**† MicroNet (3690)**	
							x							x	x	**MN5205**	**MicroNet (3690)**	30
							x							x	x	**MN5205H**	**† MicroNet (3690)**	
			915	x									x	x	x	**MN5200**	**MicroNet (3690)**	
				x									x	x	x	**MN5200H**	**† MicroNet (3690)**	
							x						x	x	x	**MN5201**	**MicroNet (3690)**	
							x						x	x	x	**MN5201H**	**† MicroNet (3690)**	35
							x						x	x	x	**MN5202**	**MicroNet (3690)**	
							x						x	x	x	**MN5202H**	**† MicroNet (3690)**	
						x							x	x	x	**MN5206**	**MicroNet (3690)**	
						x							x	x	x	**MN5206H**	**† MicroNet (3690)**	
		100,000	20	x								x	x	x		TC7109A	TeledyneC	40
		125	740			x							x		x	BCL4163B	R&E Intl	
		175	80	x									x	x	x	**MN5250**	**MicroNet (3690)**	
				x									x	x	x	**MN5250H**	**† MicroNet (3690)**	
							x						x	x	x	**MN5251**	**MicroNet (3690)**	
							x						x	x	x	**MN5251H**	**† MicroNet (3690)**	45
							x						x	x	x	**MN5252**	**MicroNet (3690)**	
							x						x	x	x	**MN5252H**	**† MicroNet (3690)**	
						x							x	x	x	**MN5253**	**MicroNet (3690)**	
						x							x	x	x	**MN5253H**	**† MicroNet (3690)**	
							x						x	x		HS5251C	Sipex	50
		300	112	x	x			x					x	x	x	ADCHC12BC	Datel	
				x	x			x					x	x	x	ADCHC12BMC	Datel	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE–Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1/2	24000	25	x								x		x		TC8702	TeledyneC	
				x								x		x		TC8705	TeledyneC	
		100000	20	x					x			x	x	x		ICL7109	Harris	
				x					x			x	x	x		ICL7109	† Maxim	
				x								x	x	x	x	TC7109BC	TeledyneC	5
				x					x			x	x	x	x	TC7109C	TeledyneC	
				x					x			x	x	x	x	TC7109M	† TeledyneC	
	3/4		6100				x	x			x		x			**ADC603J**	**Burr-Brown (3472)**	
							x	x			x		x			**ADC603R**	**† Burr-Brown (3472)**	
			7000	x				x								ADC604J	Burr-Brown	10
		0.5	1900	x	x	x	x				x		x	x		**ADS117MC**	**Datel (3569)**	
				x	x	x	x				x		x	x		**ADS117MM**	**† Datel (3569)**	
		1	1300			x	x									**ADS193MC**	**Datel (3569)**	
			1200	x	x	x	x	x					x	x		**ADC511MC**	**Datel (3569)**	
			1500	x	x	x	x				x		x	x		**ADS112MC**	**Datel (3569)**	15
				x	x	x	x				x		x	x		**ADS112MM**	**† Datel (3569)**	
		1.5	2350 *		x	x							x	x	x	**ADC803C**	**Burr-Brown (3472)**	
		2	1750	x	x	x	x	x			x		x	x		**ADS111M**	**Datel (3569)**	
				x	x	x	x	x			x		x	x		**ADS111MC**	**Datel (3569)**	
				x	x	x	x	x			x		x	x		**ADS111MM**	**† Datel (3569)**	20
		2.5	3000	x	x	x	x			x	x		x	x		**HDAS524MC**	**Datel (3569)**	
				x	x	x	x			x	x		x	x		**HDAS524MM**	**† Datel (3569)**	
				x	x	x	x			x	x		x	x		**HDAS528MC**	**Datel (3569)**	
				x	x	x	x			x	x		x	x		**HDAS528MM**	**† Datel (3569)**	
		2.6	315	x							x		x	x		MAX122AC	Maxim	25
				x							x		x	x		MAX122AE	Maxim	
		2.7	215			x	x	x			x		x	x		**ADS7800B**	**Burr-Brown (3473)**	
		3	75 *	x							x			x		LTC1272-3AM	† LinearTech	
		3.5	172	x							x		x		x	MAX176AM	† Maxim	
		4.0	3000	x	x	x	x			x	x		x	x		**HDAS534MC**	**Datel (3569)**	30
				x	x	x	x			x	x		x	x		**HDAS534MM**	**Datel (3569)**	
				x	x	x	x			x	x		x	x		**HDAS538C**	**Datel (3569)**	
				x	x	x	x			x	x		x	x		**HDAS538M**	**Datel (3569)**	
		5	75 *	x							x			x		LTC1272-5AM	† LinearTech	
		7	10	x											x	SDA2812A	Siemens	35
				x											x	SDA3812A	Siemens	
		8	1500			x	x	x								ADCHZ12BM	† Datel	
			2000			x	x	x					x	x	x	ADCHZ12BC	Datel	
		8.5	120	x							x		x	x		ADS774T	† MicroNet	
		9	2150			x	x				x		x	x	x	ADCHS12BMC	Datel	40
		10	179	x										x		AD7672U	AD	
		12	500	x						x	x				x	LTC1291DC	LinearTech	
				x						x	x				x	LTC1291DI	LinearTech	
				x						x	x				x	LTC1291DM	† LinearTech	
				x							x				x	LTC1292DC	LinearTech	45
				x							x				x	LTC1292DI	LinearTech	
				x							x				x	LTC1292DM	† LinearTech	
				x							x				x	LTC1294DC	LinearTech	
				x							x				x	LTC1294DI	LinearTech	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	3/4	12	500	x							x				x	LTC1294DM	(Cont'd) † LinearTech	
		13	500	x							x				x	LTC1290DC	LinearTech	
				x							x				x	LTC1290DI	LinearTech	
				x							x				x	LTC1290DM	† LinearTech	
		13.3	700	x	x					x	x		x	x		**HDAS75MC**	**Datel (3569)**	5
				x	x					x	x		x	x		**HDAS75MM**	**† Datel (3569)**	
		20	1450	x	x					x	x		x	x		**HDAS16/883**	**† Datel (3569)**	
				x	x					x	x		x	x		**HDAS8/883**	**† Datel (3569)**	
			1500			x	x	x								ADCHX12BM	† Datel	
		24	25	x		x	x	x				x		x		SDA1812	Siemens	10
		25	100	x							x		x	x		ADS574T	† MicroNet	
		200	210	x										x	x	ADC1210	† National	
				x										x	x	ADC1210C	National	
		350	2100	x				x								**ADC530M**	**Datel (3569)**	
	±0.5	8.0	150	x	x						x		x	x		SPT774	† Signal Proc	15
	±2.0	0.033	1500	x							x			x		SPT7922	† Signal Proc	
		0.10	1800	x							x			x		SPT7910	† Signal Proc	
		0.33	1800	x							x			x		SPT7912	† Signal Proc	
	0.375	0.5	1700	x							x		x	x		**ADSCCD1202MC**	**Datel (3568)**	
	0.5	0.05	3750 *		x			x			x		x	x		CLC936AC	Comlinear	20
					x			x			x		x	x		CLC936A8C	† Comlinear	
					x			x			x		x	x		CLC936A8CX	† Comlinear	
		0.062	3500 *		x			x			x		x	x		CLC935AC	Comlinear	
					x			x			x		x	x		CLC935A8C	† Comlinear	
					x			x			x		x	x		CLC935A8CX	† Comlinear	25
		0.8	1600	x							x		x	x		**ADSCCD1201**	**Datel (3568)**	
		7	730	x									x	x		HI774L	Harris	
				x	x								x	x		HI774T	Harris	
				x	x								x	x		HI774T/883	† Harris	
				x	x								x	x		HI774U	Harris	30
		8	825	x									x	x		**AD774BB**	**AD (3509)**	
		15	720	x	x								x	x		HI674AUD/883	Harris	
		17	15	x						4			x	x		**ADC7802**	**Burr-Brown (3473)**	
		25	720	x	x								x	x		HI574ATE/883	† Harris	
				x	x								x	x		HI574AUD/883	† Harris	35
		47	730	x	x								x	x		HI774KD-5	Harris	
	0.6	8	113	x				x			x			x		ADC1251	National	
	0.75	0.1	5040 *		x			x			x		x	x		CLC926B8C	† Comlinear	
	0.75 *	0.1	6100 *	x							x			x		ADC00113-112	† ILC-DDC	
				x							x			x		ADC00113-302	ILC-DDC	40
	0.75	0.25	500	x							x		x	x		LTC1278AC	LinearTech	
		0.5	1700	x							x		x	x		**ADSCCD1202MM**	**† Datel (3568)**	
	0.9	3.125	155	x	x									x		MAX183AC	Maxim	
				x	x									x		MAX183BC	Maxim	
		5	155	x	x									x		MAX184AC	Maxim	45
				x	x									x		MAX184AM	† Maxim	
				x	x									x		MAX184BC	Maxim	
				x	x									x		MAX184BM	† Maxim	
		8	100								x		x	x		**ADS7804**	**Burr-Brown (3473)** (Continued)	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	0.9	10	155	x	x									x		MAX185AC	(Cont'd) Maxim	
				x	x									x		MAX185AM	† Maxim	
				x	x									x		MAX185BC	Maxim	
				x	x									x		MAX185BM	† Maxim	
	0.95	0.1	1900	x							x		x	x		**ADS119MC**	**Datel (3568)**	5
	1		3485 *				x	x			x		x	x		**MN6249J**	**MicroNet (3689)**	
							x	x			x		x	x		**MN6249K**	**MicroNet (3689)**	
							x	x			x		x	x		**MN6249S**	**† MicroNet (3689)**	
							x	x			x		x	x		**MN6249T**	**† MicroNet (3689)**	
			3500	x									x	x		**HI5800BI**	**Harris (3639)**	10
				x									x	x		**HI5800KC**	**Harris (3639)**	
			6100				x	x			x		x			**ADC603K**	**Burr-Brown (3472)**	
							x	x			x		x			**ADC603S**	**† Burr-Brown (3472)**	
			7000	x				x								ADC604K	Burr-Brown	
		0.03		x	x			x			x		x	x		MP87L91A	MicroPwr	15
				x	x			x					x		x	MP87L92A	MicroPwr	
		0.1		x									x			AD9005	AD	
			4100		x			x			x		x	x		CLC922B	† Comlinear	
			6000	x				x			x		x	x		CLC925	‡ Comlinear	
				x				x			x		x	x		CLC926	‡ Comlinear	20
			1900	x							x		x	x		**ADS119MM**	**† Datel (3568)**	
			3500	x							x		x	x		SP9560	† Sipex	
			4080 *		x			x			x		x	x		CLC922B8C	† Comlinear	
			4200 *		x			x			x		x	x		CLC925B8C	† Comlinear	
			5500	x	x		x	x			x					ADC00110	† ILC-DDC	25
				x	x		x	x			x					ADC00111	† ILC-DDC	
			6100					x			x		x	x		ADC603	Burr-Brown	
								x			x		x	x		**ADC603SH**	**† Burr-Brown (3472)**	
		0.2		x									x	x		HI5801BI	Harris	
				x									x	x		HI5801KC	Harris	30
			4200	x	x	x	x				x					**ADS131MC**	**Datel (3569)**	
			6100					x			x		x	x		ADC604	Burr-Brown	
		0.25	500	x							x		x	x		LTC1278AI	LinearTech	
				x							x		x	x		LTC1278AM	† LinearTech	
				x							x		x	x		LTC1278BC	LinearTech	35
				x							x		x	x		LTC1278BI	LinearTech	
				x							x		x	x		LTC1278BM	† LinearTech	
		0.5		x				x								AD671	AD	
				x												**AD671-500**	**AD (3508)**	
			4900		x		x	x			x		x	x		CLC936	† Comlinear	40
			4300	x	x		x	x	x		x	x			x	ADC00300	† ILC-DDC	
		0.6	4900		x		x	x			x		x	x		CLC935	† Comlinear	
		0.75		x												**AD671-750**	**AD (3508)**	
		1		x												**AD7886**	**AD (3509)**	
			1700		x	x								x		**ADC601**	**Burr-Brown (3472)**	45
					x	x							x	x	x	**ADC601J**	**Burr-Brown (3472)**	
		1.25	750	x												LA5412	American Micro	
		1.5	3050			x	x	x					x	x	x	ADC00403-103	† ILC-DDC	
						x	x	x					x	x	x	ADC00403-203	ILC-DDC (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																	**(Cont'd)**	
12	1	1.5	3050			x	x	x					x	x	x	ADC00404-103	(Cont'd) † ILC-DDC	
						x	x	x					x	x	x	ADC00404-203	ILC-DDC	
		1.6	315	x							x		x	x		MAX120C	Maxim	
				x							x		x	x		MAX120E	Maxim	
		2	2200	x	x			x					x	x	x	ADC817AMM	Datel	5
			2700	x	x			x					x	x	x	ADH8516-11	ILC-DDC	
		2 MSPS	200 *	x		x							x	x		MP8790A	MicroPwr	
				x		x							x	x		MP8791A	MicroPwr	
		2.6	315	x							x		x	x		MAX122BC	Maxim	
				x							x		x	x		MAX122BE	Maxim	10
				x							x		x	x		MAX122BM	† Maxim	
		2.7	215			x	x	x			x		x	x		**ADS7800A**	**Burr-Brown (3473)**	
		2.8	1400	x							x		x	x		**AD1332B**	**AD (3509)**	
		3		x				x								**AD7572A**	**AD (3509)**	
			75 *	x							x			x		LTC1272-3BC	LinearTech	15
				x							x			x		LTC1272-3BM	† LinearTech	
				x							x			x		LTC1272-3CC	LinearTech	
				x							x			x		LTC1272-3CM	† LinearTech	
			215	x		x	x	x			x		x			**ADS7800J**	**Burr-Brown (3473)**	
				x									x	x		MAX162BC	Maxim	20
				x									x	x		MAX162BI	Maxim	
				x									x	x		MAX162BM	† Maxim	
				x									x	x		MAX162CC	Maxim	
				x									x	x		MAX162CI	Maxim	
				x									x	x		MAX162CM	† Maxim	25
					x						x		x	x		ADS7800A	MicroNet	
					x						x		x	x		ADS7800J	MicroNet	
		3.125	155	x	x									x		MAX183B	† Maxim	
			179	x	x									x		MX7672K	† Maxim	
		3.5	172	x							x		x		x	MAX176BC	Maxim	30
				x							x		x		x	MAX176BE	Maxim	
				x							x		x		x	MAX176BM	† Maxim	
		4		x									x			**AD678**	**AD (3509)**	
		4.4	745	x				x					x	x		**AD678J**	**AD (3509)**	
				x				x					x	x		**AD678K**	**AD (3509)**	35
				x				x					x	x		**AD678S**	**AD (3509)**	
				x				x					x	x		**AD678T**	**AD (3509)**	
		5	75 *	x							x			x		LTC1272-5BC	LinearTech	
				x							x			x		LTC1272-5BM	† LinearTech	
				x							x			x		LTC1272-5CC	LinearTech	40
				x							x			x		LTC1272-5CM	† LinearTech	
			100 *										x			AD7572J	AD	
													x			AD7572S	† AD	
			155	x	x									x		MAX184B	† Maxim	
			179	x	x									x		MX7672L	† Maxim	45
			215	x									x		x	MAX170B	† Maxim	
				x									x	x		MX7572A05	Maxim	
				x									x	x		MX7572B05	Maxim	
				x									x	x		MX7572J05	Maxim (Continued)	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
																	(Cont'd)	
12	1	5	215	x									x	x		MX7572K05	Maxim	
				x									x	x		MX7572S05	† Maxim	
				x									x	x		MX7572T05	† Maxim	
		5.5	500	x						x	x				x	ADC12H030	National	
				x						x	x				x	ADC12H032	National	5
				x						x	x				x	ADC12H034	National	
				x						x	x				x	ADC12H038	National	
		5.68	265	x			x	x					x		x	MAX171BC	Maxim	
		7		x									x			**AD1341**	**AD (3509, 3539)**	
			215	x							x		x	x		MAX163B	† Maxim	10
				x							x		x	x		MAX164B	† Maxim	
				x							x		x	x		MAX167B	† Maxim	
			730	x	x								x	x		HI774J	Harris	
				x	x								x	x		HI774S	Harris	
			1600	x									x	x		**AD1341K**	**AD (3509, 3538)**	15
				x									x	x		**AD1341T/883B**	**† AD (3509, 3538)**	
		7.3		x							x			x		LM12L454	National	
				x							x			x		LM12L458	National	
		7.5		x									x			**AD7874**	**AD (3510)**	
				x	x						x		x	x	x	MAX190B	† Maxim	20
			1500		x						x		x	x		**AD1334B**	**AD (3539)**	
					x						x		x	x		**AD1334T/883B**	**† AD (3539)**	
		8		x									x			**AD7870**	**AD (3509)**	
				x									x			**AD7878**	**AD (3509)**	
			75 *	x							x			x		LTC1272-8AM	† LinearTech	25
				x							x			x		LTC1272-8BC	LinearTech	
				x							x			x		LTC1272-8BM	† LinearTech	
				x							x			x		LTC1272-8CC	LinearTech	
				x							x			x		LTC1272-8CM	† LinearTech	
			150	x			x	x					x			MAX174CC	Maxim	30
				x			x	x					x			MAX174CM	† Maxim	
			825	x									x	x		**AD774BA**	**AD (3509)**	
				x	x								x	x		**AD774BJ**	**AD (3509)**	
				x	x								x	x		**AD774BT**	**AD (3509)**	
		8.125	155	x	x					x	x		x	x		MAX180B/C	† Maxim	35
				x	x					x	x		x	x		MAX181B/C	† Maxim	
		8.13	150	x							x		x	x		MAX163BC	Maxim	
				x							x		x	x		MAX163BM	† Maxim	
				x							x		x	x		MAX163CC	Maxim	
				x							x		x	x		MAX163CM	† Maxim	40
				x							x		x	x		MAX164BC	Maxim	
				x							x		x	x		MAX164BM	† Maxim	
				x							x		x	x		MAX164CC	Maxim	
				x							x		x	x		MAX164CM	† Maxim	
				x							x		x	x		MAX167AC	Maxim	45
				x							x		x	x		MAX167AM	† Maxim	
				x							x		x	x		MAX167BC	Maxim	
				x							x		x	x		MAX167BM	† Maxim	
				x							x		x	x		MAX167CC	Maxim	
				x							x		x	x		MAX167CM	† Maxim	50
		8.33	180	x				x			x					MAX177C	Maxim	
																	(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ±LSB	Conversion Time ±½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1	8.33	180	x				x			x					MAX177M	Maxim (Cont'd)	
		8.5	120										x			**ADS774J**	**Burr-Brown (3473)**	
													x			**ADS774S**	**Burr-Brown (3473)**	
				x							x		x	x		ADS774J	MicroNet	
				x							x		x	x		ADS774S	† MicroNet	5
			450	x	x								x	x		**ADC774JH**	**Burr-Brown (3473)**	
													x	x		**ADC774JP**	**Burr-Brown (3473)**	
													x	x		**ADC774SH**	**† Burr-Brown (3473)**	
			720	x	x								x	x		HI774J-5	Harris	
				x	x								x	x		HI774S-2	† Harris	10
				x	x								x	x		HI774S/883	† Harris	
		8.8	15	x											x	ADC12L030CI	ℓ National	
				x											x	ADC12L032CI	ℓ National	
				x											x	ADC12L034CI	ℓ National	
				x											x	ADC12L038CI	ℓ National	15
			30	x					x	x	x		x	x		LM12H454	National	
				x					x	x	x		x	x		LM12H458	National	
				x						x	x		x	x		LM12454	National	
				x					x	x	x		x	x		LM12458	National	
			500	x						x	x				x	ADC12030	National	20
				x						x	x				x	ADC12032	National	
				x						x	x				x	ADC12034	National	
				x						x	x				x	ADC12038	National	
		9	95			x							x	x	x	**AD7870K**	**AD (3509)**	
						x							x	x	x	**AD7870T**	**AD (3509)**	25
						x							x	x	x	**AD7875K**	**AD (3509)**	
						x							x	x	x	**AD7875T**	**AD (3509)**	
						x							x	x	x	**AD7876T**	**AD (3509)**	
			350	x							x			x		MP774S	† MicroPwr	
			360	x									x	x		MP774J	MicroPwr	30
		10		x									x			ADADC85	AD	
				x									x			**AD1674**	**AD (3509)**	
			50	x				x							x	**AD7890**	**AD (3509)**	
			150	x				x		x			x	x		**AD7874S**	**AD (3510)**	
			155	x			x						x	x		AD7572AJ	AD	35
				x	x					x	x		x	x		MAX1181CM	Maxim	
				x	x					x	x		x	x		MAX180AC	Maxim	
				x	x					x	x		x	x		MAX180AM	† Maxim	
				x	x					x	x		x	x		MAX180BC	Maxim	
				x	x					x	x		x	x		MAX180BM	† Maxim	40
				x	x					x	x		x	x		MAX180CC	Maxim	
				x	x					x	x		x	x		MAX180CM	† Maxim	
				x	x					x	x		x	x		MAX181AC	Maxim	
				x	x					x	x		x	x		MAX181AM	† Maxim	
				x	x					x	x		x	x		MAX181BC	Maxim	45
				x	x					x	x		x	x		MAX181BM	† Maxim	
				x	x					x	x		x	x		MAX181CC	Maxim	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1	10	155														(Cont'd)	
				x	x					x	x		x	x		MAX181CM	† Maxim	
				x	x									x		MAX185B	† Maxim	
			179	x										x		AD7672K	AD	
				x										x		AD7672T	AD	
			215	x			x						x	x		AD7572AS	AD	5
				x									x	x		MAX172B	† Maxim	
			575	x	x								x	x		**AD1674J**	**AD (3509)**	
				x	x								x	x		**AD1674T**	**AD (3509)**	
			660		x						x		x	x		ADS807J	Burr-Brown	
					x						x		x	x		ADS808J	Burr-Brown	10
			850	x	x			x			x		x	x		ADS807R	Burr-Brown	
				x	x			x			x		x	x		ADS808R	Burr-Brown	
			1000	x		x							x			MAX172C	Maxim	
		10.24 MSPS	3900	x							x				x	**AD9007**	**AD (3508)**	
		10.4		x	x									x		ADC912	AD	15
			215	x		x							x	x		MAX172AC	Maxim	
				x		x							x	x		MAX172AM	† Maxim	
				x		x							x	x		MAX172BC	Maxim	
				x		x							x	x		MAX172BM	† Maxim	
		12		x												**AD7880**	**AD (3510)**	20
				x				x						x		TLC1125I	TI	
			85	x		x	x	x								ADC912F	AD	
				x		x	x	x								ADC912H	AD	
			215	x									x	x		MX7572A12	Maxim	
				x									x	x		MX7572B12	Maxim	25
				x									x	x		MX7572J	Maxim	
				x									x	x		MX7572J12	Maxim	
				x									x	x		MX7572K	Maxim	
				x									x	x		MX7572K12	Maxim	
				x									x	x		MX7572S	Maxim	30
				x									x	x		MX7572S12	† Maxim	
				x									x	x		MX7572T	Maxim	
				x									x	x		MX7572T12	† Maxim	
				x									x	x		MX7572U	Maxim	
		13		x									x			AD5210	AD	35
				x									x			NE5210	Philips	
		14	40	x		x	x	x			x			x	x	ADC1241C	National	
				x		x	x	x			x			x	x	ADC1241CM	† National	
		15		x									x			**AD1334**	**AD (3539)**	
				x									x			AD674A	AD	40
			150	x			x	x					x			MX674AJ	Maxim	
				x			x	x					x			MX674AS	Maxim	
			200	x							x			x	x	MP3274	MicroPwr	
				x						x	x		x		x	MP3275	MicroPwr	
				x						x	x		x		x	MP3276	MicroPwr	45
			360	x									x	x		MP674	MicroPwr	
			450	x	x								x	x		**ADC674AJ**	**Burr-Brown (3473)**	
				x	x								x	x		**ADC674AS**	**† Burr-Brown (3473)**	
			720	x	x								x	x		AD674AJ	AD	
				x	x								x	x		AD674AK	AD	50
				x	x								x	x		AD674AS	AD	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1	15	720														(Cont'd)	
				x	x								x	x		AD674AU	AD	
				x	x								x	x		HI574AJ	Harris	
				x	x								x	x		HI674AJ	Harris	
				x	x								x	x		HI674AJ-5	Harris	
				x	x								x	x		HI674AJD-5	Harris	5
				x	x								x	x		HI674AS	Harris	
				x	x								x	x		HI674AS-2	† Harris	
				x	x								x	x		HI674AS/883	† Harris	
			750	x	x						x		x	x		SP9472DAS	† Sipex	
				x	x					8	x		x	x		SP9473DAS	† Sipex	10
			825	x	x								x	x		**AD674BJ**	**AD (3510)**	
				x	x								x	x		**AD674BT**	**AD (3510)**	
		20	25	x							x			x		HI5812KI	Harris	
			66	x	x					x	x					DAS862	† Adv Analog	
			720	x	x								x	x		MP574AJ	MicroPwr	15
				x	x								x	x		MP574AS	MicroPwr	
		20 MSPS	6000	x										x		**AD9032A**	**AD (3508)**	
				x										x		**AD9034A**	**AD (3508)**	
				x										x		**AD9034B**	**AD (3508)**	
				x										x		**AD9034T**	**AD (3508)**	20
		25	100	x							x		x	x		ADS574J	MicroNet	
				x							x		x	x		ADS574S	† MicroNet	
			150	x			x	x					x			MX574AJ	Maxim	
				x			x	x					x			MX574AS	† Maxim	
			450	x	x								x	x		**ADC574AJ**	**Burr-Brown (3473)**	25
				x	x								x	x		**ADC574AT**	**† Burr-Brown (3473)**	
			725	x	x								x			**AD574AJ**	**AD (3510)**	
				x	x								x			**AD574AS**	**† AD (3510)**	
				x	x								x	x		HI574AJ-5	Harris	
				x	x								x	x		HI574AS-2	† Harris	30
				x	x								x	x		HI574AS/883	† Harris	
			750	x	x					16	x		x	x		SP9462DAS	† Sipex	
				x	x					8	x		x	x		SP9463DAS	† Sipex	
			950	x						x	x		x	x		**MN7145J**	**MicroNet (3691)**	
				x						x	x		x	x		**MN7145S**	**† MicroNet (3691)**	35
				x						x	x		x	x		**MN7145S/B**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7146J**	**MicroNet (3691)**	
					x					x	x		x	x		**MN7146S**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7146S/B**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7147J**	**MicroNet (3691)**	40
					x					x	x		x	x		**MN7147S**	**† MicroNet (3691)**	
					x					x	x		x	x		**MN7147S/B**	**† MicroNet (3691)**	
		26 MSPS	6000	x										x		**AD9032B**	**AD (3508)**	
				x										x		**AD9032T**	**AD (3508)**	
		27.5	300					x	x	x	x		x	x		ML2200CC	MicroLinear	45
								x	x	x	x		x	x		ML2200DC	MicroLinear	
								x	x		x			x		ML2230CC	MicroLinear	
								x	x		x			x		ML2233CC	MicroLinear	
		30		x									x			ADADC80	AD	
			750	x	x								x	x		HS574AJ	Sipex	50
				x	x								x	x		HS574ASB	† Sipex	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1	30															(Cont'd)	
			780	x	x								x		x	AD574J	AD	
			800	x	x						x		x	x		HS9474J	Sipex	
				x	x						x		x	x		HS9474S	† Sipex	
				x	x						x		x	x		HS9474SB	† Sipex	
				x	x						x		x	x		HS9474T	† Sipex	5
			1100	x	x					x	x		x	x		HS9410J	Sipex	
				x	x					x	x		x	x		HS9410SB	† Sipex	
			1340	x	x					x	x		x	x		HS9408J	Sipex	
				x	x					x	x		x	x		HS9408SB	† Sipex	
			1520	x	x					x	x		x	x		HS9404J	Sipex	10
				x	x					x	x		x	x		HS9404SB	† Sipex	
		35		x									x			**AD574A**	**AD (3510)**	
		40		x				x								**AD363R**	**AD (3539)**	
		44	875	x						x	x				x	ML2221B	MicroLinear	
				x						x	x				x	ML2221C	MicroLinear	15
		45												x		µPD650D	NEC	
		45.6	875	x						x	x				x	ML2223B	MicroLinear	
				x						x	x				x	ML2223C	MicroLinear	
		50		x				x								**AD364R**	**AD (3539)**	
				x									x			AD5200	AD	20
		60	195	x									x	x		MAX178A	† Maxim	
				x										x		MAX178B	† Maxim	
				x						x	x		x	x		MAX182A	Maxim	
				x						x	x			x		MX182B	† Maxim	
			1000	x							x		x	x		MAX178AC	Maxim	25
				x							x		x	x		MAX178AM	† Maxim	
				x							x			x		MAX178BC	Maxim	
				x							x			x		MAX178BM	† Maxim	
				x						x	x		x	x		MAX182AC	Maxim	
				x						x	x		x	x		MAX182AM	† Maxim	30
				x						x	x		x	x		MAX182BC	Maxim	
				x						x	x		x	x		MAX182BM	† Maxim	
		100											x			**AD7578K**	**AD (3510)**	
													x			**AD7578T**	**† AD (3510)**	
			150	x										x		MX7578	† Maxim	35
		175	80				x						x	x		HS5251B	† Sipex	
	1/2	7.2	250	x	x						x				x	CS5012A	† Crystal	
				x	x						x				x	CS5012A-B7	Crystal	
				x	x						x				x	CS5012A-K7	Crystal	
		12.25	250	x	x						x				x	CS5012A-B12	Crystal	40
				x	x						x				x	CS5012A-K12	Crystal	
	1.25		400	x				x			x		x			**ADS602K**	**Burr-Brown (3472)**	
		1	2300			x	x				x		x	x		**ADS602**	**Burr-Brown (3472)**	
	1.5		400	x				x			x		x			**ADS602J**	**Burr-Brown (3472)**	
		0.2	2100	x							x		x	x		**ADS118**	**Datel (3568)**	45
				x							x		x	x		**ADS118A**	**Datel (3569)**	
		0.8	750	x	x			x					x	x		**AD1671K**	**AD (3508)**	
		1	300		x									x		**AD7586K**	**AD (3508)**	
		20	25	x							x			x		HI5812JI	Harris	
	2		3500	x									x	x		**HI5800AI**	**Harris (3639)**	50
				x									x	x		**HI5800JC**	**Harris (3639)**	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	2																(Cont'd)	
		0.1	4.3 *		x		x				x					**ADS130M**	**Datel (3569)**	
		0.2		x									x	x		HI5801AI	Harris	
				x									x	x		HI5801JC	Harris	
			4.2 *	x	x	x	x				x					**ADS131M**	**Datel (3569)**	
		0.8	750	x	x			x					x	x		**AD1671J**	**AD (3508)**	5
				x	x			x					x	x		**AD1671S**	**AD (3508)**	
		0.85	3200	x	x									x		AD9003S	AD	
				x	x									x		AD9003T	AD	
		1	300		x									x		**AD7586J**	**AD (3508)**	
					x									x		**AD7586S**	**AD (3508)**	10
			350	x	x									x		**AD7886J**	**AD (3509)**	
				x	x									x		**AD7886K**	**AD (3509)**	
				x	x									x		**AD7886T**	**AD (3509)**	
		1.6	315	x							x		x	x		MAX120M	† Maxim	
		200	210	x										x	x	ADC1211	† National	15
				x										x	x	ADC1211C	National	
	2.25	10 MSPS	4000	x										x		AD9005AK	AD	
				x										x		AD9005AL	AD	
				x										x		AD9005AT	AD	
	2.5	0.8	750		x			x			x		x	x		**AD1671A**	**AD (3508)**	20
	4	10	450 *			x	x	x					x	x	x	ADC84K-10	Burr-Brown	
12 Plus Sign	1/2	100 *	15 *					x						x		ADC1205BC	National	
								x						x		ADC1205BC-1	National	
								x						x		ADC1225BC	National	
								x						x		ADC1225BC-1	National	25
	1	100 *	15 *					x						x		ADC1205CC	National	
								x						x		ADC1205CC-1	National	
								x						x		ADC1225CC	National	
								x						x		ADC1225CC-1	National	
12 (2 device set)	1/2	15	785	x									x	x	x	HS5210B	† Sipex	30
				x									x	x	x	HS5210C	Sipex	
				x									x	x	x	HS5211B	† Sipex	
				x									x	x	x	HS5211C	Sipex	
				x									x	x	x	HS5212B	† Sipex	
				x									x	x	x	HS5212C	Sipex	35
				x										x	x	HS5213B	† Sipex	
				x										x	x	HS5213C	Sipex	
				x										x	x	HS5214B	† Sipex	
				x										x	x	HS5214C	Sipex	
				x										x	x	HS5215B	† Sipex	40
				x										x	x	HS5215C	Sipex	
				x									x	x	x	HS5216B	† Sipex	
				x									x	x	x	HS5216C	Sipex	
		250000	360	x					x			x	x	x		ICL8052A	Harris	
12 (3-Digit BCD)	1	6000 *	50									x	x		x	AD2020	AD	45
13 (D/A, A/D)	1/2	30		x												MC145402	Motorola	
14			260	x									x		x	TLC32040M	† TI	
				x									x		x	TLC32044M	† TI	
	1/4	14	120	x												LA5014	American Micro	
	1/2		2735	x	x			x		x	x		x	x		DAS5714	Adv Analog	50

(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In—Multiplexed Inputs
S&H—Sample and Hold

Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conver-sion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Int-egra ting	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
14	1/2																(Cont'd)	
		1	2700	x	x			x					x	x		**ADC908MC**	**Datel (3569)**	
				x	x			x					x	x		**ADC908MM †**	**Datel (3569)**	
		2	1450	x	x						x	x	x	x		**ADS926M †**	**Datel (3568)**	
			2900	x	x	x	x	x			x		x	x		**ADS928C**	**Datel (3569)**	
				x	x	x	x	x			x		x	x		**ADS928MC**	**Datel (3569)**	5
				x	x	x	x	x			x		x	x		**ADS928MM**	**Datel (3569)**	
		3.5	120	x							x		x		x	MAX168	Maxim	
		7	2000	x				x					x	x		MP2734	Analogic	
		8									x					HAS1409	AD	
		10	2400	x				x					x	x	x	ADC2714	Adv Analog	10
			3000	x	x			x					x	x	x	MP8014	Analogic	
		14.25	250	x	x						x		x	x		ADC3201	Analogic	
				x	x						x		x	x		ADC3202	Analogic	
				x	x						x			x	x	CS5014-B14	Crystal	
				x	x						x			x	x	CS5014-K14	Crystal	15
				x	x						x			x	x	CS5014-S14 †	Crystal	
				x	x						x			x	x	CS5014-T14 †	Crystal	
				x	x						x			x	x	CS5014A	Crystal	
		28.25	250	x	x						x			x	x	CS5014-B28	Crystal	
		28.5	250	x	x						x			x	x	CS5014-K28	Crystal	20
	3/4	0.5		x	x			x			x		x	x		ADC3110	Analogic	
			1900	x	x	x	x	x			x		x	x		**ADS942MC**	**Datel (3569)**	
				x	x	x	x	x			x		x	x		**ADS942ME**	**Datel (3569)**	
		1.0	3300	x	x	x	x				x		x	x		**ADS941MC**	**Datel (3569)**	
				x	x	x	x				x		x	x		**ADS941ME**	**Datel (3569)**	25
	3/4	1	2600		x						x		x	x		ADC3214	Analogic	
	0.5 *	0.5	1900	x	x						x		x	x		ADS919MC	Datel	
				x	x						x		x	x		**ADS929MC**	**Datel (3568)**	
	0.5	44	900	x	x			x			x		x	x		ADAM824B	Analogic	
				x	x			x			x		x	x		ADAM834B	Analogic	30
	0.75	0.2	3400	x							x		x	x		**ADS944 †**	**Datel (3568)**	
	1		170	x										x		SDC14570-112	† ILC-DDC	
				x										x		SDC14570-301	ILC-DDC	
				x										x		SDC14571-112	† ILC-DDC	
				x										x		SDC14571-301	ILC-DDC	35
				x										x		SDC14572-112	† ILC-DDC	
				x										x		SDC14572-301	ILC-DDC	
				x										x		SDC14573-112	† ILC-DDC	
				x										x		SDC14573-301	ILC-DDC	
			340	x						x				x		SDC14600-112	† ILC-DDC	40
				x						x				x		SDC14600-301	ILC-DDC	
				x						x				x		SDC14601-112	† ILC-DDC	
				x						x				x		SDC14601-301	ILC-DDC	
				x						x				x		SDC14602-112	† ILC-DDC	
				x						x				x		SDC14602-301	ILC-DDC	45
				x						x				x		SDC14603-112	† ILC-DDC	
				x						x				x		SDC14603-301	ILC-DDC (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ±LSB	Conversion Time ±½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
14	1		340	x						x				x		SDC14604-112	† ILC-DDC	
				x						x				x		SDC14604-301	ILC-DDC	
				x						x				x		SDC14610-112	† ILC-DDC	
				x						x				x		SDC14610-301	ILC-DDC	
				x						x				x		SDC14611-112	† ILC-DDC	5
				x						x				x		SDC14611-301	ILC-DDC	
				x						x				x		SDC14612-112	† ILC-DDC	
				x						x				x		SDC14612-301	ILC-DDC	
				x						x				x		SDC14613-112	† ILC-DDC	
				x						x				x		SDC14613-301	ILC-DDC	10
				x						x				x		SDC14614-112	† ILC-DDC	
				x						x				x		SDC14614-301	ILC-DDC	
		0.06	1500	x	x						x		x	x		**ADS917C**	**Datel (3569)**	
				x	x						x		x	x		**ADS927MC**	**Datel (3568)**	
				x	x						x		x	x		**ADS927UMC**	**Datel (3568)**	15
		0.1		x									x			**AD9014**	**AD (3508)**	
			1400	x	x						x		x	x		**ADS916C**	**Datel (3569)**	
				x	x						x		x	x		**ADS926C**	**Datel (3568)**	
				x	x						x		x	x		**ADS926UMC**	**Datel (3568)**	
			6000	x							x		x	x		**ADS945**	**Datel (3568)**	20
	1 *	0.2	2400 *	x							x		x	x		ADC00145-110	† ILC-DDC	
				x							x		x	x		ADC00145-300	ILC-DDC	
	1	0.5	1900	x	x						x		x	x		ADS919MM	Datel	
				x	x						x		x	x		**ADS929MM**	**† Datel (3568)**	
			2400	x							x		x	x		**ADS942A**	**Datel (3569)**	25
		2	3000	x							x		x	x		SP9478	† Sipex	
				x									x	x		SP9588	† Sipex	
		2.4	925	x	x									x		**ADC914MC**	**Datel (3569)**	
				x	x									x		**ADC914MM**	**† Datel (3569)**	
			1800	x	x		x	x						x		**ADS924MC**	**Datel (3569)**	30
				x	x		x	x						x		**ADS924MM**	**Datel (3569)**	
		10		x									x			**AD679**	**AD (3509)**	
				x				x								**AD779**	**AD (3509)**	
				x									x			**AD7871**	**AD (3510)**	
				x				x								**AD7872**	**AD (3510)**	35
		10 MSPS	12800	x										x		**AD9014K**	**AD (3508)**	
		10.5	95	x	x								x	x	x	**AD7871J**	**AD (3510)**	
				x	x								x	x	x	**AD7871K**	**AD (3510)**	
				x	x								x	x	x	**AD7871T**	**AD (3510)**	
				x	x								x	x	x	**AD7872J**	**AD (3510)**	40
				x	x								x	x	x	**AD7872K**	**AD (3510)**	
				x	x								x	x	x	**AD7872T**	**AD (3510)**	
		12		x									x			ADC1131	AD	
		25		x									x			ADC1130	AD	
		40		x									x			DAS1152	AD	45
	1/2	0.44 *	1900		x						x		x	x	x	ADS929	Datel	
		0.5	2400	x	x	x	x	x			x		x	x		**ADS942AMC**	**Datel (3569)**	
				x	x	x	x	x			x		x	x		**ADS942AMM**	**† Datel (3569)**	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
14	1/2																(Cont'd)	
		0.50	1950		x						x		x	x	x	ADS927	Datel	
	1.25	0.2	6500					x			x		x	x		**ADC614K**	**Burr-Brown (3472)**	
	1.5	10 MSPS	12800	x										x		**AD9014J**	**AD (3508)**	
	2		3485 *				x	x			x		x	x		**MN6259**	**MicroNet (3689)**	
							x	x			x		x	x		**MN6259H**	**† MicroNet (3689)**	5
		0.06	1500	x	x						x		x	x		**ADS927MM**	**Datel (3568)**	
				x	x						x		x	x		**ADS927UMM**	**† Datel (3568)**	
		0.1	1400	x	x						x		x	x		**ADS926UMM**	**† Datel (3568)**	
		0.2	6500					x			x		x	x		**ADC614J**	**Burr-Brown (3472)**	
		2.9	315	x									x		x	MAX121E	Maxim	10
				x									x		x	MAX121M	† Maxim	
		6.3	745	x				x					x	x		**AD679J**	**AD (3509)**	
				x				x					x	x		**AD679K**	**AD (3509)**	
				x				x					x	x		**AD679T**	**AD (3509)**	
		128KSPS	745	x				x					x	x		**AD779J**	**AD (3509)**	15
				x				x					x	x		**AD779K**	**AD (3509)**	
				x				x					x	x		**AD779S**	**AD (3509)**	
				x				x					x	x		**AD779T**	**AD (3509)**	
14 (2 device set)	1/2	250 ms	40	x					x			x	x	x		ICL7104-14	Harris	
15	1/4	5	1675				x						x	x		MP2735A-2	Analogic	20
			1975				x				x		x	x		MP2735A-1	Analogic	
	1/2	6.8	1750				x				x		x	x		ADC2735	Adv Analog	
		15	3000	x	x			x					x	x	x	MP8015	Analogic	
		25 ms	20	x					x			x		x		TC850	TeledyneC	
		33 ms	20	x					x	x		x	x	x		TC804	TeledyneC	25
	0.5	50	900	x	x			x			x		x	x		ADAM825B	Analogic	
				x	x			x			x		x	x		ADAM835B	Analogic	
	1	50		x									x			DAS1153	AD	
		55		x									x			DAS1158	AD	
	2	400 ms	20	x					x						x	TC800C	TeledyneC	30
16		10	100	x							x				x	MAX195	Maxim	
		16	120	x												LA5016	American Micro	
	1/4	1.8	4300	x	x			x			x		x	x		ADAM-846	Analogic	
		5	1675				x						x	x		AM30516	Analogic	
			1975				x				x		x	x		AM40516	Analogic	35
		8.12	430		x			x		x	x				x	CS5101A-J8	Crystal	
					x			x		x	x				x	CS5101A-K8	Crystal	
		8.13	430		x			x		x	x				x	CS5101A-A8	Crystal	
					x			x		x	x				x	CS5101A-B8	Crystal	
		16.25	430		x			x		x	x				x	CS5101A-J16	Crystal	40
		40.625	65		x			x		x	x				x	CS5102A-A	Crystal	
					x			x		x	x				x	CS5102A-B	Crystal	
					x			x		x	x				x	CS5102A-J	Crystal	
					x			x		x	x				x	CS5102A-K	Crystal	
	1/2		2735	x	x			x		x	x		x	x		DAS5716	Adv Analog	45
		2		x	x	x										ADC1600-2	Adv Analog	
			3400	x	x			x			x		x	x		ADC4345	Analogic	
		5	2200	x	x	x	x	x			x		x	x		ADC4357	Analogic	
		7	1800	x	x	x	x	x					x	x		ADC4356	Analogic	
		8.1	300	x	x			x		x	x				x	CS5126	† Crystal	50

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ±LSB	Conversion Time ±½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
16	1/2																(Cont'd)	
		8.13	430		x			x		x	x				x	CS5101A-S8	† Crystal	
					x			x		x	x				x	CS5101A-T8	† Crystal	
		10	1400 *	x						x				x		HS9588	Sipex	
			2000	x	x	x	x	x			x		x	x		ADC4355	Analogic	
		15	1400	x	x					x	x		x	x		SP9488	† Sipex	5
			1520			x	x	x			x		x	x		HS9476	† Sipex	
		16	3000	x	x			x					x	x	x	A8016-16	Adv Analog	
		16.25	250	x	x						x			x	x	CS5016	Crystal	
				x	x						x			x	x	CS5016-A16	Crystal	
				x	x						x			x	x	CS5016-B16	Crystal	10
				x	x						x			x	x	CS5016-J16	Crystal	
				x	x						x			x	x	CS5016-K16	Crystal	
				x	x						x			x	x	CS5016-S16	† Crystal	
				x	x						x			x	x	CS5016-T16	Crystal	
				x	x						x			x	x	CS5016A	Crystal	15
		17	250	x	x						x		x	x		ADC4201	Analogic	
				x	x						x		x	x		ADC4202	Analogic	
				x	x						x		x	x		ADC4203	Analogic	
		20	450					x		x	x		x		x	CS5327	Crystal	
			3000	x	x			x					x	x	x	A8016	Adv Analog	20
		32	3000	x	x			x					x	x	x	MP8016	Analogic	
		32.50	250	x	x						x			x	x	CS5016-A32	Crystal	
				x	x						x			x	x	CS5016-B32	Crystal	
				x	x						x			x	x	CS5016-J32	Crystal	
				x	x						x			x	x	CS5016-K32	Crystal	25
		40.625	65		x			x		x	x				x	CS5102A-S	† Crystal	
					x			x		x	x				x	CS5102A-T	† Crystal	
		50	1000				x	x					x	x	x	**ADC71A**	**Burr-Brown (3473)**	
							x	x					x	x	x	**ADC71B**	**Burr-Brown (3473)**	
		100	1200	x	x			x						x		HS9516-4	Sipex	30
				x				x					x	x		HS9516B-6	† Sipex	
				x				x					x	x		HS9516C-6	Sipex	
		100 KSPS	400	x										x		**AD776**	**AD (3509)**	
		250		x	x						x	x			x	CS5501-A	Crystal	
				x	x						x	x			x	CS5501-B	Crystal	35
				x	x						x	x			x	CS5501-C	Crystal	
				x	x						x	x			x	CS5501-S	† Crystal	
				x	x						x	x			x	CS5501-T	† Crystal	
		5000		x	x										x	CS5505-A	Crystal	
				x	x										x	CS5505-S	† Crystal	40
		50000		x						x		x	x		x	CS5507-A	Crystal	
				x						x		x	x		x	CS5507-S	† Crystal	
		80000			x			x			x	x			x	CS5516-A	Crystal	
					x			x			x	x			x	CS5516-S	† Crystal	
	3/4	1.5	4000	x	x			x			x		x	x		AM40016	Analogic	45
				x	x			x			x		x	x		AM40116	Analogic	
		2.5	2600	x	x			x			x		x	x		ADC4342	Analogic	
				x	x			x			x		x	x		ADC4346	Analogic	
		65	900					x			x		x	x		ADC4110	Analogic	
								x			x		x	x		ADC4111	Analogic	50
	3/4	1	3400	x	x						x		x	x		ADC4344	Analogic	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
16																	(Cont'd)	
	0.4	50	300	x	x									x		CS5317-B	Crystal	
				x	x									x		CS5317-K	Crystal	
				x	x									x		CS5317-T	† Crystal	
	0.5	2	2450	x	x			x			x		x	x		ADC4340	Analogic	
	0.75	1.5	2800	x	x			x					x	x		ADAM826-3	Analogic	5
			3200	x	x			x					x	x		ADAM826-2	Analogic	
			3900	x	x			x			x		x	x		ADAM826-1	Analogic	
			4000		x			x			x		x	x		AM41016	Analogic	
					x			x			x		x	x		AM41116	Analogic	
					x			x			x		x	x		AM41216	Analogic	10
		3	2450	x	x			x			x		x	x		AM40316	Analogic	
	1		170	x										x		SDC14575-114	† ILC-DDC	
				x										x		SDC14575-302	ILC-DDC	
				x										x		SDC14576-112	† ILC-DDC	
				x										x		SDC14576-302	ILC-DDC	15
				x										x		SDC14577-114	† ILC-DDC	
				x										x		SDC14577-302	ILC-DDC	
				x										x		SDC14578-114	† ILC-DDC	
				x										x		SDC14578-302	ILC-DDC	
			220	x										x		RDC19220-303	ILC-DDC	20
				x										x		RDC19221-123	† ILC-DDC	
			240	x										x		SDC14550-114	† ILC-DDC	
				x										x		SDC14550-302	ILC-DDC	
				x										x		SDC14551-114	† ILC-DDC	
				x										x		SDC14551-302	ILC-DDC	25
				x										x		SDC14552-114	† ILC-DDC	
				x										x		SDC14552-302	ILC-DDC	
				x										x		SDC14553-114	† ILC-DDC	
				x										x		SDC14553-302	ILC-DDC	
				x										x		SDC14554-114	† ILC-DDC	30
				x										x		SDC14554-302	ILC-DDC	
			340	x						x				x		SDC14605-114	† ILC-DDC	
				x						x				x		SDC14605-302	ILC-DDC	
				x						x				x		SDC14606-114	† ILC-DDC	
				x						x				x		SDC14606-302	ILC-DDC	35
				x						x				x		SDC14607-114	† ILC-DDC	
				x						x				x		SDC14607-302	ILC-DDC	
				x						x				x		SDC14608-114	† ILC-DDC	
				x						x				x		SDC14608-302	ILC-DDC	
				x						x				x		SDC14609-114	† ILC-DDC	40
				x						x				x		SDC14609-302	ILC-DDC	
				x						x				x		SDC14615-114	† ILC-DDC	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
16	1		340	x						x				x		SDC14615-302	ILC-DDC	
				x						x				x		SDC14616-114	† ILC-DDC	
				x						x				x		SDC14616-301	ILC-DDC	
				x						x				x		SDC14617-114	† ILC-DDC	
				x						x				x		SDC14617-301	ILC-DDC	5
				x						x				x		SDC14618-114	† ILC-DDC	
				x						x				x		SDC14618-302	ILC-DDC	
				x						x				x		SDC14619-114	† ILC-DDC	
				x						x				x		SDC14619-302	ILC-DDC	
			400		x			x			x		X		x	CS5349	Crystal	10
			450					x		x	x		x		x	CS5326	Crystal	
			650	x										x		SDC14580-111	† ILC-DDC	
				x										x		SDC14580-201	ILC-DDC	
				x										x		SDC14585-111	† ILC-DDC	
				x										x		SDC14585-201	ILC-DDC	15
				x										x		SDC14587-111	† ILC-DDC	
				x										x		SDC14587-201	ILC-DDC	
			680	x						x				x		SDC14620-114	† ILC-DDC	
				x						x				x		SDC14620-302	ILC-DDC	
				x						x				x		SDC14621-114	† ILC-DDC	20
				x						x				x		SDC14621-302	ILC-DDC	
				x						x				x		SDC14622-114	† ILC-DDC	
				x						x				x		SDC14622-302	ILC-DDC	
				x						x				x		SDC14623-114	† ILC-DDC	
				x						x				x		SDC14623-302	ILC-DDC	25
				x						x				x		SDC14624-114	† ILC-DDC	
				x						x				x		SDC14624-302	ILC-DDC	
		0.25	740	x			x	x			x					**MN6400J**	**MicroNet (3689)**	
				x			x	x			x					**MN6400K**	**MicroNet (3689)**	
				x			x	x			x					**MN6400S**	**MicroNet (3689)**	30
				x			x	x			x					**MN6400T**	**MicroNet (3689)**	
		1	40	x	x									x		**AD7701T**	**AD (3511)**	
	1*	1	4200	x							x		x	x		**ADS931**	**† Datel (3569)**	
	1*	1.5	950										x			**ADC701K**	**Burr-Brown (3472)**	
	1	1.5	2300	x	x								x			**ADC701**	**Burr-Brown (3472)**	35
		2	2900				x	x					x	x		**AD1382K**	**AD (3509, 3538)**	
			4125				x	x					x	x		**AD1385K**	**AD (3509, 3538)**	
							x	x					x	x		**AD1385T**	**AD (3509, 3538)**	
							x	x					x	x		**AD1385T/883B**	**† AD (3509, 3538)**	
		3		x				x					x			**AD7701**	**AD (3511)**	40
		5	700								x				x	ZPP1001	Burr-Brown	
		8	350		x			x		x	x				x	CS5101A	Crystal	
		8.12	685 *	x							x		x		x	**MN6500J**	**MicroNet (3689)**	
				x							x		x		x	**MN6500K**	**MicroNet (3689)**	

(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In—Multiplexed Inputs
S&H—Sample and Hold

Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
16	1	8.12	685 *	x							x		x		x	**MN6500S**	(Cont'd) **† MicroNet (3689)**	
				x							x		x		x	**MN6500T**	**† MicroNet (3689)**	
		10		x									x			**AD1377**	**AD (3538)**	
				x												**AD1876**	**AD (3509, 3512)**	
			100	x				x			x		x		x	**ADS7809**	**Burr-Brown (3473)**	5
		16.25	740	x							x		x	x		MN6405J	MicroNet	
				x							x		x	x		MN6405K	MicroNet	
				x							x		x	x		MN6405S	† MicroNet	
				x							x		x	x		MN6405T	† MicroNet	
				x							x		x	x		**MN6450J**	**MicroNet (3689)**	10
				x							x		x	x		**MN6450K**	**MicroNet (3689)**	
				x							x		x	x		**MN6450S**	**† MicroNet (3689)**	
				x							x		x	x		**MN6450T**	**† MicroNet (3689)**	
		17		x									x			AD1378	AD	
	1 *	17	1550			x	x	x					x	x	x	PCM75K	Burr-Brown	15
	1	20		x									x			**AD1380**	**AD (3510, 3538)**	
			940	x	x						x		x	x	x	ADC4300	Analogic	
		25	25					x			x		x	x	x	**ADS7807**	**Burr-Brown (3473)**	
		35		x									x			ADC1140	AD	
		50		x									x			ADADC71	AD	20
			—	x		x	x	x						x	x	ADADC71K	AD	
				x									x			ADADC72	AD	
			—	x		x	x	x						x	x	ADADC72K	AD	
			300	x			x	x								MN5285	MicroNet	
				x			x	x								MN5286	MicroNet	25
				x			x	x								MN5287	MicroNet	
		55			x								x			DAS1159	AD	
		70		x									x			ADC1143	AD	
		80	40		x			x		x	x				x	CS5102A	Crystal	
		100	1200	x	x			x						x		HS9516-5	Sipex	30
				x				x					x	x		HS9516B-5	† Sipex	
				x				x					x	x		HS9516C-5	Sipex	
		100 KSPS	350	x				x						x		**AD676K**	**AD (3509, 3538)**	
	1.5	8	825								x		x	x		**ADS7805B**	**Burr-Brown (3473)**	
	1 1/2	2.0	2400	x	x	x	x	x			x		x	x		**ADS930MC**	**Datel (3568)**	35
				x	x	x	x	x			x		x	x		**ADS930MM**	**† Datel (3568)**	
	2	1	40	x	x									x		**AD7701S**	**AD (3511)**	
		1.5	950										x			**ADC701J**	**Burr-Brown (3472)**	
		2		x									x			**AD1382**	**AD (3509, 3538)**	
		5	575	x		x		x					x		x	**PCM78P**	**Burr-Brown (3472)**	40
		5.3	300	x									x	x		**AD7884T**	**AD (3509)**	
				x									x	x		**AD7885T**	**AD (3509)**	
		9	560					x				x	x		x	CX20018	Sony	
		10	800			x	x	x					x	x		**AD1377J**	**AD (3538)**	
						x	x	x					x	x		**AD1377K**	**AD (3538)**	45
		14	645	x	x	x	x	x					x	x	x	**AD1376**	**AD (3510, 3538)**	
			900			x	x	x					x	x	x	**AD1380K**	**AD (3510, 3538)**	
		15	645 *	x			x	x					x	x	x	**ADC700**	**Burr-Brown (3473)** (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
16	2																(Cont'd)	
		15.5	800			x	x	x					x	x		**AD1376J**	**AD (3510, 3538)**	
						x	x	x					x	x		**AD1376K**	**AD (3510, 3538)**	
		17	525 *			x	x						x	x	x	**ADC76K**	**Burr-Brown (3473)**	
	2 *	17	525 *			x	x	x					x	x	x	PCM75J	Burr-Brown	
	2	17	765	x	x			x					x	x	x	**ADC700B**	**Burr-Brown (3473)**	5
				x	x			x					x	x	x	**ADC700K**	**Burr-Brown (3473)**	
				x	x			x					x	x	x	**ADC700S**	**Burr-Brown (3473)**	
			800			x	x	x					x	x		AD1378T	AD	
			1000	x		x	x	x					x	x	x	HS9576K	Sipex	
				x		x	x	x					x	x	x	HS9576T/B	Sipex	10
			1200	x	x								x	x	x	**MN5295**	**MicroNet (3690)**	
				x	x								x	x	x	**MN5295H**	† **MicroNet (3690)**	
				x	x								x	x	x	**MN5296**	**MicroNet (3690)**	
				x	x								x	x	x	**MN5296H**	† **MicroNet (3690)**	
		35	1600	x	x			x					x			ADC1140	Adv Analog	15
		40	1000			x	x	x					x	x	x	**MN5290**	† **MicroNet (3690)**	
						x	x	x					x	x	x	**MN5291**	† **MicroNet (3690)**	
			1500	x	x						x		x	x	x	**MN6290K**	**MicroNet (3689)**	
				x	x						x		x	x	x	**MN6290T**	† **MicroNet (3689)**	
					x						x		x	x	x	**MN6291K**	**MicroNet (3689)**	20
					x						x		x	x	x	**MN6291T**	† **MicroNet (3689)**	
		50	—	x		x	x	x						x	x	ADADC71J	AD	
				x		x	x	x						x	x	ADADC72J	AD	
			525 *			x	x	x					x	x	x	**ADC71K**	**Burr-Brown (3473)**	
		60	200			x	x	x					x	x	x	**MN5284**	**MicroNet (3690)**	25
		100	1200	x	x			x						x		HS9516-6	Sipex	
				x				x					x	x		HS9516B-4	† Sipex	
				x				x					x	x		HS9516C-4	Sipex	
		100 KSPS	350	x				x						x		**AD676J**	**AD (3509, 3538)**	
				x				x						x		**AD676T**	**AD (3509, 3538)**	30
	3		350	x				x							x	**AD1876J**	**AD (3509, 3512)**	
		1	3000	x	x						x		x	x		SP9490	† Sipex	
		8	825								x		x	x		**ADS7805**	**Burr-Brown (3473)**	
	4		650	x									x	x		SDC19204-304	ILC-DDC	
				x									x	x		SDC19206-304	ILC-DDC	35
		10	160													LC7886	Sanyo	
		14	900			x	x	x					x	x	x	**AD1380J**	**AD (3510, 3538)**	
		17	525 *			x	x						x	x	x	**ADC76J**	**Burr-Brown (3473)**	
			765	x	x			x					x	x	x	**ADC700A**	**Burr-Brown (3473)**	
				x	x			x					x	x	x	**ADC700J**	**Burr-Brown (3473)**	40
				x	x			x					x	x	x	**ADC700R**	**Burr-Brown (3473)**	
			800			x	x	x					x	x		AD1378S	AD	
			1000	x		x	x	x					x	x	x	HS9576J	Sipex	
				x		x	x	x					x	x	x	HS9576S/B	† Sipex	
		40	1500	x	x						x		x	x	x	**MN6290J**	**MicroNet (3689)**	45
				x	x						x		x	x	x	**MN6290S**	† **MicroNet (3689)**	

(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
16	4	40	1500		x						x		x	x	x	**MN6291J**	(Cont'd) **MicroNet (3689)**	
					x						x		x	x	x	**MN6291S**	**† MicroNet (3689)**	
		50	525 *			x	x	x					x	x	x	**ADC71J**	**Burr-Brown (3473)**	
	12	20		x							x		x	x		MB87020	Fujitsu	
16 (2 device set)	1/2	250000	40	x					x			x	x	x		ICL7104-16	Harris	5
17	1/16	3333	600		x			x	x			x	x	x		AH30217	Analogic	
	1/2	400	1550						x			x	x	x		MP8037	Analogic	
18	1/2	20	450					x		x	x		x		x	CS5329	Crystal	
	3/4	5	200	x	x	x	x	x			x		x	x		ADC5030	Analogic	
		6.9		x	x	x	x	x			x		x	x		ADC5020	Analogic	10
	0.002	5	825					x							x	**DSP101J**	**Burr-Brown (3472)**	
								x							x	**DSP101K**	**Burr-Brown (3472)**	
								x							x	**DSP102J**	**Burr-Brown (3472)**	
								x							x	**DSP102K**	**Burr-Brown (3472)**	
	2				x			x					x	x		**AD1170**	**AD (3511)**	15
		20	450					x		x	x		x		x	CS5328	Crystal	
		5000	1000	x				x				x			x	MAX132	† Maxim	
				x				x				x			x	MAX132C	Maxim	
				x				x				x			x	MAX132E	Maxim	
				x				x				x		x		MAX135	† Maxim	20
				x				x				x		x		MAX135C	Maxim	
	16	10.4	1000					x			x				x	AT76C120-1C	ATMEL	
								x			x				x	AT76C120-1I	ATMEL	
								x			x				x	AT76C120-1M	† ATMEL	
	32	10.4	1000					x			x				x	AT76C120-2C	ATMEL	25
								x			x				x	AT76C120-2I	ATMEL	
								x			x				x	AT76C120-2M	† ATMEL	
18 (dual)	2	5		x				x							x	**PCM1750**	**Burr-Brown (3472)**	
20		200000		x										x		**MD2840**	**MicroNet (3694)**	
				x										x		**MD2841**	**MicroNet (3694)**	30
				x										x		**MD2842**	**MicroNet (3694)**	
	1/2				x						x				x	CS5503-A	Crystal	
					x						x				x	CS5503-B	Crystal	
					x						x				x	CS5503-C	Crystal	
					x						x				x	CS5503-S	† Crystal	35
					x						x				x	CS5503-T	† Crystal	
		50000		x						x		x	x	x	x	CS5506-B	Crystal	
				x						x		x	x	x	x	CS5506-S	† Crystal	
				x						x		x	x	x	x	CS5508-B	Crystal	
				x						x		x	x	x	x	CS5508-S	† Crystal	40
		80000			x			x			x	x			x	CS5520-B	Crystal	
					x			x			x	x			x	CS5520-S	† Crystal	
	1	20	2380					x			x		x	x	x	ADC5120	Analogic	
	2			X												**AD7703**	**AD (3511)**	
	8	1	40	x	x									x		**AD7703S**	**AD (3511)**	45

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Binary Output (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
20 (dual)	2	20		x				x							x	**PCM1760**	**Burr-Brown (3472)**	
22		2.5	5300	x						x	x			x		**ADC750**	**Burr-Brown (3472)**	
	2	320	330	x	x							x	x	x		ADC100	Thaler	
				x	x							x	x	x		ADC100M	† Thaler	
24		30 MSPS		x						x				x		BT254	Brooktree	5
		250	100				x								x	CS5322-B	Crystal	
							x								x	CS5322-K	Crystal	
							x								x	CS5323-B	Crystal	
							x								x	CS5323-K	Crystal	
		1000	180				x									CS5324-B	Crystal	10
							x									CS5324-K	Crystal	
	1/2	1200	450	x								x	x	x		ADC150C	† Thaler	
				x								x	x	x		ADC150M	† Thaler	
	0.0015%			x											x	**AD7713**	**AD (3511)**	
			52.5	x						x			x		x	**AD7711**	**AD (3511)**	15
				x						x			x		x	**AD7712**	**AD (3511)**	
	0.0045%		52.5	x						x			x		x	**AD7710**	**AD (3511)**	
	1	1000000	500	x						x		x	X		X	ADC5041	Analogic	
	2 ppm		450	x										x		ADC200C	Thaler	
				x										x		ADC200M	† Thaler	20
	3 ppm		400	x										x		ADC160C	Thaler	
				x										x		ADC160M	† Thaler	
	4	1000000	500	x						x		x	x	x		ADC5042	Analogic	

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In—Multiplexed Inputs
S&H—Sample and Hold
Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Decimal Output

Digits	Device	Source	Line
LCD Bargraph Output, 2.5% Resolution	TC826	TeledyneC	
Dual Slope, Integrating, Analog Subsystem	TC500	TeledyneC	
2–1/2 Digits, LCD Drive	TC807	TeledyneC	
3 1/2 Digit LCD Display Driver	NJU9201B	NJR	
3 1/2 Digit LED Display Driver	NJU9202B	NJR	5
	NJU9204B	NJR	
3 1/2 Digit Multimeter LSI	NJU9207	NJR	
	NJU9208	NJR	
3 3/4 Digit Multimeter LSI	NJU9210	NJR	
3 3/4 Digits, Autoranging, LCD Drive	ICL7139	Harris	10
	ICL7149	Harris	
3 Digits, Dual Slope, 2 Device Sets	CA3161	Harris	
	CA3162	Harris	
	CA3162A	Harris	
3 1/2	MAX140C	Maxim	15
	MAX140E	Maxim	
3 1/2 Digit, Integrating	MAX130	Maxim	
	MAX131	Maxim	
	MAX138	Maxim	
	MAX139	Maxim	20
3 1/2 Digit LDC Display Drive, Autoranging	TC815	TeledyneC	
3 1/2 Digit LEC/LCD with Display Hold	ICL7106C	Harris	
	ICL7107C	Harris	
	ICL7116C	Harris	
	ICL7117C	Harris	25
3 1/2 Digit LED Low Power	ICL7137C	Harris	
3 1/2 Digit Low Power	ICL7126C	Harris	
3 1/2 Digits, Drives LCD DVM Display	ZN450	GEC Plessey	
	ZN451	GEC Plessey	
3 1/2 Digits, Integrating	ICL7106	Harris	30
	ICL7107	Harris	
	ICL7116	Harris	
	ICL7117	Harris	
	ICL7126	Harris	
	ICL7136	Harris	35
	ICL7136C	Harris	
	ICL7137	Harris	
	ICL7106	Maxim	
	ICL7107	Maxim	
	ICL7116	Maxim	40
	ICL7117	Maxim	
	ICL7126	Maxim	
	ICL7136	Maxim	
	MC14433	Motorola	
	ADC3511	National	45
	ADD3501	National	
	KS7126	Samsung	
	TC7106	TeledyneC	
	TC7106A	TeledyneC	
	TC7107	TeledyneC	50
	TC7107A	TeledyneC	
	TC7116	TeledyneC	
	TC7116A	TeledyneC	
	TC7117	TeledyneC	
	TC7117A	TeledyneC	55
	TC7126	TeledyneC	

(Continued)

Digits	Device	Source	Line
3 1/2 Digits, Integrating (Cont'd)	TC7126A	TeledyneC	
	TC7136AC	TeledyneC	
	TC7136AC/BI	TeledyneC	
	TC7136C	TeledyneC	60
	TC811C	TeledyneC	
	TC811C/BI	TeledyneC	
3 1/2 Digits, Integrating, LCD Drive, Low Power, Low Noise, Data Hold	MAX136	Maxim	
3 1/2 Digits, Integrating, LED Drive, Low Power, Low Noise	ICL7137	Maxim	
3 1/2 Digits, Integrating, BCD Output	TL501C	TI	65
	TL501I	TI	
3 1/2 Digits, Integrating, 2 Device Sets	ICL8052	Harris	
	ICL8068	Harris	
3 1/2 Digits, Dual Slope	TC8750	TeledyneC	
3 1/2—4 1/2 Digits, Ramp type, 2 Device Sets	MC1505	Rochester	70
3 3/4 Digits, Auto-Ranging Frequency Counter	TC831	TeledyneC	
3 3/4 Digits, Integrating	ZNA216E	GEC Plessey	
	ZNA216J	† GEC Plessey	
	ADC3711	National	
	ADD3701	National	75
3–1/2 Digit LCD Display Drive, 40-Segment Bar Graph, Autoranging	TC818	TeledyneC	
3–1/2 Digits, Integrating, LCD Drive with Frequency Counter and Logic Probe	TC821	TeledyneC	
3–3/4 Digits, Integrating, LCD Drive with Frequency Counter and Logic Probe	TC820	TeledyneC	
4 1/2 Digit LCD	ICL7129C	Harris	
4 1/2 Digit Precision	ICL71C03AC	Harris	80
	ICL71C03C	Harris	
	ICL8052AC	Harris	
	ICL8052C	Harris	
	ICL8068AC	Harris	
	ICL8068C	Harris	85
4 1/2 Digits, Integrating	TC500C	TeledyneC	
	TC7129C	TeledyneC	
4 1/2 Digits, Integrating, for Microprocessor or UART Systems	ICL7135	Harris	
	ICL7135C	Harris	
	TC7135	TeledyneC	90
4 1/2 Digits, Integrating, LCD Drive	ICL7129A	Maxim	
4 1/2 Digits, Integrating, BCD Output	ICL7135	Maxim	
	ICL7135C	TI	
	TCL7135C	TI	
	TL500C	TI	95
	TL500I	TI	
	TL502C	TI	
	TL503C	TI	
	TL505C	TI	
4 1/2 Digits, Successive Integration	GM7129	GoldStar	100
	ICL7129	Harris	
4 1/2 Digits, Dual Slope, 2 Device Sets	ICL8068A	Harris	
4 1/2 or 5 1/2 Digit Selectable, Microprocessor Compatible	HI7159-5	Harris	
7	TL507	TI	
10	TL505	TI	105
10–13	TL501	TI	
13 Digits, Integrating	TC7109AC	TeledyneC	
	TC7109AM/883	TeledyneC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Decimal Output (Cont'd)

Digits	Device	Source	Line
14	TL500	TI	
16 Digits, Integrating	TC500AC	TeledyneC	
03 1/2 Digit LCD Display Driver	NJU9203B	NJR	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters

Bits Res.	Linear-ity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
1			500													CXD2552Q	Sony	
			800	x												TDA1547	Philips	
4	1/8	0.0012 *	500 *	x						x	x		x		x	BT103	† Brooktree	
		0.005	1500	x								x	x		x	TDC1334	TRWLSI	
		0.008	400	x								x			x	TDC1034	TRWLSI	5
		100		x	x			x		x						416BCD	Adv Analog	
	1/4	0.008				x				x			x		x	ZN454CJ	GEC Plessey	
		0.3	85		x					x	x		x			ZN434E	GEC Plessey	
	1/2	0.0003 *	1000	x						x	x		x	x	x	BT454	Brooktree	
			1500	x						x	x			x	x	BT451	Brooktree	10
		0.004		x	x					x		x			x	VDAC0405H	Adv Analog	
		0.005	1500	x						x		x			x	AD9702	AD	
			2200		x							x			x	VDAC444E	Adv Analog	
		0.008	x												x	MC10320	Motorola	
		0.020	430	x						x					x	MB40874	Fujitsu	15
		20	100	x			x	x								MB86260	Fujitsu	
	1	6–9	1200	x						x	x	x		x	x	BT455	Brooktree	
4 (Triple color video)	1/2	0.01		x						x	x				x	RGBDAC3404A	† Adv Analog	
				x						x	x				x	RGBDAC3408	† Adv Analog	
		0.012		x						x	x				x	RGBDAC3400S	† Adv Analog	20
				x						x	x				x	RGBDAC3405S	† Adv Analog	
				x						x	x				x	VDAC3400S	† Adv Analog	
4 (Triple RAMDAC)	1/4	0.006	1000	x							x					BT454K170	Brooktree	
				x							x					BT455K170	Brooktree	
		0.009	1000	x							x					BT454K110	Brooktree	25
				x							x					BT454K135	Brooktree	
				x							x					BT455K110	Brooktree	
				x							x					BT455K135	Brooktree	
4 1/2	1/8	100		x	x			x		x						418BCD	Adv Analog	
6	—	2	120	x							x				x	MC144111	Motorola	30
			185	x							x				x	MC144110	Motorola	
	1/10	40 MSPS	80	x						x	x				x	CXD1170	Sony	
	1/8	3	250			x	x			x			x			DAC01Y	† AD	
	1/4	3	250			x	x			x			x			DAC01B	† AD	
						x	x			x			x			DAC01C	AD	35
						x	x			x			x			DAC01F	† AD	
						x	x			x			x			DAC01H	AD	
	1/2		200	x						x						TL5601C	TI	
		0.009	1500	x						x	x				x	AT76C176A-11C	ATMEL	
				x						x	x				x	AT76C176A-13C	ATMEL	40
		0.0125	1500	x						x	x				x	AT76C176A-80C	ATMEL	
				x						x	x				x	AT76C176A-80I	ATMEL	
		0.013	800	x							x					BT476	Brooktree	
		0.015	1500	x						x	x				x	AT76C176-66C	ATMEL	
				x						x	x				x	AT76C176A-66C	ATMEL	45
				x						x	x				x	AT76C176A-66I	ATMEL	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ±LSB	Settling Time ±½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
6	1/2	0.015	1500	x						x	x				x	AT76C176A-66M	(Cont'd) † ATMEL	
		0.02	1500	x						x	x				x	AT76C176-50C	ATMEL	
				x						x	x				x	AT76C176-50I	ATMEL	
				x						x	x				x	AT76C176A-50C	ATMEL	
				x						x	x				x	AT76C176A-50I	ATMEL	5
				x						x	x				x	AT76C176A-50M	† ATMEL	
		0.025	1500	x						x	x				x	AT76C176-40C	ATMEL	
				x						x	x				x	AT76C176-40I	ATMEL	
				x						x	x				x	AT76C176-40M	† ATMEL	
		0.04	110	x						x	x					µPD6901C	NEC	10
		1.0	25 *	x						x						ZN436E	GEC Plessey	
				x						x						ZN436J	† GEC Plessey	
		3	250			x	x			x			x			DAC01D	AD	
6 *	1/2	150	33	x						x	x		x		x	KDA0406	Samsung	
6	0.5	0.015	1500	x						x	x				x	AT76C176-66	ATMEL	15
		0.02	1500	x						x	x				x	AT76C171-50	ATMEL	
				x						x	x				x	AT76C176-50	ATMEL	
		0.025	1500	x						x	x				x	AT76C176-40	† ATMEL	
		0.028	1500	x						x	x				x	AT76C171-35	† ATMEL	
		0.03	80		x					x	x			x	x	LC89060	Sanyo	20
	0.8%		240	x						x						TL5601	TI	
	1	-	800	x						x	x				x	BT471	Brooktree	
		0.033PS	220							x						MB40776	Fujitsu	
		0.05	300	x						x					x	MB40176	Fujitsu	
	2		60	x						x	x			x	x	TDA8444	Philips	25
			150	x						x	x			x	x	TDA8444AT	Philips	
				x						x	x			x	x	TDA8444T	Philips	
	3			x						x	x				x	TDA8442	Philips	
6 (RAMDAC)	1/4	0.013	1000	x							x					BT471K66	Brooktree	
				x							x					BT471K80	Brooktree	30
				x							x					BT475K66	Brooktree	
				x							x					BT475K80	Brooktree	
		0.020	1000	x							x					BT471K50	Brooktree	
				x							x					BT475K50	Brooktree	
		0.028	1000	x							x					BT475K35	Brooktree	35
	1/2	0.013	1000	x							x					BT476K66	Brooktree	
		0.020	1000	x							x					BT476K50	Brooktree	
		0.028	1000	x							x					BT476K35	Brooktree	
6 (triple color video RAM DAC)	1/2	0.0125	800	x						x						AV3676	Avasem	
		0.02		x						x					x	IMSG170-50	SGS-Thomson	40
		0.028		x						x					x	IMSG170-35	SGS-Thomson	
6 (triple RAMDAC)	1/2	13	1000	x							x					**ADV471**	**AD (3518)**	
6 (triple video)	1/2	0.02	1000	x			x	x		x	x					DAC0630	National	
				x			x	x		x	x					DAC0631	National	
	1	0.004	500	x							x		x			USC1863	‡ Universal	45
6 (triple video RAMDAC)	1	6	1100	x							x				x	ADV476K50	AD	
				x							x				x	ADV476K66	AD	
		8		x							x				x	ADV476K35	AD	

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
6 (video)	1/2	0.015		x				x								**ADV476-66**	**AD (3518)**	
		0.02		x				x								**ADV476-50**	**AD (3518)**	
		0.03		x				x								**ADV476-35**	**AD (3518)**	
6 (video DAC)	1/2	0.006		x	x					x		x				VDAC0605H	Adv Analog	
6/8	1	-	800	x						x	x				x	BT478	° Brooktree	5
6/12-Binary Serial	1/2	—	—							x	x			x	x	µA9706C	National	
6x3	1/2	35 MSPS	175	x						x			x			µPC666	NEC	
7	4	0.05		x						x	x	x	x		x	KSV3100AN-7	Samsung	
8				x						x	x		x			MAX505	Maxim	
				x						x	x		x			MAX506	Maxim	10
			1000	x						x						**AD7112B**	**AD (3518)**	
				x						x						**AD7112C**	**AD (3518)**	
	—	0.005	—	x								x	x	x		**AD9768**	**† AD (3517)**	
		0.008		x								x	x		x	AD9700B	AD	
				x								x	x		x	AD9700S	† AD	15
	0.8	0.15	250	x	x	x				x	x			x	x	MP7651A	MicroPwr	
	1/16			x							x			x		IXDP610	IXYS	
	1/8	0.1	450	x						x	x			x	x	MX7524	† Maxim	
				x						x	x				x	MX7524C	Maxim	
				x						x	x				x	MX7524L	Maxim	20
				x						x	x				x	MX7524U	† Maxim	
		0.15		x	x	x	x				x			x		AD7523L	AD	
				x	x	x	x				x			x		AD7523L	Harris	
				x	x	x	x				x			x		MX7523L	Maxim	
				x	x	x	x				x			x		MX7523U	† Maxim	25
		0.15 *		x	x					x	x			x	x	**AD7524C**	**AD (3517)**	
				x	x	x	x				x			x	x	**AD7524L**	**AD (3517)**	
				x	x	x	x			x	x			x	x	**AD7524U**	**† AD (3517)**	
			670	x	x	x	x				x			x		AD7523J	Harris	
		0.2	450	x	x	x	x			x	x			x	x	MP7628C	MicroPwr	30
		0.35		x						x	x			x	x	**PM7524A**	**† AD (3517)**	
				x						x	x			x	x	**PM7524E**	**AD (3517)**	
				x						x	x			x	x	**PM7524G**	**AD (3517)**	
		0.8 *		x						x	x			x	x	MP7628L	MicroPwr	
				x						x	x			x	x	MP7628U	† MicroPwr	35
		1	30	x						x	x			x		DAC0830	National	
	1/4		1100	x						x						ADV471K35	AD	
				x						x						ADV471K50	AD	
				x						x						ADV471K66	AD	
				x						x						ADV471K80	AD	40
		0.013	900	x							x					BT475	Brooktree	
				x							x					475	Krueger	
				x							x					477	Krueger	
		0.1	450	x						x	x				x	MX7524B	Maxim	
				x						x	x				x	MX7524K	Maxim	45
				x						x	x				x	MX7524T	† Maxim	
		0.135	174	x	x	x	x			x	x	x		x		ADDAC08A	† AD	
					x	x	x			x	x	x		x		ADDAC08H	AD	
				x	x	x	x			x	x	x		x		**DAC08A**	**‡ AD (3517)**	
				x	x	x	x			x	x	x		x		**DAC08H**	**AD (3517)**	50
				x	x	x	x			x	x	x		x		DAC08A	† Motorola	
				x	x	x	x			x	x	x		x		DAC08H	Motorola	
				x	x	x	x			x				x		DAC0802	† National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/4	0.135	174	x	x	x	x			x				x		DAC0802C	National	
				x	x	x	x			x	x	x		x		DAC08A	† Philips	
				x	x	x	x			x	x	x		x		DAC08H	Philips	
				x	x	x	x			x	x	x		x		DAC08A	† Raytheon	
				x	x	x	x			x	x	x		x		DAC08H	Raytheon	5
		0.15	450	x	x	x	x				x			x		AD7523K	AD	
				x	x	x	x				x			x		AD7523K	Harris	
				x	x	x	x				x			x		AD7523T	Harris	
				x	x	x	x				x			x		MX7523K	Maxim	
				x	x	x	x				x			x		MX7523T	† Maxim	10
				x	x	x	x				x			x		AD7523T	TI	
		0.15 *		x	x					x	x			x	x	**AD7524B**	**AD (3517)**	
				x	x	x	x			x	x			x	x	**AD7524K**	**AD (3517)**	
				x	x	x	x			x	x			x	x	**AD7524T**	**† AD (3517)**	
		0.2		x	x	x	x			x	x			x	x	MP7628B	MicroPwr	15
		0.25		x						x	x			x	x	**DAC08Q**	**† AD (3517)**	
				x		x	x			x	x			x	x	**DAC08RC**	**† AD (3517)**	
				x						x	x			x	x	**DAC8408A**	**† AD (3517)**	
				x						x	x			x	x	**DAC8408E**	**AD (3517)**	
				x						x	x			x	x	**DAC8408G**	**AD (3517)**	20
			170	x	x					x				x	x	DAC888A	† AD	
				x	x					x				x	x	DAC888E	AD	
		0.35	450	x						x	x			x	x	**PM7524B**	**† AD (3517)**	
				x						x	x			x	x	**PM7524F**	**AD (3517)**	
				x						x	x			x	x	**PM7524H**	**AD (3517)**	25
		0.8 *		x						x	x			x	x	MP7628K	MicroPwr	
				x						x	x			x	x	MP7628T	† MicroPwr	
		1	30	x						x	x			x		DAC0831	National	
		1.5	375	x						x	x		x		x	**AD558K**	**AD (3516)**	
		5		x							x			x		ALD1801A	† AdvLinear	30
			875	x						x	x		x		x	ML2340BC-12	MicroLinear	
				x						x	x		x		x	ML2340BC-5	MicroLinear	
				x						x	x		x		x	ML2340BI-12	MicroLinear	
				x						x	x		x		x	ML2340BI-5	MicroLinear	
				x						x	x		x		x	ML2340BM-12	† MicroLinear	35
				x						x	x		x		x	ML2340BM-5	† MicroLinear	
				x						x	x		x		x	ML2341BC-12	MicroLinear	
				x						x	x		x		x	ML2341BC-5	MicroLinear	
				x						x	x		x		x	ML2341BI-12	MicroLinear	
				x						x	x		x		x	ML2341BI-5	MicroLinear	40
				x						x	x		x		x	ML2341BM-12	MicroLinear	
				x						x	x		x		x	ML2341BM-5	† MicroLinear	
				x						x	x		x		x	ML2350BC-12	MicroLinear	
				x						x	x		x		x	ML2350BC-5	MicroLinear	
				x						x	x		x		x	ML2350BI-12	MicroLinear	45
				x						x	x		x		x	ML2350BI-5	MicroLinear	
				x						x	x		x		x	ML2350BM-12	† MicroLinear	
				x						x	x		x		x	ML2350BM-5	† MicroLinear	
				x						x	x		x		x	ML2351BC-12	MicroLinear	
				x						x	x		x		x	ML2351BC-5	MicroLinear	50
				x						x	x		x		x	ML2351BI-12	MicroLinear	
				x						x	x		x		x	ML2351BI-5	MicroLinear	
				x						x	x		x		x	ML2351BM-12	MicroLinear	
				x						x	x		x		x	ML2351BM-5	† MicroLinear	

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
																	(Cont'd)	
8	1/4	20 *	735 *	x	x						x	x				HDS0820	AD	
				x	x						x	x				HDS0820M	† AD	
		40 MSPS	80	x						x	x			x	x	CXD1171	Sony	
	3/8	1.5	375	x						x	x		x		x	**AD558T**	**† AD (3516)**	
	1/2			x						x			x			ADV7141K35	AD	5
				x						x			x			ADV7141K50	AD	
				x						x			x			ADV7141K66	AD	
				x						x			x			ADV7148K35	AD	
				x						x			x			ADV7148K50	AD	
				x						x			x			ADV7148K66	AD	10
				x						x	x				x	MAX500A	† Maxim	
			250	x						x						TL5602C	TI	
			310 *	x						x			x			TDA8772	Philips	
			340	x						x						TDE8712D	† Philips	
			400	x						x	x					µPD6902C	NEC	15
		0.0003 *	800 *	x						x		x		x	x	FVG108	National	
		0.002	1000	x								x	x	x	x	BT107	Brooktree	
			3500 *	x								x			x	TQ6112	TriQuint	
		0.003	3500	x						x		x	x		x	BT492	Brooktree	
		0.004		x			x						x			AD9701S	† AD	20
		0.0043	870	x		x						x	x	x	x	CX20201A-3	Sony	
			1430	x		x						x	x	x	x	CX20202A-3	Sony	
		0.007	350	x						x	x					TDA8702	Philips	
		0.008		x	x					x		x				VDAC0805H	Adv Analog	
			340	x						x	x					TDA8702T	Philips	25
				x						x						TDA8712	Philips	
			1000 *	x						x					x	IDT75C457	† IDT	
		0.02	225	x						x	x		x		x	HA19510	Hitachi	
		0.025	250 *		x	x	x	x	x			x				IR3K07	Sharp	
			630	x	x					x			x			**DACHF8BMC**	**Datel (3570)**	30
				x	x					x			x			**DACHF8BMM**	**Datel (3570)**	
		0.0285	850	x				x		x			x			STV8438	SGS-Thomson	
		0.05 *	175	x						x			x			TDA8771	Philips	
		0.05	200	x			x	x								MB40568	Fujitsu	
		0.07	170	x						x				x		MC1408-8	Philips	35
			305	x						x				x		MC1508-8	† Philips	
		0.1		x	x					x					x	AD7628B	TI	
				x	x					x					x	AD7628K	TI	
			450	x		x	x	x		x	x			x		7524	Rochester	
				x		x	x	x		x	x			x		AD7524	TI	40
				x	x					x					x	AD7524A	TI	
				x	x					x					x	AD7524J	TI	
				x	x					x					x	AD7524M	† TI	
				x	x					x					x	AD7528B	TI	
				x	x					x					x	AD7528K	TI	45
				x	x					x					x	AD7528M	† TI	
				x			x	x			x				x	TLC7524C	TI	
				x			x	x			x				x	TLC7524E	TI	
				x			x	x			x				x	TLC7524I	TI	
				x						x	x				x	MX7524A	Maxim	50
				x						x	x				x	MX7524J	Maxim	
				x						x	x				x	MX7524S	† Maxim	
		0.135	174	x	x	x	x			x	x	x		x		ADDAC08	† AD	
				x	x	x				x	x	x		x		DAC08M	† National	
																	(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2	0.135	174														(Cont'd)	
				x	x	x	x			x	x	x		x		DAC08	† Philips	
				x	x	x	x			x	x	x		x		DAC08	† Raytheon	
		0.15	1500	x	x	x	x				x			x		AD7523J	AD	
				x	x	x	x				x			x		AD7523S	† AD	
				x	x	x	x				x			x		MX7523J	Maxim	5
				x	x	x	x				x			x		MX7523S	† Maxim	
		0.15 *	450	x	x					x	x			x	x	**AD7524A**	**AD (3517)**	
				x	x	x	x				x			x	x	**AD7524J**	**AD (3517)**	
				x	x	x	x				x			x	x	**AD7524S**	**AD (3517)**	
		0.15	80 *	x	x					x	x			x	x	MP7643A	MicroPwr	10
				x	x	x				x	x			x	x	MP7652A	MicroPwr	
			174	x	x	x	x			x	x	x		x		ADDAC08E	AD	
				x	x	x	x			x	x	x		x		**DAC08E**	**AD (3517)**	
				x	x	x	x			x	x	x		x		DAC08E	Motorola	
				x	x	x	x			x	x	x		x		DAC08EC	National	15
				x	x	x				x				x		µPC624	NEC	
				x	x	x	x			x	x	x		x		DAC08E	Philips	
				x	x	x	x			x	x	x		x		DAC08E	Raytheon	
		0.15 *	305	x						x	x			x		DAC0808	† National	
				x						x	x			x		DAC0808C	National	20
		0.15	500	x		x				x	x				x	KDA0800	Samsung	
				x		x				x	x				x	KDA0801	Samsung	
		0.18	450	x						x	x				x	MX7528B	Maxim	
				x						x	x				x	MX7528C	Maxim	
				x						x	x				x	MX7528K	Maxim	25
				x						x	x				x	MX7528L	Maxim	
				x						x	x				x	MX7528T	† Maxim	
				x						x	x				x	MX7528U	† Maxim	
		0.2	1050	x	x	x	x			x	x			x	x	MP7628A	MicroPwr	
		0.25	300	x						x	x			x	x	**DAC8408B**	**† AD (3517)**	30
				x						x	x			x	x	**DAC8408F**	**AD (3517)**	
				x						x	x			x	x	**DAC8408H**	**AD (3517)**	
			450	x						x					x	MAX7624C	Maxim	
				x						x					x	MAX7624E	Maxim	
				x						x					x	MAX7624M	† Maxim	35
			170	x	x					x				x	x	DAC888B	† AD	
				x	x					x				x	x	DAC888F	AD	
		0.25 *	265	x	x					x	x			x		DAC1408A-8	AD	
				x	x					x	x			x		DAC1508A-8	† AD	
		0.3	37.5	x	x					x	x			x	x	**PM7628A**	**† AD (3517)**	40
				x	x					x	x			x	x	**PM7628E**	**AD (3517)**	
				x	x					x	x			x	x	**PM7628H**	**AD (3517)**	
		0.3 *	305	x	x					x	x			x		DACIC8BC	Datel	
				x										x		MC1408-8	Motorola	
				x										x		MC1508-8	† Motorola	45
				x						x	x			x		DAC1408	† National	
				x						x	x			x		DAC1408AC	National	
				x						x				x		MC1408-8	National	
				x						x				x		MC1508-8	† National	
		0.35	450	x						x					x	MX7628B	Maxim	50
				x						x					x	MX7628K	Maxim	
				x						x					x	MX7628T	† Maxim	
		0.5	300	x						x	x			x	x	MP7628J	MicroPwr	
				x						x	x			x	x	MP7628S	† MicroPwr	

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2																(Cont'd)	
		0.6 *	500	x		x				x			x		x	XR9201	Exar	
		0.8	100 *	x	x					x	x		x		x	ZN428E-8	GEC Plessey	
				x	x					x	x		x		x	ZN428J-8	† GEC Plessey	
			100	x						x	x		x		x	ZN558E-8	GEC Plessey	
				x						x	x		x		x	ZN558J-8	† GEC Plessey	5
		1 *		x							x		x			**AD7669J**	**AD (3507, 3509, 3516)**	
		1	200	x						x	x					ALD1801	† AdvLinear	
			95	x										x		ADC0852	National	
				x										x		ADC0854	National	
			30	x						x	x			x		DAC0832	National	10
			45 *	x						x	x		x			ZN426E-8	GEC Plessey	
				x						x	x		x			ZN426J-8	† GEC Plessey	
				x						x	x					ZN429E-8	GEC Plessey	
				x						x	x					ZN429J-8	† GEC Plessey	
			75	x						x	x		x		x	**AD557**	**AD (3516)**	15
			300								x				x	TC3510	Toshiba	
			750	x						x			x			**MN3008**	**MicroNet (3692)**	
				x						x			x			MN3008H	† MicroNet	
					x					x			x			**MN3009**	**MicroNet (3692)**	
					x					x			x			**MN3009H**	**† MicroNet (3692)**	20
		1.25			x					x	x		x		x	ZN438E	GEC Plessey	
					x					x	x		x		x	ZN438J	† GEC Plessey	
		1.5		x						x	x			x		**AD7548K**	**AD (3517)**	
				x						x	x			x		**AD7548T**	**† AD (3517)**	
			75 *	x						x	x		x		x	**AD558J**	**AD (3516)**	25
		2 *	255 *	x						x	x	x	x	x	x	NE5018	Philips	
		2	1000	x				x		x	x		x			DAC0890CI	National	
				x				x		x	x		x			DAC0890CM	† National	
		2.3	435	x						x			x		x	NE5019	Philips	
				x						x			x		x	SE5018	† Philips	30
				x						x			x		x	SE5019	Philips	
		2.5	x					x								**AD7769J**	**AD (3507, 3509, 3516)**	
			570	x	x	x				x			x			**MN3014**	**MicroNet (3692)**	
				x	x	x				x			x			**MN3014H**	**† MicroNet (3692)**	
		2.7	95	x						x			x			DAC0854BI	National	35
				x						x			x			DAC0854CI	National	
				x						x			x			DAC0854CM	† National	
		3	680	x	x								x			HS3020B	† Sipex	
				x	x								x			HS3020C	Sipex	
			830	x	x	x				x			x		x	**MN3020**	**MicroNet (3692)**	40
				x	x	x				x			x		x	**MN3020H**	**† MicroNet (3692)**	
		4	195	x						x					x	MX7225C	Maxim	
				x						x					x	MX7225L	Maxim	
			230	x						x					x	MX7225U	† Maxim	
		5		x						x	x		x			**AD7225L**	**AD (3516)**	45
			200	x							x			x		ALD1801B	† AdvLinear	
			75	x						x	x			x	x	MX7224	† Maxim	
				x						x					x	MX7224C	Maxim	
				x						x					x	MX7224L	Maxim	
				x						x					x	MX7224U	† Maxim	50
			84	x	x	x	x			x	x				x	**DAC8228F**	**AD (3516)**	
			115	x	x	x	x			x	x			x	x	**DAC8229A**	**† AD (3516)**	
				x	x	x	x			x	x			x	x	**DAC8229E**	**AD (3516)**	
				x	x	x	x			x	x			x	x	**DAC8229F**	**AD (3516)**	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2	5															(Cont'd)	
			310	x						x	x				x	MX7228C	Maxim	
				x						x	x				x	MX7228L	Maxim	
				x						x	x				x	MX7228U	† Maxim	
			450	x			x	x		x						**PM7224A**	**† AD (3516)**	
				x			x	x		x						**PM7224E**	**AD (3516)**	5
				x			x	x		x						**PM7224G**	**AD (3516)**	
			875	x						x	x		x		x	ML2340CC-12	MicroLinear	
				x						x	x		x		x	ML2340CC-5	MicroLinear	
				x						x	x		x		x	ML2340CI-12	MicroLinear	
				x						x	x		x		x	ML2340CI-5	MicroLinear	10
				x						x	x		x		x	ML2340CM-12	† MicroLinear	
				x						x	x		x		x	ML2340CM-5	† MicroLinear	
				x						x	x		x		x	ML2341CC-12	MicroLinear	
				x						x	x		x		x	ML2341CC-5	MicroLinear	
				x						x	x		x		x	ML2341CI-12	MicroLinear	15
				x						x	x		x		x	ML2341CI-5	MicroLinear	
				x						x	x		x		x	ML2341CM-12	† MicroLinear	
				x						x	x		x		x	ML2341CM-5	† MicroLinear	
				x						x	x		x		x	ML2350CC-12	MicroLinear	
				x						x	x		x		x	ML2350CC-5	MicroLinear	20
				x						x	x		x		x	ML2350CI-12	MicroLinear	
				x						x	x		x		x	ML2350CI-5	MicroLinear	
				x						x	x		x		x	ML2350CM-12	MicroLinear	
				x						x	x		x		x	ML2350CM-5	† MicroLinear	
				x						x	x		x		x	ML2351CC-12	MicroLinear	25
				x						x	x		x		x	ML2351CC-5	MicroLinear	
				x						x	x		x		x	ML2351CI-12	MicroLinear	
				x						x	x		x		x	ML2351CI-5	MicroLinear	
				x						x	x		x		x	ML2351CM-12	† MicroLinear	
				x						x	x		x		x	ML2351CM-5	† MicroLinear	30
		6		x									x			AD9703	AD	
		10		x												ADV101	AD	
		20	285	x						x	x		x			DAC337B-0	† Sipex	
				x						x	x		x			DAC337B-2	† Sipex	
				x						x	x		x			DAC337C-0	Sipex	35
				x						x	x		x			DAC337C-1	Sipex	
				x						x	x		x			DAC337C-2	Sipex	
		23 *	585			x				x	x		x			**MN3000**	**MicroNet (3692)**	
						x				x	x		x			**MN3000H**	**† MicroNet (3692)**	
					x					x	x		x			**MN3001**	**MicroNet (3692)**	40
					x					x	x		x			**MN3001H**	**† MicroNet (3692)**	
				x						x	x		x			**MN3002**	**MicroNet (3692)**	
				x						x	x		x			**MN3002H**	**† MicroNet (3692)**	
					x					x	x		x			**MN3006**	**MicroNet (3692)**	
					x					x	x		x			**MN3006H**	**† MicroNet (3692)**	45
		35 MSPS																
			135	x						x			x			µPC664	NEC	
			333	x						x			x			µPC662	NEC	
			1270	x						x			x			CXA1106	Sony	
		40	300		x					x	x		x			DAC337B-6	† Sipex	
					x					x	x		x			DAC337C-6	Sipex	50
		100		x							x			x	x	TLC7528C	TI	

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE–Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
																	(Cont'd)	
8	1/2	100	300	x							x			x	x	TLC7528E	TI	
				x							x			x	x	TLC7528I	TI	
				x						x	x				x	TLC7628C	TI	
				x						x	x				x	TLC7628E	TI	
				x						x	x				x	TLC7628I	TI	5
		350	450	x						x						**DAC7528B**	**Burr-Brown (3469)**	
				x						x						**DAC7528K**	**Burr-Brown (3469)**	
		500 MSPS	1300	x	x	x		x				x		x		CXA1236	Sony	
	3/4	0.02	315	x	x	x	x			x	x				x	**CA3338A**	**Harris (3639)**	
		1.5	375	x						x	x		x		x	**AD558S**	**† AD (3516)**	10
	0.19%	0.15	174	x						x			x	x		**DAC08RC/883**	**† AD (3517)**	
	0.2%	0.03 *	250	x						x						TL5602	TI	
		0.033 *	80 *	x									x			TLC5602	TI	
				x									x			TLC5602A	TI	
	0.25	40 MSPS	160												x	**CXD1177Q**	**Sony (3794)**	15
			240												x	**CXD1178Q**	**Sony (3794)**	
	0.5	0.005	575	x								x	x			**HI20203**	**Harris (3639)**	
		0.03	450		x					x	x			x	x	LC89080	Sanyo	
	0.8	0.3	250	x	x	x				x	x			x	x	MP7641A	MicroPwr	
		0.75	300 *	x	x	x				x	x			x	x	MP7642A	MicroPwr	20
	1			x						x			x			ADV7146K35	AD	
				x						x			x			ADV7146K50	AD	
				x						x			x			ADV7146K66	AD	
				x						x	x					BT457KG100	Brooktree	
				x						x	x					BT457KG125	Brooktree	25
				x						x	x					BT457KG75	Brooktree	
				x						x	x				x	MAX500B	† Maxim	
				x						x	x					MAX516AC	Maxim	
				x						x	x					MAX516AE	Maxim	
				x						x	x					MAX516AM	† Maxim	30
			2250 *	x						x					x	BT467	Brooktree	
			625	x						x	x		x			ADV101K50	AD	
				x						x	x		x			ADV101K80	AD	
			1100	x						x						ADV478K35	AD	
				x						x						ADV478K50	AD	35
				x						x						ADV478K66	AD	
				x						x						ADV478K80	AD	
			1250	x						x			x			ADV453K40	AD	
			1375	x						x			x			ADV453K66	AD	
		.02	315	x	x	x					x				x	**CA3338**	**† Harris (3639)**	40
		0.002 *	250 *	x						x					x	BT106	Brooktree	
		0.002	2500 *	x								x				TQ6113	TriQuint	
			3500 *	x								x				TQ6114	TriQuint	
		0.005		x							x					BT468	Brooktree	
		0.006	1500	x							x					BT462	Brooktree	45
		0.008	1100	x							x					BT460	Brooktree	
			1800	x						x	x				x	BT461	Brooktree	
			2000	x							x					BT459	Brooktree	
		0.01	200	x		x					x		x		x	SC11401	Sierra	
				x							x		x		x	SC11402	Sierra	50
																	(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1	0.01															(Cont'd)	
			250	x		x					x		x		x	SC11403	Sierra	
				x							x		x		x	SC11404	Sierra	
		0.012	1375	x						x	x		x	x	x	BT474	Brooktree	
		0.0125	600 *	x						x	x		x		x	BT121	Brooktree	
		0.013	900	x							x					BT473	Brooktree	5
				x							x					BT477	Brooktree	
		0.02	250	x	x	x	x			x	x			x	x	MP7523B	MicroPwr	
			1000	x							x					478	Krueger	
		0.033	250							x						MB40778	Fujitsu	
		0.08	300	x	x	x	x			x	x			x	x	MP7528A	MicroPwr	10
				x	x	x	x			x	x			x	x	MP7528B	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528C	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528K	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528L	MicroPwr	15
				x	x	x	x			x	x			x	x	MP7528S	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7528T	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7528U	MicroPwr	
		0.085	250							x	x	x				MB4072	Fujitsu	
		0.1 *	200	x	x	x	x				x			x	x	MP7524A	MicroPwr	20
		0.1		x	x	x					x			x	x	MP7524AA	MicroPwr	
				x	x	x	x				x			x	x	MP7524B	MicroPwr	
				x	x	x	x				x			x	x	MP7524C	MicroPwr	
				x	x	x	x				x			x	x	MP7524J	MicroPwr	
				x	x	x	x				x			x	x	MP7524K	MicroPwr	25
				x	x	x	x				x			x	x	MP7524L	MicroPwr	
				x	x	x	x				x			x	x	MP7524S	† MicroPwr	
				x	x	x	x				x			x	x	MP7524T	† MicroPwr	
				x	x	x	x				x			x	x	MP7524U	† MicroPwr	
		0.15	250	x	x	x	x				x			x		MP7523J	MicroPwr	30
				x	x	x	x				x			x		MP7523K	MicroPwr	
				x	x	x	x				x			x		MP7523L	MicroPwr	
			174	x			x							x		DAC0800L	† National	
				x			x							x		DAC0800LC	National	
				x	x	x	x			x	x	x		x		ADDAC08C	AD	35
				x	x	x	x			x	x	x		x		**DAC08C**	**‡ AD (3517)**	
				x	x	x	x			x	x	x		x		DAC08C	Motorola	
				x	x	x	x			x	x	x		x		DAC08C	National	
				x	x	x				x				x		DAC0801C	National	
				x	x	x	x			x	x	x		x		DAC08C	Philips	40
				x	x	x	x			x	x	x		x		DAC08C	Raytheon	
			500	x		x				x	x				x	KDA0802	Samsung	
		0.18	450	x						x	x				x	MX7528A	Maxim	
				x						x	x				x	MX7528J	Maxim	
				x						x	x				x	MX7528S	† Maxim	45
		0.2	300	x	x	x	x			x	x			x	x	MP7529BJ	MicroPwr	
				x	x	x	x			x	x			x	x	MP7529BK	MicroPwr	
				x	x	x	x			x	x			x	x	MP7529BL	MicroPwr	
				x	x	x	x			x	x			x	x	MP7529AK	MicroPwr	
				x	x	x	x			x	x			x	x	MP7529AL	MicroPwr	50
			250	x	x	x	x			x	x			x	x	MP7523A	MicroPwr	
				x	x	x	x			x	x			x	x	MP7523C	MicroPwr	
				x	x	x	x			x	x			x	x	MP7523S	† MicroPwr	
			300	x	x	x	x			x	x			x	x	MP7529AJ	MicroPwr (Continued)	

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1	0.25 *	265	x	x					x	x			x		DAC1408A-7	AD	
				x	x					x	x			x		DAC1408BC	National	
		0.3		x	x		x	x		x	x			x		NJU8001	NJR	
		0.3 *	305	x										x		MC1408-7	Motorola	
				x						x				x		DAC0807C	National	5
				x						x				x		MC1408-7	National	
		0.3	450	x	x					x	x			x	x	**PM7628A/833**	**† AD (3517)**	
		0.4	450	x						x	x					**AD7528S**	**AD (3517)**	
				x						x	x					**AD7528T**	**AD (3517)**	
				x						x	x					**AD7528U**	**AD (3517)**	10
				x	x					x	x			x	x	**AD7628**	**AD (3517)**	
		0.5	300	x	x	x	x			x	x			x	x	MP7641J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7651J	MicroPwr	
		0.8	100	x	x					x	x		x		x	ZN559E	‡ GEC Plessey	
				x	x					x	x		x		x	ZN559J	† GEC Plessey	15
		1	60	x						x	x		x		x	**AD7569**	**† AD (3507, 3509, 3516)**	
		1.5								x				x		**AD7548J**	**AD (3517)**	
										x				x		**AD7548S**	**† AD (3517)**	
		2	60	x							x		x			**AD7569J**	**AD (3507, 3509, 3516)**	
				x							x		x			**AD7569K**	**AD (3507, 3509, 3516)**	20
				x							x		x			**AD7569S**	**AD (3507, 3509, 3516)**	
				x							x		x			**AD7569T**	**AD (3507, 3509, 3516)**	
			889	x						x	x					MAX528C	Maxim	
				x						x	x					MAX528E	Maxim	
				x						x	x					MAX528M	† Maxim	25
				x						x	x					MAX529C	Maxim	
				x						x	x					MAX529E	Maxim	
				x						x	x					MAX529M	† Maxim	
		4	36	x						x	x			x	x	**DAC8800B**	**† AD (3516)**	
				x						x	x			x	x	**DAC8800F**	**AD (3516)**	30
			195	x						x					x	MX7225B	Maxim	
				x						x					x	MX7225K	Maxim	
			200	x						x	x				x	MP7228K	MicroPwr	
				x						x	x				x	MP7228L	MicroPwr	
				x						x	x				x	MP7228T	† MicroPwr	35
				x						x	x				x	MP7228U	† MicroPwr	
			230	x						x					x	MX7225T	† Maxim	
			500	x						x	x				x	MAX500AC	Maxim	
				x						x	x				x	MAX500AM	† Maxim	
		5		x						x	x			x	x	**AD7224C**	**AD (3516)**	40
				x						x	x			x	x	**AD7224L**	**AD (3516)**	
				x						x	x		x			**AD7225K**	**AD (3516)**	
			60	x						x	x		x		x	**DAC8426B**	**† AD (3516)**	
				x						x	x		x		x	**DAC8426F**	**AD (3516)**	
			75	x						x					x	MX7224B	Maxim	45
				x						x					x	MX7224K	Maxim	
				x						x					x	MX7224T	† Maxim	
			240	x						x	x			x	x	**AD7228**	**† AD (3538)**	
			310	x						x	x				x	MX7228B	Maxim	
				x						x	x				x	MX7228K	Maxim	50
				x						x	x				x	MX7228T	† Maxim	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1	5	450	x			x	x		x						**PM7224B**	† **AD** **(3516)** (Cont'd)	
				x			x	x		x						**PM7224F**	**AD** **(3516)**	
				x			x	x		x						**PM7224H**	**AD** **(3516)**	
			1000	x						x	x					**AD7228AT**	**AD** **(3516)**	
				x						x	x					**AD7228AU**	**AD** **(3516)**	5
				x						x	x					**AD7228K**	**AD** **(3538)**	
				x						x	x					**AD7228T**	**AD** **(3538)**	
				x						x	x					**AD7228U**	**AD** **(3538)**	
		6 *		x						x	x					MAX505AC	Maxim	
				x						x	x					MAX505AE	Maxim	10
				x						x	x					MAX505AM	† Maxim	
				x						x	x					MAX506AC	Maxim	
				x						x	x					MAX506AE	Maxim	
				x						x	x					MAX506AM	† Maxim	
		6–9		x						x	x	x		x	x	BT463	Brooktree	15
		7	500	x						x	x					**AD7225T**	**AD** **(3516)**	
				x						x	x					**AD7225U**	**AD** **(3516)**	
		8	2000 *	x						x					x	BT494	Brooktree	
		10		x						x	x					CAT504	Catalyst Semi	
				x						x	x					CAT504I	Catalyst Semi	20
				x						x	x					CAT505	Catalyst Semi	
				x						x	x					CAT505I	Catalyst Semi	
		13 *		x						x					x	BT885	Brooktree	
		20	450	x						x	x					**AD7224T**	**AD** **(3516)**	
				x						x	x					**AD7224U**	**AD** **(3516)**	25
		350	20	x						x						**DAC7528A**	**Burr-Brown** **(3469)**	
	1/2	10	30													LD08	American Micro	
	1.3	0.025	160	x						x						**HI1171**	**Harris** **(3639)**	
	1.5	90	300	x							x					PCF8591	Philips	
	1 1/2	6 *	1000	x						x	x					MAX505BC	Maxim	30
				x						x	x					MAX505BE	Maxim	
				x						x	x					MAX505BM	† Maxim	
			900	x						x	x					MAX506BC	Maxim	
				x						x	x					MAX506BE	Maxim	
				x						x	x					MAX506BM	† Maxim	35
	2		480	x						x	x					MAX516BC	Maxim	
				x						x	x					MAX516BE	Maxim	
			690	x						x	x					MAX516BM	† Maxim	
		0.04		x						x	x	x	x		x	KSV3110N-8	Samsung	
			900	x		x				x	x				x	KDA3310J-8	Samsung	40
		0.25 *	265	x	x					x	x			x		DAC1408A-6	AD	
				x	x					x	x			x		DAC1408CC	National	
		0.3 *	305	x										x		MC1408-6	Motorola	
				x						x				x		DAC0806C	National	
				x						x				x		MC1408-6	National	45
		4	500	x						x	x				x	MAX500BC	Maxim	
				x						x	x				x	MAX500BM	† Maxim	
		5		x						x	x			x	x	**AD7224B**	**AD** **(3516)**	
				x						x	x			x	x	**AD7224K**	**AD** **(3516)**	
				x						x	x			x	x	MX7226B	Maxim	50
				x						x	x			x	x	MX7226K	Maxim	
				x						x	x			x	x	MX7226T	† Maxim	
8 (A/D, D/A, with counter)	1/2	2	175	x						x	x		x			ZN425E-8	GEC Plessey	
	1	2	175	x						x	x		x			ZN425J-8	† GEC Plessey	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8 (D/A, with counter/clock)	1/2	0.8	—	x						x	x		x			ZN435E	GEC Plessey	
				x						x	x		x			ZN435J	† GEC Plessey	
8 (dual)	3/10	40 MSPS	160	x						x	x				x	**CXD1177**	**Sony (3794)**	
	1/2	0.18	450	x						x	x			x	x	MX7528	† Maxim	
		0.35	450	x			x	x								MX7628C	Maxim	5
		1 *		x							x					**AD7669**	**AD (3507, 3509, 3516)**	
		2.5		x				x								**AD7769**	**AD (3507, 3509, 3516)**	
	1	0.03	270	x			x	x								MB40968	Fujitsu	
		0.35	120	x			x	x								MX7628A	Maxim	
				x			x	x								MX7628J	Maxim	10
				x			x	x								MX7628S	† Maxim	
8 (dual matched)	1/2	0.35	20	x						x	x			x	x	**PM7528A**	**† AD (3517)**	
				x						x	x			x	x	**PM7528B**	**† AD (3517)**	
				x						x	x			x	x	**PM7528E**	**AD (3517)**	
				x						x	x			x	x	**PM7528F**	**AD (3517)**	15
				x						x	x			x	x	**PM7528G**	**AD (3517)**	
				x						x	x			x	x	**PM7528H**	**AD (3517)**	
8 (octal)	1/2	5	310	x	x					x	x			x	x	PM7228A	† AD	
8 (quad)	1/2	0.5		x												MB86023	Fujitsu	
		3	210	x						x	x		x		x	**DAC8426A**	**† AD (3516)**	20
				x						x	x		x		x	**DAC8426E**	**AD (3516)**	
		5	144	x						x	x				x	PM7226A	AD	
				x						x	x				x	PM7226E	AD	
				x						x	x				x	PM7226G	AD	
			195	x						x	x			x	x	MX7225	† Maxim	25
	1/2	5	144	x						x	x				x	PM7226AA	† AD	
	1	3	300	x							x		x			USC1841	‡ Universal	
		4	200	x	x					x	x				x	MP7226K	MicroPwr	
				x	x					x	x				x	MP7226L	MicroPwr	
				x	x					x	x				x	MP7226T	† MicroPwr	30
		5	144	x						x	x				x	PM7226AF	AD	
				x						x	x				x	PM7226B	† AD	
				x						x	x				x	PM7226F	AD	
			300		x					x	x			x	x	**DAC8840**	**† AD (3516)**	
					x					x	x			x	x	**DAC8841**	**† AD (3516)**	35
			500	x			x	x		x	x					PM7226H	AD	
8 (QUAD with memory)	1/2	10	4	X						x	x					OPT504	Optimum Semi	
8 (RAMDAC)	1/2	0.006	3500	x								x				BT492K360	Brooktree	
	1	0.006	1000	x							x					BT461K170	Brooktree	
				x							x					BT462K170	Brooktree	40
		0.008	1000	x							x					BT451K110	Brooktree	
				x							x					BT451K125	Brooktree	
				x							x					BT451K80	Brooktree	
				x							x					BT457K110	Brooktree	
				x							x					BT457K125	Brooktree	45
				x							x					BT457K80	Brooktree	
				x							x					BT458K110	Brooktree	
				x							x					BT458K125	Brooktree	
				x							x					BT458K80	Brooktree	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8 (RAMDAC)	1	0.008	1000	x							x					BT458L165	(Cont'd) Brooktree	
				x							x					BT459K110	Brooktree	
				x							x					BT459K135	Brooktree	
				x							x					BT460K110	Brooktree	
				x							x					BT460K135	Brooktree	5
				x							x					BT461K110	Brooktree	
				x							x					BT461K135	Brooktree	
				x							x					BT462K110	Brooktree	
				x							x					BT462K135	Brooktree	
				x							x					BT463K110	Brooktree	10
				x							x					BT463K135	Brooktree	
				x							x					BT463K170	Brooktree	
				x							x					BT468K170	Brooktree	
				x							x					BT468K200	Brooktree	
		0.012	1000	x							x					BT459K80	Brooktree	15
				x							x					BT460K80	Brooktree	
				x							x					BT461K80	Brooktree	
				x							x					BT462K80	Brooktree	
		0.013	1000	x							x					BT477K66	Brooktree	
				x							x					BT477K80	Brooktree	20
				x							x					BT478K66	Brooktree	
				x							x					BT478K80	Brooktree	
		0.020	1000	x							x					BT477K50	Brooktree	
				x							x					BT478K35	Brooktree	
				x							x					BT478K50	Brooktree	25
		0.028	1000	x							x					BT477K35	Brooktree	
8 (triple)	1/2	0.008	1000 *	x						x					x	IDT75C458	† IDT	
			1200 *	x								x	x	x	x	IDT75MB38	IDT	
		20	400	x												**ADV7120**	**AD** **(3518)**	
		35 MSPS	1500	x						x						CX20206	Sony	30
		400 MSPS	1300	x		x						x			x	CXA1156A	Sony	
	3/10	40 MSPS	240	x						x	x				X	**CXD1178**	**Sony** **(3794)**	
8 (triple color video RAM/DAC)	1	0.002	500 *	x						x	x				x	BT101	† Brooktree	
8 (triple color video RAMDAC)	1/2	0.008 *	8000	x								x			x	RGBDAC8E	Adv Analog	
8 (triple RAMDAC)	1/2			x							x					**ADV453**	**AD** **(3518)**	35
		13	1000	x							x				x	**ADV478**	**AD** **(3518)**	
8 (triple video)	1/2	0.03	300 *	x						x	x		x			HD49304A	Hitachi	
		0.005	2000	x								x	x			TDC1318	TRWLSI	
8 (triple video RAM/DAC)	1.0	0.01		x						x	x				x	RGBDAC3800	† Adv Analog	
				x						x	x				x	RGBDAC3808	† Adv Analog	40
8 (triple video 256x24 RAM/DAC)	1	0.0003 *	2000	x						x						BT458	° Brooktree	
		0.0012 *	1000	x						x						BT453	Brooktree	
8 (triple video 256x24 RAMDAC)	1/2	0.0012 *	1000	x						x						FVG453	National	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE–Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8 (video)	1/2	0.003		x		x	x	x				x				CXA1156	Sony	
		0.004	458	x								x				MC10324	Motorola	
			469	x						x						MC10322	Motorola	
		0.0125		x				x								**ADV7120-80**	**AD** (3518)	
		0.02		x				x								**ADV7120-50**	**AD** (3518)	5
		0.03		x				x								**ADV7120-35**	**AD** (3518)	
		0.4	1125	x						x			x			HDG0807	AD	
	1	0.02	100*	x			x	x								USC1850/1852	Universal	
				x			x	x								USC1852	Universal	
8 (video DAC)	1/2	0.008		x						x	x				x	VDAC1850	Adv Analog	10
				x						x	x				x	VDAC1852	Adv Analog	
		0.015		x						x	x				x	VDAC1840	Adv Analog	
				x						x	x				x	VDAC1842	Adv Analog	
	1.0	0.0075		x						x	x				x	VDAC8308TH †	Adv Analog	
8 (video digital converter)	1/2	0.0025		x								x	x		x	HDAC51400	Signal Proc	15
		0.005	—									x		x		SP9768	GEC Plessey	
		0.008	800	x								x			x	TDC1018	TRWLSI	
			1660			x						x				HDG0805	AD	
		0.05		x						x						µPD6900	NEC	
		0.07	1000	x								x			x	AH8308E	Analogic	20
				x						x					x	AH8308T	Analogic	
8 (w/8-bit A/D)	1	0.05		x									x			KSV3110-8	Samsung	
8 (Dual, Matched)	1/2	0.2		x						x	x			x	x	**AD7528B**	**AD** (3517)	
				x						x	x			x	x	**AD7528C** †	**AD** (3517)	
				x						x	x			x	x	**AD7528K**	**AD** (3517)	25
				x						x	x			x	x	**AD7528L**	**AD** (3517)	
	1	0.2		x						x	x			x	x	**AD7528A**	**AD** (3517)	
				x						x	x			x	x	**AD7528J**	**AD** (3517)	
8 (Triple RAMDAC)	1	0.012	1000	x							x					BT474K85	Brooktree	
		0.013	1000	x							x					BT473K35	Brooktree	30
				x							x					BT473K50	Brooktree	
				x							x					BT473K66	Brooktree	
				x							x					BT473K80	Brooktree	
		0.014	1000	x							x					BT474K66	Brooktree	
		0.025	1000	x							x					BT453K40	Brooktree	35
				x							x					BT453K66	Brooktree	
8 (Quad)	2	5		x						x	x			x	x	**AD7226B**	**AD** (3516)	
				x						x	x			x	x	**AD7226K**	**AD** (3516)	
				x						x	x			x	x	**AD7226T** †	**AD** (3516)	
8 (12-Channel)		10		x							x				x	M62355	Mitsubishi	40
		100		x							x				x	M62352	Mitsubishi	
				x							x				x	M62358	Mitsubishi	
8 (3 channel)	1	0.015	350	x						x			x	x	x	MB40978	Fujitsu	
8 (3-Channel)	0.01	0.016	380	x						x			x			MB86029	Fujitsu	
8 (4-Channel)	0.01	5	40	x						x			x			MB86021	Fujitsu	45
	0.1	5	14	x						x			x			MB86022	Fujitsu	
8 (6-Channel)		20		x							x				x	M62361	Mitsubishi	
		100		x							x				x	M62354	Mitsubishi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source		Line
8 (7-Bits plus Sign) Companding	1/2	0.5	207							x	x	x		x		DAC88E	AD		
	1/2 step	0.5	500							x	x	x		x		DAC89E	AD		
8 (8-Channel)		10		x							x				x	M62356	Mitsubishi		
		100		x							x				x	M62353	Mitsubishi		
				x							x				x	M62359	Mitsubishi		5
8–2 Digit BCD	1/2	0.15	194							x	x	x		x		DAC20C	AD		
9	1/2	0.0047	870	x		x						x	x	x	x	CX20201A-2	Sony		
			1430	x		x						x	x	x	x	CX20202A-2	Sony		
	1	0.04		x						x	x	x	x		x	KSV3110N-9	Samsung		
			900	x						x	x				x	KDA3310J-9	Samsung		10
		8		x						x					x	BT496	Brooktree		
9 (w/8-bit A/D)	1	0.05		x									x			KSV3110-9	Samsung		
10	4/5	30 MSPS	1470	x								x				CX20051A	Sony		
	1/4	0.025 *	735	x	x					x	x					HDS1025	AD		
				x	x					x	x					HDS1025M	† AD		15
		0.25 *	275	x	x					x	x		x			**AD561K**	**AD**	**(3517)**	
				x	x					x	x		x			**AD561T**	**† AD**	**(3517)**	
	1/2		200	x						x						AD7533C	TI		
		0.0052	870	x		x						x	x	x	x	CX20201A-1	Sony		
			1430	x		x						x	x	x	x	CX20202A-1	Sony		20
		0.01	700	x		x		x		x		x			x	TDC1016-10	TRWLSI		
		0.013		x								x	x	x		SP9770	GEC Plessey		
		0.025	705	x	x					x			x			**DACHF10BMC**	**Datel**	**(3570)**	
				x	x					x			x			**DACHF10BMM**	**Datel**	**(3570)**	
			883	x						x		x		x	x	TDC1014	‡ TRWLSI		25
		0.04		x						x	x	x	x		x	KSV3110N-10	Samsung		
			900	x						x	x				x	KDA3310J-10	Samsung		
		0.15	450	x	x	x	x			x	x	x		x		DAC10B	† AD		
				x	x	x	x			x	x	x		x		DAC10C	† AD		
				x	x	x	x			x	x	x		x		DAC10F	AD		30
				x	x	x	x			x	x	x		x		DAC10G	AD		
		0.25 *	275	x	x					x	x		x			**AD561J**	**AD**	**(3517)**	
				x	x					x	x		x			**AD561S**	**AD**	**(3517)**	
			300	x						x	x		x	x		NE5410	Philips		
				x						x	x		x	x		SE5410	Philips		35
		0.25	380	x							x			x		MC3410	Philips		
				x						x	x			x		MC3510	Philips		
		0.375		x						x	x		x			DAC100AC3	AD		
				x						x	x		x			DAC100AC5/883	† AD		
				x						x	x		x			DAC100BC3	AD		40
				x						x	x		x			DAC100BC5/883	† AD		
				x						x	x		x			DAC100CC3	AD		
				x						x	x		x			DAC100CC5/883	† AD		
				x						x	x		x			DAC100DDC	AD		
			300			x	x			x			x			DAC100A	‡ AD		45
		0.5 *	20 *	x	x	x	x			x	x			x		AD7520L	AD		
				x	x	x	x			x	x			x		AD7520U	† AD		
				x	x	x	x			x	x			x		AD7530L	AD		
				x	x	x	x							x		AD7520L	Harris		

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE–Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	1/2	0.5 •	20 •														(Cont'd)	
				x	x	x	x							x		AD7520U	† Harris	
				x	x	x	x			x	x			x		AD7530L	Harris	
		0.5	20	x	x									x		MX7520L	Maxim	
				x	x	x	x			x	x			x		MX7520U	† Maxim	
				x	x	x	x			x	x			x		MX75206	Maxim	5
				x	x	x	x			x	x			x		MX7530L	Maxim	
		0.5 •	20 •	x	x	x	x			x	x			x		MP7520L	MicroPwr	
				x	x	x	x			x	x			x		MP7520U	† MicroPwr	
			20 •	x	x	x	x			x	x			x	x	MP7522U	† MicroPwr	
			20 •	x						x	x			x	x	DAC1000	† National	10
				x						x	x			x	x	DAC1000C	National	
				x	x	x	X			x	x			x	x	DAC1006	† National	
				x	x	x	X			x	x			x	x	DAC1006C	National	
		0.5	30	x	x	x	x			x	x			x	x	MP7530L	MicroPwr	
		0.5 •	40	x	x	x	X			x	x			x	x	AD7522L	AD	15
				x	x	x	X			x	x			x	x	AD7522U	† AD	
		0.6	10	x	x					x	x			x		PM7533A	† AD	
				x	x					x	x			x		PM7533E	AD	
				x	x					x	x			x		PM7533G	AD	
			30	x	x	x	x			x	x			x		AD7533C	AD	20
				x	x	x	x			x	x			x		AD7533L	AD	
				x	x	x	x			x	x			x		AD7533U	† AD	
				x	x	x	x			x	x			x		MX7533C	Maxim	
				x	x	x	x			x	x			x		MX7533L	Maxim	
				x	x	x	x			x	x			x		MX7533U	† Maxim	25
		0.8 •	30 •	x	x	x	x			x	x			x		AD7533L	Harris	
		1	450	x	x	x	x			x	x			x		MP7633C	MicroPwr	
				x	x	x	x			x	x			x		MP7633L	MicroPwr	
				x	x	x	x			x	x			x		MP7633U	† MicroPwr	
		1.5 •	350	x					x	x	x		x			DAC05E	AD	30
		4 •	255	x						x	x	x	x	x	x	NE5020	Philips	
		10	715			x	x			x			x			**MN3040**	**MicroNet (3692)**	
						x	x			x			x			**MN3040H**	**† MicroNet (3692)**	
		20	285		x					x	x		x			DAC337B-4	† Sipex	
				x						x	x		x			DAC337B-5	† Sipex	35
					x					x	x		x			DAC337C-4	Sipex	
				x						x	x		x			DAC337C-5	Sipex	
		23 •	585			x				x			x			**MN3003**	**MicroNet (3692)**	
						x				x			x			**MN3003H**	**† MicroNet (3692)**	
					x					x			x			**MN3004**	**† MicroNet (3692)**	40
					x					x			x			**MN3004H**	**† MicroNet (3692)**	
				x						x			x			**MN3005**	**MicroNet (3692)**	
				x						x			x			**MN3005H**	**† MicroNet (3692)**	
					x					x			x			**MN3007**	**MicroNet (3692)**	
					x					x			x			**MN3007H**	**† MicroNet (3692)**	45
		30	195									x		x	x	MDAC6003	Adv Analog	
		40	300			x				x	x		x			DAC337B-3	† Sipex	
					x					x	x		x			DAC337B-7	† Sipex	
						x				x	x		x			DAC337C-3	Sipex	
					x					x	x		x			DAC337C-7	Sipex	50
		150	30	x						x						TLC7533C	TI	
		500 •	24	x						x	x			x		AD7520L	National	
				x						x	x			x		AD7520U	† National	
			24	x						x	x			x		DAC1020	† National	
				x						x	x			x		DAC1020C	National	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	0.01	0.016	300	x								x	x			MB40730	Fujitsu	
				x						x			x			MB40760	Fujitsu	
	0.5	0.005	1500		x					x			x			Q2510I-100	Qualcomm	
	1		2500	x						x			x			ADV7150K110	AD	
				x						x			x			ADV7150K135	AD	5
				x						x			x			ADV7150K170	AD	
				x						x			x			ADV7150K85	AD	
				x						x			x			ADV7151K110	AD	
				x						x			x			ADV7151K135	AD	
				x						x			x			ADV7151K170	AD	10
				x						x			x			ADV7151K85	AD	
				x						x			x			ADV7152K110	AD	
				x						x			x			ADV7152K135	AD	
				x						x			x			ADV7152K170	AD	
				x						x			x			ADV7152K85	AD	15
		0.005		x									x			**AD9720**	**AD (3517)**	
				x									x			**AD9721**	**AD (3517)**	
			575	x								x	x			**HI20201**	**Harris (3639)**	
		0.01	700	x		x				x					x	TDC1016-9	TRWLSI	
		0.25	380	x						x	x			x		MC3410C	Philips	20
		0.3	300			x	x			x			x			DAC100B	‡ AD	
		0.5		x												**DAC86**	**AD (3518)**	
		0.5 *	20 *	x	x	x	x			x	x			x		AD7520K	AD	
				x	x	x	x			x	x			x		AD7520T	† AD	
				x	x	x	x			x	x			x		AD7530K	AD	25
				x	x	x	x			x	x			x		AD7520K	Harris	
				x	x	x	x			x	x			x		AD7520T	† Harris	
				x	x	x	x			x	x			x		AD7520T/883B	Harris	
				x	x	x	x			x	x			x		AD7530K	Harris	
		0.5	20	x	x	x	x			x	x			x		MX7520K	† Maxim	30
				x	x	x	x			x	x			x		MX7520T	† Maxim	
				x	x	x	x			x	x			x		MX7530K	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		MP7520K	MicroPwr	
				x	x	x	x			x	x			x		MP7520T	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7522J	MicroPwr	35
				x	x	x	x			x	x			x	x	MP7522K	MicroPwr	
				x	x					x	x			x	x	MP7522L	MicroPwr	
				x	x	x	x			x	x			x		MP7530K	MicroPwr	
		0.5	20 *	x	x	x	x			x	x			x	x	MP7533A	MicroPwr	
				x	x	x	x			x	x			x	x	MP7533B	MicroPwr	40
				x	x	x	x			x	x			x	x	MP7533C	MicroPwr	
				x	x	x	x			x	x			x	x	MP7533J	MicroPwr	
				x	x	x	x			x	x			x		MP7533K	MicroPwr	
			20 *	x	x	x	x			x	x			x		MP7533L	MicroPwr	
			20 *	x	x	x	x			x	x			x		MP7533S	† MicroPwr	45
				x	x	x	x			x	x			x		MP7533T	† MicroPwr	
				x	x	x	x			x	x			x		MP7533U	† MicroPwr	
		0.5 *	20 *	x	x	x	x			x	x			x	x	DAC1001	† National	
				x	x	x	x			x	x			x	x	DAC1001C	National	
				x	x	x	x			x	x			x	x	DAC1007	† National	50
				x	x	x	x			x	x			x	x	DAC1007C	National	
			40	x	x	x	x			x	x			x	x	AD7522K	AD	
				x	x	x	x			x	x			x	x	AD7522T	† AD	
			40 *	x	x	x	x			x	x			x	x	MP7522T	† MicroPwr	

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	1															(Cont'd)		
		0.6		x	x		x	x		x	x			x		NJU8101	NJR	
			10	x	x					x	x			x		PM7533B	† AD	
				x	x					x	x			x		PM7533F	AD	
				x	x					x	x			x		PM7533H	AD	
			30	x	x	x	x			x	x			x		AD7533B	AD	5
				x	x	x	x			x	x			x		AD7533K	AD	
				x	x	x	x			x	x			x		AD7533T	† AD	
				x	x	x	x			x	x			x		MX7533B	Maxim	
				x	x	x	x			x	x			x		MX7533K	Maxim	
				x	x	x	x			x	x			x		MX7533T	† Maxim	10
		0.8 *	30 *	x	x	x	x			x	x			x		AD7533K	Harris	
		1	450	x	x	x	x			x	x			x		MP7633B	MicroPwr	
				x	x	x	x			x	x			x		MP7633K	MicroPwr	
				x	x	x	x			x	x			x		MP7633T	† MicroPwr	
		1.5 *	300		x			x		x	x		x			DAC06E	AD	15
			350	x						x	x		x			DAC03AD	AD	
		500 *	24	x						x	x			x		AD7520K	National	
				x						x	x			x		AD7520T	National	
				x						x	x			x		DAC1021	† National	
				x						x	x			x		DAC1021C	National	20
	2	0.01	700	x		x		x		x		x			x	TDC1016-8	TRWLSI	
		0.225	300			x	x			x			x			DAC100C	‡ AD	
		0.5 *	20 *	x	x	x	x			x	x			x		AD7520J	AD	
				x	x	x	x			x	x			x		AD7520S	† AD	
				x	x	x	x			x	x			x		AD7530J	AD	25
				x	x	x	x			x	x			x		AD7520J	Harris	
				x	x	x	x			x	x			x		AD7520S	† Harris	
				x	x	x	x			x	x			x		AD7520S/883B	† Harris	
				x	x	x	x			x	x			x		AD7530J	Harris	
		0.5	20	x	x	x	x			x	x			x		MX7520J	Maxim	30
				x	x	x	x			x	x			x		MX7520S	† Maxim	
				x	x	x	x			x	x			x		MX7530J	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		MP7520J	MicroPwr	
				x	x	x	x			x	x			x		MP7520S	MicroPwr	
				x	x	x	x			x	x			x	x	MP7522S	† MicroPwr	35
				x	x	x	x			x	x			x		MP7530J	MicroPwr	
				x	x	x	x			x	x			x		DAC1002	† National	
				x	x	x	x			x	x			x	x	DAC1002C	National	
							x			x	x					DAC1008	† National	
							x			x	x			x	x	DAC1008C	National	40
			40	x	x	x	x			x	x			x	x	AD7522J	AD	
				x	x	x	x			x	x			x	x	AD7522S	† AD	
		0.6	30	x	x	x	x			x	x			x		AD7533A	AD	
				x	x	x	x			x	x			x		AD7533J	AD	
				x	x	x	x			x	x			x		AD7533S	† AD	45
				x	x	x	x			x	x			x		MX7533A	Maxim	
				x	x	x	x			x	x			x		MX7533J	Maxim	
				x	x	x	x			x	x			x		MX7533S	† Maxim	
		0.8 *	30 *	x	x	x	x			x	x			x		AD7533J	Harris	
		1	450	x	x	x	x			x	x			x		MP7633A	MicroPwr	50
				x	x	x	x			x	x			x		MP7633J	MicroPwr	
				x	x	x	x			x	x			x		MP7633S	† MicroPwr	
		1.5 *	300		x			x		x	x		x			DAC06F	AD	
			350	x						x	x		x			DAC03CD	AD	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ±LSB	Settling Time ±½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	2																(Cont'd)	
		500 *	24	x						x	x			x		AD7520J	National	
				x						x	x			x		AD7520S	† National	
				x						x	x			x		DAC1022	† National	
				x						x	x			x		DAC1022C	National	
				x						x	x			x		7520	Rochester	5
	3		500	x						x			x			ADV7121J30	AD	
				x						x			x			ADV7121J50	AD	
				x						x			x			ADV7122J30	AD	
				x						x			x			ADV7122J50	AD	
			625	x						x			x			ADV7121J80	AD	10
				x						x			x			ADV7122J80	AD	
		0.225	300			x	x			x			x			DAC100D	‡ AD	
		1.5 *	350		x			x		x	x		x			DAC06B	AD	
	4	0.2	—		x	x				x	x		x			DAC10G	AD	
		1.5 *	350	x						x	x		x			DAC03DD	AD	15
10 Plus Sign																		
	1/2	1.5 *	500	x					x	x	x		x			DAC210E	AD	
	1	1.5 *	300	x					x	x	x		x			DAC210G	AD	
			350	x					x	x	x		x			DAC02AC	AD	
			500	x					x	x	x		x			DAC210F	AD	
	2	1.5 *	300	x					x	x	x		x			DAC02CC	AD	20
			350	x					x	x	x		x			DAC05A	† AD	
	4	2.5 *	350	x					x	x	x		x			DAC02DD	AD	
10 (triple)																		
	1	20	400	x												ADV7121	AD	
				x												**ADV7122**	**AD (3518)**	
10 (video)																		
	1/2	0.0125		x				x								**ADV7121-80**	**AD (3518)**	25
		0.02		x				x								**ADV7121-50**	**AD (3518)**	
				x				x								**ADV7122-50**	**AD (3518)**	
		0.03		x				x								ADV7121-35	AD	
				x				x								**ADV7122-35**	**AD (3518)**	
	0.0125			x				x								**ADV7122-80**	**AD (3518)**	30
10 Video Digital Converter																		
	1/2	0.015	2340	x									x			HDD1015C	AD	
		75 MHz		x								x	x	x		SP9770	GEC Plessey	
10 (w/8-bit A/D)																		
	1/2	0.05		x									x			KSV3110-10	Samsung	
11 Plus Sign Dynamic Range (7-Bit plus sign format)																		
	1/2 step																	
		0.5	207							x	x	x		x		DAC88E	AD	
										x	x	x		x		DAC89E	AD	35
12				x						x	x				x	MAX501	Maxim	
				x						x	x				x	MAX502	Maxim	
				x						x	x		x		x	MAX507	Maxim	
				x						x	x		x		x	MAX508	Maxim	
	0.75	50	420	x	x						x				x	MP7612B	MicroPwr	40
				x	x					x	x				x	MP7613B	MicroPwr	
	2/3	6 *	360 *	x		x	x			x	x					HSDAC87AT	† Sipex	
	1/4	0.01								x	x				x	**AD667K**	**AD (3516)**	
		0.024	615	x						x	x					**AD668K**	**† AD (3517)**	
		0.25	345	x	x					x	x		x			**AD565AK**	**AD (3517)**	45
				x	x					x	x		x			**AD565AT**	**† AD (3517)**	
				x	x					x	x		x			MX565AK	Maxim	
				x	x					x	x		x			MX565AT	† Maxim	
		0.3	270	x						x	x			x		DAC1266A	National (Continued)	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/4	0.3	270	x						x	x			x		DAC1266AC	(Cont'd) National	
			345	x						x	x		x	x		DAC1265A	National	
				x						x	x		x	x		DAC1265AC	National	
		0.35	300	x	x					x	x			x		MX566AK	Maxim	
				x	x					x	x			x		MX566AT	† Maxim	5
		0.4	300	x	x					x	x		x	x		AD566AK	AD	
				x	x					x	x		x	x		AD566AT	† AD	
				x	x					x	x		x			AD566K	AD	
				x	x					x	x		x			AD566T	† AD	
			345	x	x					x	x		x			AD565K	AD	10
				x	x					x	x		x			AD565T	† AD	
				x	x					x	x		x			µA565TM	† National	
		0.5	375	x	x					x	x		x			HI565AK	Harris	
				x	x			x					x			HI565AK-5	Harris	
				x	x					x	x		x			HI565AT	Harris	15
				x	x			x					x			HI565AT-2	† Harris	
				x	x			x					x			HI565AT-8	Harris	
			495	x	x					x	x		x		x	AD567K	AD	
		1.5 *		x	x					x	x			x		PM562A	† AD	
		1.5	465	x	x					x	x			x		AD562S/BIN	AD	20
			475	x	x					x	x		x			AD563K/BIN	AD	
				x	x					x	x		x			AD563S/BIN	† AD	
				x	x					x	x		x			AD563T/BIN	† AD	
		4	800	x	x					x	x		x		x	**DAC811B**	**Burr-Brown (3469)**	
				x	x					x	x		x		x	**DAC811K**	**Burr-Brown (3469)**	25
				x	x					x	x		x		x	**DAC811S**	**† Burr-Brown (3469)**	
		5	270	x	x			x		x			x		x	**DAC813B**	**Burr-Brown (3469)**	
				x	x			x		x			x		x	**DAC813K**	**Burr-Brown (3469)**	
		6	450			x	x			x	x		x		x	HSDAC87AUB	† Sipex	
	1/3	6 *	360 *	x		x	x			x	x					HSDAC87AU	† Sipex	30
	1/2			x	x		x			x				x		**AD664**	**AD (3516, 3538)**	
				x	x		x			x						**AD7245A**	**AD (3516)**	
				x						x			x			MX390K	Maxim	
				x						x			x			MX390T	Maxim	
		—	35		x			x	x	x					x	AD7545C	AD	35
					x			x	x	x					x	AD7545GC	AD	
					x			x	x	x					x	AD7545GL	AD	
					x			x	x	x					x	AD7545GU	AD	
					x			x	x	x					x	AD7545L	AD	
					x			x	x	x					x	AD7545U	AD	40
		0.01								x	x				x	**AD667J**	**AD (3516)**	
										x	x				x	**AD667S**	**† AD (3516)**	
		0.02	1200	x						x						TDC1112	† TRWLSI	
		0.024	615	x						x	x					**AD668J**	**† AD (3517)**	
				x						x	x					**AD668S**	**† AD (3517)**	45
		0.03	300	x						x	x		x			OPT104AC	Optimum Semi	
				x						x	x		x		x	OPT105AC	Optimum Semi	
		0.030	1000				x					x	x		x	**DAC600**	**Burr-Brown (3468)**	
		0.035								x	x					**AD568J**	**AD (3517)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	0.035															(Cont'd)	
										x	x					**AD568K**	**AD (3517)**	
										x	x					**AD568S**	**† AD (3517)**	
			855	x	x					x	x					HDS1250	AD	
				x	x					x	x					HDS1250M	† AD	
			1430										x			DAC65K	Burr-Brown	5
		0.04	300	x						x	x		x			CAT104AC	Catalyst Semi	
				x						x	x		x		x	CAT105AC	Catalyst Semi	
			1160	x	x							x	x			DAC63BM	Burr-Brown	
				x	x							x	x			DAC63CG	Burr-Brown	
				x	x							x	x			DAC63CM	Burr-Brown	10
				x	x							x	x			DAC63T	† Burr-Brown	
		0.045	1160	x	x							x	x			DAC63BG	Burr-Brown	
		0.05		x												DACDG12B1	Datel	
				x												DACDG12B2	Datel	
			—			x	x			x		x	x			ADH030II-12	ILC-DDC	15
			780	x	x					x			x			**DACHF12BMC**	**Datel (3570)**	
				x	x					x			x			**DACHF12BMM**	**Datel (3570)**	
			800	x	x					x	x					HS9393B	† Sipex	
				x	x					x	x					HS9393C	Sipex	
				x	x					x	x					HS9394B	† Sipex	20
				x	x					x	x					HS9394C	Sipex	
		0.065	1600			x	x			x			x			DAC812C	Burr-Brown	
		0.25 *		x	x			x		x	x			x		**DAC543**	**Burr-Brown (3469)**	
		0.25	—	x	x	x	x			x	x			x	x	**DAC8043A**	**† AD (3517)**	
				x	x	x	x			x	x			x	x	**DAC8043E**	**AD (3517)**	25
				x	x	x	x			x	x			x	x	**DAC8043G**	**AD (3517)**	
			345	x	x					x	x		x			**AD565AJ**	**AD (3517)**	
				x	x					x	x		x			**AD565AS**	**† AD (3517)**	
				x	x					x	x		x			MX565AJ	Maxim	
				x	x					x	x		x			MX565AS	† Maxim	30
		0.3 *				x	x			x			x			**DAC85H-CBI-I**	**Burr-Brown (3469)**	
						x	x			x			x			**DAC87H-CBI-I**	**† Burr-Brown (3469)**	
		0.3	270	x						x	x			x		DAC1266L	National	
				x						x	x			x		DAC1266LC	National	
			345	x						x	x		x	x		DAC1265L	National	35
				x						x	x		x	x		DAC1265LC	National	
			480			x	x	x			x		x			**DAC80Z-CBI-I**	**Burr-Brown (3469)**	
				x			x	x					x			**DAC80-CBI-I**	**MicroNet (3692)**	
				x			x	x					x			**DAC85-CBI-V**	**MicroNet (3692)**	
		0.3/1.5 *	800 *			x	x	x		x			x			DAC800-CBI-I	Burr-Brown	40
						x	x	x		x			x			DAC800-CBI-V	Burr-Brown	
		0.3/3 *	480			x	x	x		x			x			**DAC80-CBI-I**	**Burr-Brown (3469)**	
			850			x	x	x		x			x			ADDAC87/CBI	† AD	
			925			x	x	x		x			x			ADDAC80/CBI	AD	
						x	x	x		x			x			ADDAC85/CBI	† AD	45
						x	x	x		x			x			ADDAC85C/CBI	AD	
		0.35	300	x	x					x	x			x		MX566AJ	Maxim	
				x	x					x	x			x		MX566AS	† Maxim	

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	0.4	300	x	x					x	x		x	x		AD566AJ	AD	
				x	x					x	x		x	x		AD566AS	† AD	
				x	x					x	x		x			AD566J	AD	
				x	x					x	x		x			AD566S	† AD	
			345	x	x					x	x		x			AD565J	AD	5
				x	x					x	x		x			AD565S	† AD	
				x	x					x	x		x			µA565SM	† National	
		0.5								x	x			x		HDAC7542AAC	Signal Proc	
										x	x			x		HDAC7543AAC	Signal Proc	
										x	x			x		HDAC7545AAC	Signal Proc	10
			375	x	x					x	x		x			HI565AJ	Harris	
				x	x			x					x			HI565AJ-5	Harris	
				x	x					x	x		x			HI565AS	Harris	
				x	x			x					x			HI565AS-2	† Harris	
				x	x			x					x			HI565AS-8	Harris	15
				x	x					x	x		x			HS-565ARH	Harris	
			495	x	x					x	x		x		x	AD567J	AD	
				x	x					x	x		x		x	AD567S	† AD	
		0.6		x	x	x	x	x		x	x			x		**DAC7541AK**	**Burr-Brown (3469)**	
				x	x	x	x	x		x	x			x		**DAC7541AT**	**† Burr-Brown (3469)**	20
		0.6 *	30	x	x					x	x			x		**PM7541AA**	**† AD (3517)**	
				x	x					x	x			x		**PM7541AB**	**AD (3517)**	
				x	x					x	x			x		**PM7541AE**	**AD (3517)**	
				x	x					x	x			x		**PM7541AF**	**AD (3517)**	
				x	x					x	x			x		**PM7541AG**	**AD (3517)**	25
				x	x					x	x			x		**PM7541AH**	**AD (3517)**	
			450		x					x	x			x		AD7541AK	AD	
					x					x	x			x		AD7541AT	AD	
		0.7	2400			x		x								DAC-DG12	Datel	
		0.8	10	x	x					x	x			x	x	**DAC7800**	**Burr-Brown (3469)**	30
				x	x					x	x			x	x	**DAC7801**	**Burr-Brown (3469)**	
				x	x					x	x			x	x	**DAC7802**	**Burr-Brown (3469)**	
		1		x						x	x			x		MAX514A	Maxim	
			10	x	x					x						**DAC8143A/883**	**AD (3517)**	
				x	x	x	x			x	x			x		DAC8221E	AD	35
				x	x	x	x			x	x			x		DAC8221G	AD	
				x						x						**DAC8043B**	**Burr-Brown (3469)**	
				x						x	x			x	x	MAX543A	† Maxim	
		1 *	10	x	x	x	x			x	x			x	x	MP7680AL	MicroPwr	
				x	x	x	x			x	x			x	x	MP7680AU	† MicroPwr	40
		1	20 *	x	x	x	x			x	x			x		AD7541B	AD	
				x	x	x	x			x	x			x		AD7541K	AD	
				x	x	x	x			x	x			x		AD7541T	† AD	
				x	x	x	x			x	x			x		AD7541B	Harris	
				x	x	x	x			x	x			x		AD7541K	Harris	45
				x	x	x	x			x	x			x		AD7541T	Harris	
			20	x	x	x	x			x	x			x		MX7541AB	Maxim	
				x	x	x	x			x	x			x		MX7541AK	Maxim	
				x	x	x	x			x	x			x		MX7541AT	† Maxim	
				x	x	x	x			x	x			x		MX7541B	Maxim	50

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	1	20														(Cont'd)	
				x	x	x	x			x	x			x		MX7541K	Maxim	
				x	x	x	x			x	x			x		MX7541T	† Maxim	
		1 *	20 *	x	x					x	x				x	MP1230B	MicroPwr	
		1	20 *	x	x	x	x			x	x			x		MP7621B	MicroPwr	
				x	x	x	x			x	x			x		MP7621K	MicroPwr	5
				x	x	x	x			x	x			x		MP7621T	† MicroPwr	
				x	x	x	x			x	x			x		MP7623B	MicroPwr	
			30	x	x					x	x				x	**PM7541A**	**† AD (3517)**	
				x	x					x	x				x	PM7541E	AD	
				x	x					x	x				x	PM7541G	AD	10
				x	x					x	x			x	x	PM7545B	AD	
				x	x					x	x			x	x	PM7545F	AD	
				x	x					x	x			x	x	PM7545H	AD	
				x	x					x	x			x	x	PM7645B	AD	
				x	x					x	x			x	x	PM7645E	AD	15
				x	x					x	x			x	x	PM7645F	AD	
				x	x					x	x			x	x	PM7645H	AD	
				x						x	x			x	x	MAX7645AC	Maxim	
				x						x	x			x	x	MAX7645AE	Maxim	
				x						x	x			x	x	MAX7645AM	† Maxim	20
				x						x	x				x	MX7545AB	Maxim	
				x						x	x				x	MX7545AC	Maxim	
				x						x	x				x	MX7545AK	Maxim	
				x						x	x				x	MX7545AL	Maxim	
				x						x	x				x	MX7545AT	† Maxim	25
				x						x	x				x	MX7545AU	† Maxim	
				x	x	x	x			x	x			x	x	MP7541AB	MicroPwr	
				x	x	x	x			x	x			x	x	MP7541AK	MicroPwr	
				x	x	x	x			x	x			x	x	MP7541AT	† MicroPwr	
				x	x	x				x	x				x	MP7541BK	MicroPwr	30
				x	x	x				x	x				x	MP7541BT	MicroPwr	
				x						x	x			x		DAC1208	National	
				x						x	x			x		DAC1218	National	
				x						x	x			x		DAC1230	National	
			45	x	x					x	x			x	x	**PM7548A**	**† AD (3517)**	35
				x	x					x	x			x	x	**PM7548B**	**† AD (3517)**	
				x	x					x	x			x	x	**PM7548E**	**AD (3517)**	
				x	x					x	x			x	x	**PM7548F**	**AD (3517)**	
				x	x					x	x			x	x	**PM7548G**	**AD (3517)**	
				x	x					x	x			x	x	**PM7548H**	**AD (3517)**	40
				x						x	x			x	x	MX7548B	Maxim	
				x						x	x			x	x	MX7548K	Maxim	
				x						x	x			x	x	MX7548T	† Maxim	
			50	x	x					x	x			x		DAC8012A	† AD	
				x	x					x	x			x		DAC8012E	AD	45
				x	x					x	x			x		DAC8012G	AD	
				x	x					x	x			x		DAC8212A	† AD	
				x	x					x	x			x		DAC8212E	AD	
				x	x					x	x			x		DAC8212G	AD	
			100	x			x	x								**DAC8143A**	**AD (3517)**	50
				x			x	x								**DAC8143E**	**AD (3517)**	
			450	x		x	x			x	x			x		**PM7542A**	**† AD (3517)**	
				x		x	x			x	x			x		**PM7542B**	**† AD (3517)**	
				x		x	x			x	x			x		**PM7542E**	**AD (3517)**	
				x		x	x			x	x			x		**PM7542F**	**AD (3517)**	55

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
																	(Cont'd)	
12	1/2	1	450	x		x	x			x	x			x		**PM7542G**	**AD** (3517)	
				x		x	x			x	x			x		**PM7542H**	**AD** (3517)	
				x		x	x			x	x			x		**PM7543A**	† **AD** (3517)	
				x		x	x			x	x			x		**PM7543B**	† **AD** (3517)	
				x		x	x			x	x			x		**PM7543E**	**AD** (3517)	5
				x		x	x			x	x			x		**PM7543F**	**AD** (3517)	
				x		x	x			x	x			x		**PM7543G**	**AD** (3517)	
				x		x	x			x	x			x		**PM7543H**	**AD** (3517)	
				x	x	x	x			x	x			x		MP7623K	MicroPwr	
				x	x	x	x			x	x			x		MP7623T	† MicroPwr	10
		1 *	450	x	x					x	x			x	x	MP7645BC	MicroPwr	
				x	x					x	x			x	x	MP7645BL	MicroPwr	
				x	x					x	x			x	x	MP7645BU	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7645C	MicroPwr	
				x	x	x	x			x	x			x	x	MP7645L	MicroPwr	15
				x	x	x	x			x	x			x	x	MP7645U	† MicroPwr	
		1	470	x	x			x		x	x			x		MAX543AC	Maxim	
				x	x			x		x	x			x		MAX543AM	† Maxim	
		1 *	800	x	x					x	x		x		x	**DAC811A**	**Burr-Brown** (3469)	
				x	x					x	x		x		x	**DAC811R**	† **Burr-Brown** (3469)	20
		1.0	30	x	x					x	x			x	x	**PM7545A**	† **AD** (3517)	
				x	x					x	x			x	x	PM7545E	AD	
				x	x					x	x			x	x	PM7545G	AD	
				x	x					x	x			x	x	PM7645A	† AD	
				x	x					x	x			x	x	PM7645G	AD	25
		1.5								x	x					**AD7549K**	**AD** (3517)	
		1.5 *		x	x					x	x			x		PM562B	† AD	
				x	x					x	x			x		PM562F	AD	
				x	x					x	x			x		PM562H	AD	
		1.5	30	x						x	x			x	x	MX7537B	Maxim	30
				x						x	x			x	x	MX7537C	Maxim	
				x						x	x			x	x	MX7537K	Maxim	
				x						x	x			x	x	MX7537L	Maxim	
				x						x	x			x	x	MX7537T	† Maxim	
				x						x	x			x	x	MX7537U	† Maxim	35
				x						x	x			x	x	MX7547B	Maxim	
				x						x	x			x	x	MX7547C	Maxim	
				x						x	x			x	x	MX7547K	Maxim	
				x						x	x			x	x	MX7547L	Maxim	
				x						x	x			x	x	MX7547T	† Maxim	40
				x						x	x			x	x	MX7547U	† Maxim	
			450	x	x						x			x		**AD7549T**	**AD** (3517)	
		1.5 *	465	x	x					x	x			x		AD562K/BIN	AD	
			475	x	x					x	x		x			AD563J/BIN	AD	
		2		x			x	x			x			x	x	**DAC7545**	**Burr-Brown** (3469)	45
			30	x	x					x	x			x	x	MX7545C	Maxim	
				x	x				x	x				x	x	MX7545GC	Maxim	
				x	x				x	x				x	x	MX7545GL	Maxim	
				x	x				x	x				x	x	MX7545GU	† Maxim	
				x	x				x	x				x	x	MX7545L	Maxim	50
				x	x					x	x			x	x	MX7545U	† Maxim	
			40	x	x					x	x			x		**AD7542B**	**AD** (3517)	
				x	x					x	x			x		**AD7542K**	**AD** (3517)	
																	(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	2	40	x	x					x	x			x		**AD7542T**	**† AD (3517)** (Cont'd)	
				x						x				x		**AD7543B**	**AD (3517)**	
				x						x				x		**AD7543K**	**AD (3517)**	
				x	x					x	x			x		MX7542B	Maxim	
				x	x					x	x			x		MX7542GB	Maxim	5
				x	x					x	x			x		MX7542GK	Maxim	
				x	x					x	x			x		MX7542GT	† Maxim	
				x	x					x	x			x		MX7542K	Maxim	
				x	x					x	x			x		MX7542T	† Maxim	
				x	x					x				x		MX7543B	Maxim	10
				x	x					x				x		MX7543GB	Maxim	
				x	x					x				x		MX7543GK	Maxim	
				x	x					x				x		MX7543GT	† Maxim	
				x	x					x				x		MX7543K	Maxim	
				x	x					x				x		MX7543T	† Maxim	15
			375 *	x	x	x				x	x			x		HS3120B-2	† Sipex	
				x	x	x				x	x			x		HS3120C-2	Sipex	
			630	x	x					x						DACHK-12	Adv Analog	
			670		x					x				x		AD7543G	AD	
					x					x				x		**AD7543T**	**AD (3517)**	20
			1900			x	x			x						HDD1206J	AD	
						x	x			x						HDD1206S	† AD	
		2.5	—	x	x					x	x		x			DAC338B-12-2	Sipex	
		3 *		x												HI-DAC80V-5	Harris	
		3		x			x	x					x			HI-DAC85V-4	Harris	25
				x			x	x					x			HI-DAC85V-5	Harris	
			195	x									x			**AD7242K**	**AD (3516)**	
			380			x	x	x		x			x			DAC-HZ12BGC	Datel	
						x		x		x			x			DACHZB/883	† Datel	
			480	x			x	x					x			**DAC80-CBI-V**	**MicroNet (3692)**	30
				x			x	x					x			**DAC85-CBI-I**	**MicroNet (3692)**	
			700	x	x					x			x		x	DACHKB/883	Datel	
								x		x			x		x	DACHKB2/883	Datel	
				x				x		x			x			**DACHK12BMC**	**Datel (3570)**	
				x				x		x			x			**DACHK12BMC-2**	**Datel (3570)**	35
			900	x	x					x			x		x	**DACHK12BMM**	**Datel (3570)**	
								x		x			x		x	**DACHK12BMM-2**	**Datel (3570)**	
			1050			x	x			x			x			**DACHZ12BMC**	**Datel (3570)**	
						x	x			x			x			**DACHZ12BMM**	**† Datel (3570)**	
		3.5	410	x	x					x	x		x	x	x	**DAC2815**	**Burr-Brown (3469)**	40
			465	x	x					x	x			x		AD562A/BCD	AD	
				x	x					x	x			x		AD562A/BIN	AD	
			753	x	x					x	x		x	x	x	**DAC4814**	**Burr-Brown (3469)**	
				x	x					x	x		x	x	x	**DAC4815**	**Burr-Brown (3469)**	
		4			x					x	x				x	**AD667/883B**	**† AD (3516)**	45
				x						x	x					MAX532	Maxim	
			270	x	x			x		x	x		x		x	**DAC813**	**Burr-Brown (3469)**	
			390	x	x			x		x	x		x		x	**DAC667**	**Burr-Brown (3469)**	
			480			x	x	x			x		x			**DAC80-CBI-V**	**Burr-Brown (3469)**	
						x	x	x			x		x			**DAC80Z-CBI-V**	**Burr-Brown (3469)**	50

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	4	480			x	x			x			x			**DAC85H-CBI-V**	**Burr-Brown (3469)**	
						x	x			x			x			**DAC87H-CBI-V**	† **Burr-Brown (3469)**	
			975	x						x			x		x	DACHK	MicroNet	
				x			x	x		x			x			**DACHK-2**	**MicroNet (3692)**	
				x			x	x		x			x			**DACHK-2E**	**MicroNet (3692)**	5
				x			x	x		x			x			**DACHK-2H**	† **MicroNet (3692)**	
				x			x	x					x			**DACHK-2H/B**	† **MicroNet (3692)**	
				x						x			x		x	DACHKE	MicroNet	
				x						x			x		x	DACHKH	† MicroNet	
			1000	x	x					x			x			**AD767K**	**AD (3516)**	10
				x						x			x		x	AD7848K	AD	
				x				x		x			x		x	**DAC667B**	**Burr-Brown (3469)**	
				x				x		x			x		x	**DAC667K**	**Burr-Brown (3469)**	
			1955	x	x					x	x			x	x	AD392	AD	
		5		x	x	x	x	x					x			ADDAC80-CBI	AD	15
			135	x	x					x	x		x		x	MAX507AC	Maxim	
				x	x					x	x		x		x	MAX507AE	Maxim	
				x	x					x	x		x		x	MAX507AM	† Maxim	
				x	x					x	x		x		x	MAX508AC	Maxim	
				x	x					x	x		x		x	MAX508AE	Maxim	20
				x	x					x	x		x		x	MAX508AM	† Maxim	
			200	x	x					x	x			x	x	MAX501A	Maxim	
				x	x					x	x			x	x	MAX501AC	Maxim	
				x	x					x	x			x	x	MAX501AE	Maxim	
				x	x					x	x			x	x	MAX501AM	† Maxim	25
				x	x					x	x			x	x	MAX502A	† Maxim	
				x	x					x	x			x	x	MAX502AC	Maxim	
				x	x					x	x			x	x	MAX502AE	Maxim	
				x	x					x	x			x	x	MAX502AM	† Maxim	
			270	x	x			x		x			x		x	**DAC813A**	**Burr-Brown (3469)**	30
				x	x			x		x			x		x	**DAC813J**	**Burr-Brown (3469)**	
		5 *	525 *			x	x			x	x		x			**MN3850**	† **MicroNet (3692)**	
						x	x			x	x		x			**MN3850H**	**MicroNet (3692)**	
			675 *			x	x			x			x		x	**MN3860**	**MicroNet (3692)**	
						x	x			x			x		x	**MN3860H**	† **MicroNet (3692)**	35
		5	733	x						x	x					MAX527AC	Maxim	
				x						x	x					MAX527AE	Maxim	
				x						x	x					MAX527AM	† Maxim	
			1000		x	x							x			HS3860B	† Sipex	
					x	x							x			HS3860C	Sipex	40
		6	360	x	x		x			x	x		x	x	x	MX7245	† Maxim	
			450			x	x			x	x		x		x	HSDAC87ATB	† Sipex	
			630	x	x					x	x		x		x	DAC88	† Adv Analog	
			660		x					x	x		x		x	**DAC2813**	**Burr-Brown (3469)**	
			1320		x					x	x		x		x	**DAC4813**	**Burr-Brown (3469)**	45
		7	750	x		x	x									**DAC87**	**MicroNet (3692)**	
				x		x	x									**DAC87H**	† **MicroNet (3692)**	
				x		x	x									**DAC87H/B**	† **MicroNet (3692)**	
			1000			x	x			x			x		x	AD3860K	AD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE–Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	7	1000			x	x			x			x		x	AD3860S	(Cont'd) † AD	
		8	—	x						x	x					**AD390K**	**AD (3516)**	
			375			x	x			x			x			**MN3348**	**MicroNet (3692)**	
						x	x			x			x			**MN3348H**	**† MicroNet (3692)**	
			1000	x	x						x		x			**AD75069**	**AD (3538)**	5
				x	x						x		x			**AD75089**	**AD (3516)**	
				x	x						x		x			AD75090	AD	
		10	x	x	x	x	x			x	x			x		DAC8221A	† AD	
			375			x	x			x			x			**MN3349**	**MicroNet (3692)**	
						x	x			x			x			**MN3349H**	**† MicroNet (3692)**	10
			410	x	x					x	x		x	x	x	**DAC2814B**	**Burr-Brown (3469)**	
				x	x					x	x		x	x	x	**DAC2815B**	**Burr-Brown (3469)**	
			730			x	x			x			x		x	**DAC88**	**MicroNet (3692)**	
						x	x			x			x		x	**DAC88E**	**MicroNet (3692)**	
						x	x			x			x		x	**DAC88H**	**† MicroNet (3692)**	15
			753	x	x					x	x		x	x	x	**DAC4814B**	**Burr-Brown (3469)**	
				x	x					x	x		x	x	x	**DAC4815B**	**Burr-Brown (3469)**	
			1000	x							x				x	**AD664S**	**† AD (3516, 3538)**	
				x							x				x	**AD664T**	**† AD (3516, 3538)**	
		12	1000	x									x			AD7237T	AD	20
				x									x			AD7247T	AD	
		15			x					x	x			x		**AD394**	**AD (3516)**	
					x					x	x			x		**AD394K**	**AD (3516)**	
				x						x	x			x		AD395	AD	
				x						x	x			x		AD395K	AD	25
			750	x						x	x					**AD394T**	**† AD (3516)**	
				x						x	x					AD395T	† AD	
		35		x						x	x		x			CAT506A	Catalyst Semi	
			90			x				x			x			MN371	MicroNet	
						x				x			x			**MN371H**	**† MicroNet (3692)**	30
		50	265				x			x	x		x			DAC356B-12	† Sipex	
							x			x	x		x			DAC356C-12	Sipex	
			908				x			x	x		x			DAC356LPB-12	† Sipex	
							x			x	x		x			DAC356LPC-12	Sipex	
			1653			x	x					x	x			HDS1240E	AD	35
						x	x					x	x			HDS1240EM	† AD	
		70	90				x			x	x		x			**MN370**	**MicroNet (3692)**	
							x			x	x		x			MN370H	† MicroNet	
	3/4			x						x			x			MX390J	Maxim	
				x						x			x			MX390S	Maxim	40
		0.04	1430										x			DAC65J	Burr-Brown	
		0.08	1600							x			x			DAC812B	Burr-Brown	
		1 *	20 *	x	x					x	x				x	MP1208B	MicroPwr	
				x	x					x	x				x	MP1208K	MicroPwr	
				x	x					x	x				x	MP1208T	† MicroPwr	45
				x	x					x	x				x	MP1230K	MicroPwr	
				x	x					x	x				x	MP1230T	† MicroPwr	
			30	x	x	x	x			x	x			x	x	MP1230AB	MicroPwr	
				x	x	x					x			x	x	MP1230AT	† MicroPwr	
		4	1000	x				x		x	x		x			**AD75004K**	**AD (3516, 3538)** (Continued)	50

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	3/4	4	1000														(Cont'd)	
				x				x		x			x		x	**DAC667A**	**Burr-Brown (3469)**	
				x				x		x			x		x	**DAC667J**	**Burr-Brown (3469)**	
		5	135	x	x					x	x		x		x	MAX507BC	Maxim	
				x	x					x	x		x		x	MAX507BE	Maxim	
				x	x					x	x		x		x	MAX507BM	† Maxim	5
				x	x					x	x		x		x	MAX508BC	Maxim	
				x	x					x	x		x		x	MAX508BE	Maxim	
				x	x					x	x		x		x	MAX508BM	† Maxim	
			200	x	x					x	x			x	x	MAX501B	† Maxim	
				x	x					x	x			x	x	MAX501BC	Maxim	10
				x	x					x	x			x	x	MAX501BE	Maxim	
				x	x					x	x			x	x	MAX501BM	† Maxim	
				x	x					x	x			x	x	MAX502B	† Maxim	
				x	x					x	x			x	x	MAX502BC	Maxim	
				x	x					x	x			x	x	MAX502BE	Maxim	15
				x	x					x	x			x	x	MAX502BM	† Maxim	
		6	450			x	x			x	x		x		x	HSDAC87ASB	† Sipex	
		7	975	x	x					x	x		x		x	**DAC1201K-V**	**Burr-Brown (3469)**	
		8	—	x						x	x					**AD390J**	**AD (3516)**	
				x						x	x					**AD390S**	**† AD (3516)**	20
				x						x	x					**AD390T**	**† AD (3516)**	
		10	1000	x							x				x	**AD664J**	**† AD (3516, 3538)**	
				x							x				x	**AD664K**	**† AD (3516, 3538)**	
		15	750	x						x	x					**AD394J**	**† AD (3516)**	
				x						x	x					**AD394S**	**† AD (3516)**	25
				x						x	x					AD395J	† AD	
				x						x	x					AD395S	† AD	
	0.25	0.2	3325	x	x					x			x		x	DSC02320-113	† ILC-DDC	
				x	x					x			x		x	DSC02320-303	ILC-DDC	
	0.5	0.027	800		x					x			x			Q25201-80	Qualcomm	30
		0.2	3325	x	x					x			x		x	DSC02320-112	† ILC-DDC	
				x	x					x			x		x	DSC02320-302	ILC-DDC	
		0.4	900			x	x									DAC87-CBI-I/B	† Burr-Brown	
		7	900			x	x			x			x			DAC87-CBI-V/B	† Burr-Brown	
	0.9	0.5	250	x	x					x				x	x	**AD7564**	**AD (3517)**	35
				x	x					x				x		**AD7568B**	**AD (3517, 3538)**	
	1			x						x	x		x			MAX526C	Maxim	
				x						x	x		x			MAX526M	† Maxim	
		—	35		x			x	x	x					x	AD7545B	AD	
					x			x	x	x					x	AD7545K	† AD	40
					x			x	x	x					x	AD7545T	AD	
			65 *	x						x	x				x	MP7245J	MicroPwr	
				x						x	x				x	MP7248J	MicroPwr	
		0.02	300	x						x	x		x		x	OPT506BC	Optimum Semi	
		0.025	2000				x					x	x		x	**DAC650**	**Burr-Brown (3468)**	45
		0.03		x				x								AD9712	AD	
				x				x								AD9712A	AD	
				x				x								AD9713	AD	
				x				x								AD9713A	AD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	0.03	300	x						x	x		x			OPT104BC	(Cont'd) Optimum Semi	
				x						x	x		x		x	OPT105BC	Optimum Semi	
		0.035	300	x						x	x		x			**AD568**	**† AD (3517)**	
		0.04	300	x						x	x		x			CAT104BC	Catalyst Semi	
				x						x	x		x			CAT104BCI	Catalyst Semi	5
				x						x	x		x		x	CAT105BC	Catalyst Semi	
				x						x	x		x		x	CAT105BCI	Catalyst Semi	
		0.05		x										x		**AD668**	**AD (3517)**	
		0.25		x	x	x	x			x	x			x	x	**DAC8043F**	**AD (3517)**	
				x	x	x	x			x	x			x	x	**DAC8043H**	**AD (3517)**	10
			375	x		x				x	x	x		x		DAC312E	AD	
		0.5		x												**AD7568**	**AD (3517, 3538)**	
		0.6		x	x	x	x	x		x	x			x		**DAC7541AJ**	**Burr-Brown (3469)**	
				x	x	x	x	x		x	x			x		**DAC7541AS**	**† Burr-Brown (3469)**	
		0.6 *	450		x					x	x			x		AD7541AJ	AD	15
					x					x	x			x		AD7541AS	AD	
		0.8	10	x						x						**DAC7800K**	**Burr-Brown (3469)**	
				x						x						**DAC7800L**	**Burr-Brown (3469)**	
				x						x						**DAC7801K**	**Burr-Brown (3469)**	
				x						x						**DAC7801L**	**Burr-Brown (3469)**	20
		1		x				x		x	x					PM7545B/883B	† AD	
				x						x	x			x		MAX514B	Maxim	
			300	x	x					x	x			x	x	MP7545BK	MicroPwr	
				x	x					x	x			x	x	MP7545BL	MicroPwr	
				x	x					x	x			x	x	MP7545BT	† MicroPwr	25
				x	x					x	x			x	x	MP7545BU	† MicroPwr	
				x	x						x			x	x	MP75L45K	MicroPwr	
				x	x	x	x			x	x			x	x	**DAC8143F**	**AD (3517)**	
				x	x	x	x			x	x			x		DAC8221F	AD	
				x	x	x	x			x	x			x		DAC8221H	AD	30
				x						x						**DAC8043A**	**Burr-Brown (3469)**	
				x						x						**DAC8043K**	**Burr-Brown (3469)**	
			170	x						x	x			x	x	MAX543B	† Maxim	
		1 *	250	x	x	x	x			x	x			x	x	MP7680L	MicroPwr	
				x	x	x	x			x	x			x	x	MP7680U	† MicroPwr	35
			400	x	x	x	x			x	x			x	x	MP7622K	MicroPwr	
		1	450	x	x	x	x			x	x			x		**AD7541A**	**AD (3517)**	
				x	x	x	x			x	x			x		AD7541J	AD	
				x	x	x	x			x	x			x		AD7541A	Harris	
				x	x	x	x			x	x			x		AD7541J	Harris	40
				x	x	x	x			x	x			x		MX7541A	Maxim	
				x	x	x	x			x	x			x		MX7541AA	Maxim	
				x	x	x	x			x	x			x		MX7541AJ	Maxim	
				x	x	x	x			x	x			x		MX7541AS	† Maxim	
				x	x	x	x			x	x			x		MX7541J	Maxim	45
				x	x	x	x			x	x			x		MX7541S	† Maxim	
				x	x	x	x			x	x			x		MP7541A	MicroPwr	
				x	x	x	x			x	x			x	x	MP7541B	MicroPwr	
				x	x	x	x			x	x			x		MP7541J	MicroPwr (Continued)	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	1	300														(Cont'd)	
				x	x	x	x			x	x			x		MP7541K	MicroPwr	
				x	x	x	x			x	x			x		MP7541S	† MicroPwr	
				x	x	x	x			x	x			x		MP7541T	† MicroPwr	
			20 *	x	x	x	x			x	x			x		MP7621A	MicroPwr	
				x	x	x	x			x	x			x		MP7621J	MicroPwr	5
				x	x	x	x			x	x			x		MP7621S	† MicroPwr	
				x	x	x	x			x	x			x		MP7623A	MicroPwr	
				x	x	x	x			x	x			x		MP7623J	MicroPwr	
				x	x	x	x			x	x			x		MP7623S	† MicroPwr	
			30	x	x					x	x			x	x	DAC8012B	† AD	10
				x	x					x	x			x	x	DAC8012F	AD	
				x	x					x	x			x	x	DAC8012H	AD	
				x	x					x	x			x	x	DAC8212B	† AD	
				x	x					x	x			x	x	DAC8212F	AD	
				x	x					x	x			x	x	DAC8212H	AD	15
				x	x					x	x			x		PM7541B	† AD	
				x	x					x	x			x		PM7541F	AD	
				x	x					x	x			x		PM7541H	AD	
				x						x	x			x	x	MAX7645BC	Maxim	
				x						x	x			x	x	MAX7645BE	Maxim	20
				x						x	x			x	x	MAX7645BM	† Maxim	
		1 *	300	x	x	x	x			x	x			x	x	MP1231AB	MicroPwr	
				x	x	x					x			x	x	MP1231AT	MicroPwr	
		1		x	x	x	x			x	x			x	x	MP1231B	MicroPwr	
				x	x	x	x			x	x			x	x	MP7541AA	MicroPwr	25
				x	x	x	x			x	x			x	x	MP7541AJ	MicroPwr	
				x	x	x	x			x	x			x	x	MP7541AS	† MicroPwr	
				x	x	x				x	x				x	MP7541BJ	MicroPwr	
				x	x	x				x	x				x	MP7541BS	MicroPwr	
				x						x	x			x		DAC1209	National	30
				x						x	x			x		DAC1219	National	
				x						x	x			x		DAC1231	National	
			400	x	x	x	x			x	x			x	x	MP7622A	MicroPwr	
		1 *		x	x	x	x			x	x			x	x	MP7622B	MicroPwr	
		1		x	x	x	x			x	x			x	x	MP7622J	MicroPwr	35
				x	x	x	x			x	x			x	x	MP7622S	† MicroPwr	
			450	x						x	x			x	x	MX7548A	Maxim	
				x						x	x			x	x	MX7548J	Maxim	
				x						x	x			x	x	MX7548S	† Maxim	
			500	x	x	x	x			x	x			x		AD7541S	† AD	40
				x	x	x	x			x	x			x		AD7541L	Harris	
				x	x	x	x			x	x			x		AD7541S	† Harris	
			450	x				x			x					**AD7545AK**	**AD (3517)**	
				x				x			x					**AD7545AL**	**AD (3517)**	
				x				x			x					**AD7545AT**	**AD (3517)**	45
				x				x			x					**AD7545AU**	**AD (3517)**	
		1 *	450	x	x	x	x			x	x			x	x	MP7645B	MicroPwr	
				x	x					x	x			x	x	MP7645BB	MicroPwr	
				x	x					x	x			x	x	MP7645BK	MicroPwr	
				x	x					x	x			x	x	MP7645BT	† MicroPwr	50
				x	x	x	x			x	x			x	x	MP7645K	MicroPwr	
				x	x	x	x			x	x			x	x	MP7645T	† MicroPwr	
		1	470	x	x			x		x	x			x		MAX543BC	Maxim	
				x	x			x		x	x			x		MAX543BM	† Maxim	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	1 *	500	x	x					x	x				x	MP1209A	MicroPwr	
				x	x					x	x				x	MP1209J	MicroPwr	
				x	x					x	x				x	MP1209S	† MicroPwr	
				x	x					x	x				x	MP1231A	MicroPwr	
				x	x						x				x	MP1231J	MicroPwr	5
				x	x					x	x				x	MP1231S	† MicroPwr	
			1000	x	x	x	x			x	x			x	x	MP7622T	† MicroPwr	
		1.5	450							x	x					**AD7537**	**AD** (3517)	
										x	x			x		**AD7547J**	**AD** (3517)	
										x	x			x		AD7547K	AD	10
										x	x			x		**AD7547S**	**AD** (3517)	
										x	x					**AD7549J**	**AD** (3517)	
				x						x	x			x	x	MX7537A	Maxim	
				x						x	x			x	x	MX7537J	Maxim	
				x						x	x			x	x	MX7537S	† Maxim	15
				x						x	x			x	x	MX7547A	Maxim	
				x						x	x			x	x	MX7547J	Maxim	
				x						x	x			x	x	MX7547S	† Maxim	
				x	x						x			x		**AD7549S**	**AD** (3517)	
				x	x					x	x					MX7547	† Maxim	20
		2		x	x					x	x			x	x	HS7584B	† Sipex	
				x	x					x	x			x	x	HS7584C	Sipex	
				x	x						x			x	x	MP7543B	MicroPwr	
				x	x	x	x			x	x			x	x	MP7543GB	MicroPwr	
				x	x	x	x			x	x			x	x	MP7543GK	MicroPwr	25
				x	x	x	x			x	x			x	x	MP7543GT	† MicroPwr	
				x	x						x			x	x	MP7543K	MicroPwr	
				x	x						x			x	x	MP7543T	† MicroPwr	
				x	x					x	x			x	x	MX7545B	Maxim	
				x	x					x	x			x	x	MX7545K	Maxim	30
				x	x					x	x			x	x	MX7545T	† Maxim	
				x	x	x	x			x	x			x	x	MP7545GC	MicroPwr	
				x	x	x	x			x	x			x	x	MP7545GL	MicroPwr	
				x	x	x	x			x	x			x	x	MP7545GU	† MicroPwr	
				x	x					x	x			x		**AD7542A**	**AD** (3517)	35
				x	x					x	x			x		**AD7542J**	**AD** (3517)	
				x	x					x	x			x		**AD7542S**	**† AD** (3517)	
				x	x					x				x		**AD7543A**	**AD** (3517)	
				x	x					x				x		**AD7543J**	**AD** (3517)	
				x	x					x	x			x		MX7542A	Maxim	40
				x	x					x	x			x		MX7542J	Maxim	
				x	x					x	x			x		MX7542S	† Maxim	
				x	x					x				x		MX7543A	Maxim	
				x	x					x				x		MX7543J	Maxim	
				x	x					x				x		MX7543S	† Maxim	45
				x	x						x			x		MP7542B	MicroPwr	
				x	x	x	x			x	x			x	x	MP7542GB	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7542GK	MicroPwr	
				x	x	x	x			x	x			x	x	MP7542GT	† MicroPwr	
				x	x						x			x		MP7542K	MicroPwr	50
				x	x						x			x		MP7542T	† MicroPwr	
				x			x	x		x	x				x	AD7545B	Harris	
				x			x	x		x	x				x	AD7545K	Harris	
				x	x			x	x	x	x			x	x	MP7545B	MicroPwr	
				x	x			x	x	x	x			x	x	MP7545C	MicroPwr	55

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	2	450														(Cont'd)	
				x	x			x	x	x	x			x	x	MP7545K	MicroPwr	
				x	x			x	x	x	x			x	x	MP7545L	MicroPwr	
				x	x			x	x	x	x			x	x	MP7545S	† MicroPwr	
				x	x			x	x	x	x			x	x	MP7545T	† MicroPwr	
				x	x			x	x	x	x			x	x	MP7545U	† MicroPwr	5
			670		x					x				x		**AD7542G**	**AD (3517)**	
					x					x				x		**AD7543S**	**AD (3517)**	
		2.5	—	x	x					x	x		x			DAC338B-12-1	Sipex	
		3		x									x			**AD7242**	**AD (3516)**	
				x						x	x					MAX526AC	Maxim	10
				x						x	x					MAX526AE	Maxim	
				x						x	x					MAX526AM	† Maxim	
				x						x	x					MAX526BC	Maxim	
				x						x	x					MAX526BE	Maxim	
				x						x	x					MAX526BM	† Maxim	15
			195	x									x			**AD7242J**	**AD (3516)**	
		4		x							x					AD7848	AD	
			300	x	x					x	x		x	x	x	**AD767**	**† AD (3516)**	
			800	x	x								x		x	**DAC811J**	**Burr-Brown (3469)**	
			1000	x	x					x			x			**AD767J**	**AD (3516)**	20
				x	x					x			x			**AD767S/883B**	**† AD (3516)**	
				x	x			x			x			x	x	**AD7837S**	**AD (3516)**	
				x	x			x			x			x	x	**AD7847S**	**AD (3516)**	
				x						x			x		x	AD7848J	AD	
		5		x							x					**AD7845**	**AD (3516)**	25
				x						x	x			x		MX7845A	Maxim	
				x						x	x			x		MX7845B	Maxim	
				x						x	x			x		MX7845J	Maxim	
				x						x	x			x		MX7845K	Maxim	
				x						x	x			x		MX7845S	† Maxim	30
				x						x	x			x		MX7845T	† Maxim	
			650	x	x					x				x		**AD7845J**	**AD (3516)**	
				x	x					x				x		**AD7845K**	**AD (3516)**	
				x	x					x				x		**AD7845S/883B**	**† AD (3516)**	
				x	x					x				x		**AD7845T/883B**	**† AD (3516)**	35
			690			x				x	x			x	x	SP9345	† Sipex	
			733	x						x	x					MAX527BC	Maxim	
				x						x	x					MAX527BE	Maxim	
				x						x	x					MAX527BM	† Maxim	
		6 •	360 •	x		x	x			x	x					HSDAC87AS	† Sipex	40
		6	1000	x	x					x						**DAC8412A/883**	**AD (3516, 3538)**	
				x	x					x						**DAC8412B/883**	**AD (3516, 3538)**	
		10		x									x			**AD7233**	**AD (3516)**	
				x									x			**AD7243**	**AD (3516)**	
				x												**DAC8413**	**AD (3516, 3538)**	45
			65	x	x				x	x	x		x	x	x	**AD7248A**	**† AD (3516)**	
				x	x		x			x	x			x	x	MX7248	† Maxim	
			410	x	x					x	x		x	x	x	**DAC2814A**	**Burr-Brown (3469)**	
				x	x					x	x		x	x	x	**DAC2815A**	**Burr-Brown (3469)**	
			450	x							x					**AD7233A**	**AD (3516)**	50
				x									x			AD7245	AD	
				x									x			**AD7245AS**	**AD (3516)** (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	10	450														(Cont'd)	
				x									x			AD7248	AD	
				x									x			**AD7248AS**	**AD (3516)**	
			753	x	x					x	x		x	x	x	**DAC4814A**	**Burr-Brown (3469)**	
				x	x					x	x		x	x	x	**DAC4815A**	**Burr-Brown (3469)**	
		12	450		x								x			**AD7243S**	**AD (3516)**	5
			1000	x									x			AD7237S	AD	
				x									x			AD7247S	AD	
		16 *	30	x						x			x		x	**DAC8562**	**AD (3516)**	
		20 *	500	x	x					x	x		x		x	DAC9377-16-5	Sipex	
		35		x						x	x		x			CAT506B	Catalyst Semi	10
		50	420	x	x					x	x				x	MP7613A	MicroPwr	
				x	x					x	x				x	MP7613Z	MicroPwr	
		550 *	30	x	x					x	x					AD7240K	AD	
				x	x					x	x					AD7240T	† AD	
	1 1/4	0.1	10000		x			x			x		x	x		ADC600K	Burr-Brown	15
	1 1/2	550 *	30	x	x					x	x					AD7240J	AD	
				x	x					x	x					AD7240S	† AD	
	2	—	35		x			x	x	x					x	**AD7545A**	**AD (3517)**	
					x			x	x	x					x	AD7545J	AD	
					x			x	x	x					x	AD7545S	† AD	20
		0.05	—			x	x			x		x	x			ADH030II-10	ILC-DDC	
		0.25	375	x		x				x	x	x		x		DAC312B	† AD	
				x		x				x	x	x		x		DAC312F	AD	
				x		x				x	x	x		x		DAC312H	AD	
		0.5	10 *	x						x	x			x		DAC1220	† National	25
				x						x	x			x		DAC1220C	National	
		0.5 *	20 *	x	x	x	x			x	x			x		AD7521L	AD	
				x	x	x	x			x	x			x		AD7521U	† AD	
				x	x	x	x			x	x			x		AD7521L	Harris	
				x	x	x	x			x	x			x		AD7521S/883B	† Harris	30
				x	x	x	x			x	x			x		AD7531L	Harris	
		0.5	20	x	x	x	x			x	x			x		MX7521L	Maxim	
				x	x	x	x			x	x			x		MX7521U	† Maxim	
				x	x	x	x			x	x			x		MX7531L	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		MP7521L	MicroPwr	35
				x	x	x	x			x	x			x		MP7521U	† MicroPwr	
				x	x	x	x			x	x			x		MP7531L	MicroPwr	
			40 *	x	x	x	x			x	x			x	x	MP7622H	MicroPwr	
				x	x	x	x			x	x			x	x	MP7622R	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7622Z	MicroPwr	40
		0.5	397	x	x	x		x		x	x	x		x		AM6012	Philips	
		1 *	10	x	x	x	x			x	x			x	x	MP7680K	MicroPwr	
				x	x	x	x			x	x			x	x	MP7680T	† MicroPwr	
		1	30	x	x	x	x			x	x			x	x	MP1232AB	MicroPwr	
		1 *	30	x	x	x					x			x	x	MP1232AT	† MicroPwr	45
		1	30	x						x	x			x		DAC1210	National	
				x						x	x			x		DAC1232	National	
		1 *	450	x	x	x	x			x	x			x	x	MP7645A	MicroPwr	
				x	x	x	x			x	x			x	x	MP7645J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7645S	† MicroPwr	50
			500	x	x					x	x				x	MP1210H	MicroPwr	
				x	x					x	x				x	MP1210R	† MicroPwr	
				x	x					x	x				x	MP1210Z	MicroPwr (Continued)	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

(Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	2	1 *	500	x	x					x	x				x	MP1232H	MicroPwr	
				x	x					x	x				x	MP1232R	† MicroPwr	
				x	x					x	x				x	MP1232Z	MicroPwr	
		2	20 *	x	x						x			x	x	MP7543A	MicroPwr	
				x	x						x			x	x	MP7543J	MicroPwr	5
				x	x						x			x	x	MP7543S	† MicroPwr	
			30	x	x					x	x			x	x	MX7545A	Maxim	
				x	x					x	x			x	x	MX7545J	Maxim	
				x	x					x	x			x	x	MX7545S	† Maxim	
			40	x	x						x			x		MP7542A	MicroPwr	10
				x	x						x			x		MP7542J	MicroPwr	
				x	x					x	x			x	x	MP7542S	‡ MicroPwr	
			450	x			x	x		x	x				x	AD7545A	Harris	
				x			x	x		x	x				x	AD7545J	Harris	
				x	x			x	x	x				x	x	AD7545S	Harris	15
		2.5	—	x	x					x	x		x			DAC338B-12-0	Sipex	
		16 *	12.5	x						x			x		x	**DAC8512**	**AD** **(3516)**	
		20 *	500	x	x					x	x		x		x	DAC9377-16-4	Sipex	
		500 *	24	x						x	x			x		AD7521L	National	
				x						x	x			x		AD7521U	† National	20
	4	0.5 *	20 *	x	x	x	x			x	x			x		AD7521K	AD	
				x	x	x	x			x	x			x		AD7521T	† AD	
				x	x	x	x			x	x			x		AD7531K	AD	
				x	x	x	x			x	x			x		AD7521K	Harris	
				x	x	x	x			x	x			x		AD7531K	Harris	25
		0.5	20	x	x	x	x			x	x			x		MX7521K	Maxim	
				x	x	x	x			x	x			x		MX7521T	† Maxim	
				x	x	x	x			x	x			x		MX7531K	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		MP7521K	MicroPwr	
				x	x	x	x			x	x			x		MP7521T	† MicroPwr	30
				x	x	x	x			x	x			x		MP7531K	MicroPwr	
		1 *	10	x	x	x	x			x	x			x	x	MP7680J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7680S	† MicroPwr	
		2	450	x	x			x	x	x	x			x	x	MP7545A	MicroPwr	
				x	x			x	x	x	x			x	x	MP7545J	MicroPwr	35
		500 *	24	x						x	x			x		AD7521K	National	
				x						x	x			x		AD7521T	† National	
				x						x	x			x		DAC1221	† National	
				x						x	x			x		DAC1221C	National	
	8	0.5 *	20 *	x	x	x	x			x	x			x		AD7521J	AD	40
				x	x	x	x			x	x			x		AD7521S	† AD	
				x	x	x	x			x	x			x		AD7531J	AD	
				x	x	x	x			x	x			x		AD7521J	Harris	
				x	x	x	x			x	x			x		AD7531J	Harris	
		0.5	20	x	x	x	x			x	x			x		MX7521J	Maxim	45
				x	x	x	x			x	x			x		MX7521S	† Maxim	
				x	x	x	x			x	x			x		MX7531J	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		MP7521J	MicroPwr	
				x	x	x	x			x	x			x		MP7521S	† MicroPwr	
				x	x	x	x			x	x			x		MP7531J	MicroPwr	50
		30		x						x					x	MB88351	Fujitsu	
		500 *	24	x						x	x			x		AD7521J	National	
				x						x	x			x		AD7521S	† National	
				x						x	x			x		DAC1222	† National	
				x						x	x			x		DAC1222C	National	55

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	0.02	300	x						x	x		x		x	OPT506AC	(Cont'd) Optimum Semi	
12 (dual)	1/2	1	450	x		x	x			x	x			x		**DAC8222A**	**† AD (3517)**	
				x		x	x			x	x			x		**DAC8222E**	**AD (3517)**	
				x		x	x			x	x			x		**DAC8222G**	**AD (3517)**	
				x			x	x		x						**DAC8248A**	**† AD (3517)**	5
				x			x	x		x						**DAC8248E**	**AD (3517)**	
				x			x	x		x						**DAC8248G**	**AD (3517)**	
		1.5	450	x	x					x	x					**AD7537B**	**AD (3517)**	
				x	x					x	x					**AD7537C**	**AD (3517)**	
				x	x					x	x					**AD7537K**	**AD (3517)**	10
				x	x					x	x					**AD7537L**	**AD (3517)**	
				x	x					x	x					**AD7537T**	**† AD (3517)**	
				x	x					x	x					**AD7537U**	**† AD (3517)**	
				x	x					x	x					**AD7547B**	**AD (3517)**	
				x	x					x	x					**AD7547C**	**AD (3517)**	15
				x	x					x	x					**AD7547T**	**† AD (3517)**	
				x	x					x	x					**AD7547U**	**† AD (3517)**	
		5		x				x								**AD7837**	**AD (3516)**	
				x				x								**AD7847**	**AD (3516)**	
		10		x				x								AD7237	AD	20
				x				x								AD7247	AD	
	1	1	450	x		x	x			x	x			x		**DAC8222F**	**AD (3517)**	
				x		x	x			x	x			x		**DAC8222H**	**AD (3517)**	
				x			x	x		x						**DAC8248F**	**AD (3517)**	
				x			x	x		x						**DAC8248H**	**AD (3517)**	25
		1.5	450	x	x					x	x					**AD7537A**	**AD (3517)**	
				x	x					x	x					**AD7537J**	**AD (3517)**	
				x	x					x	x					**AD7537S**	**† AD (3517)**	
				x	x					x	x					**AD7547A**	**AD (3517)**	
12 (octal)	1	50	420	x	x						x				x	MP7612A	MicroPwr	30
				x	x						x				x	MP7612Z	MicroPwr	
12 (quad)	1/2	5		x									x		x	**AD75004**	**AD (3516, 3538)**	
	2	10	500	x						x	x			x	x	**DAC8412**	**† AD (3516, 3538)**	
12–3 Digit BCD	1/10	1.5 *	465							x	x			x		AD562K/BCD	AD	
										x	x			x		AD562S/BCD	† AD	35
			475							x	x		x			AD563K/BCD	AD	
										x	x		x			AD563S/BCD	† AD	
										x	x		x			AD563T/BCD	† AD	
	1/4	0.3/3 *	925							x	x		x			ADDAC80/CCD	AD	
						x				x	x		x			ADDAC85/CCD	† AD	40
						x				x	x		x			ADDAC85C/CCD	AD	
12–3 Digit BCD	1/10	1.5 *	475							x	x		x			AD563J/BCD	AD	
	1/4	3	900										x		x	**DACHK12DC**	**Datel (3570)**	
													x		x	**DACHK12DM**	**Datel (3570)**	
		3 *	1050							x			x			**DACHZ12DGC**	**Datel (3570)**	45
										x			x			**DACHZ12DM**	**Datel (3570)**	
										x			x			**DACHZ12DMC**	**Datel (3570)**	
										x			x			**DACHZ12DMM**	**† Datel (3570)**	
12–4 Digit BCD	1/2	20 *	500	x	x					x	x		x		x	DAC9377-4D	Sipex	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12(dual)	1/2			x				x						x		**DAC7802L**	**Burr-Brown (3469)**	
	1			x			x							x		**DAC7802K**	**Burr-Brown (3469)**	
13	1	0.1	980				x			x			x			2615-12	ILC-DDC	
	2	0.1	980				x			x			x			2615-11	ILC-DDC	
	4	0.1	980				x			x			x			2615-10	ILC-DDC	5
13 (1 ch) and 6 (3 ch)		0.25	125	x						x					x	MB88301A	Fujitsu	
14	1/2	0.05	2000	x	x											DAC02306	† ILC-DDC	
				x	x											DAC02307	† ILC-DDC	
		2	30 *	x	x					x	x			x		HS3140B-4	† Sipex	
				x	x					x	x			x		HS3140C-4	Sipex	10
		5	600							x						HDD1409	AD	
		30		x	x			x		x						A867-14	Adv Analog	
		100		x	x			x		x						414BIN	Adv Analog	
	1	1.5		x										x	x	**AD7534B**	**AD (3517)**	
				x										x	x	**AD7534K**	**AD (3517)**	15
				x										x	x	**AD7534T**	**† AD (3517)**	
				x										x	x	**AD7535B**	**AD (3517)**	
				x										x	x	**AD7535K**	**AD (3517)**	
				x										x	x	**AD7535T**	**† AD (3517)**	
										x	x					**AD7536K**	**AD (3517)**	20
										x	x					**AD7536T**	**† AD (3517)**	
			45	x						x	x			x	x	MX7534B	Maxim	
				x						x	x			x	x	MX7534K	Maxim	
				x						x	x			x	x	MX7534T	† Maxim	
			50	x						x	x			x	x	**AD7538**	**† AD (3517)**	25
				x						x	x			x	x	MX7538	† Maxim	
			60	x						x	x			x	x	MX7535B	Maxim	
				x						x	x			x	x	MX7535K	Maxim	
				x						x	x			x	x	MX7535T	† Maxim	
					x					x	x			x	x	MX7536B	Maxim	30
					x					x	x			x	x	MX7536K	Maxim	
					x					x	x			x	x	MX7536T	† Maxim	
			1000		x					x	x					**AD7538J**	**AD (3517)**	
					x					x	x					**AD7538K**	**AD (3517)**	
					x					x	x					**AD7538S**	**AD (3517)**	35
					x					x	x					**AD7538T**	**AD (3517)**	
						x				x	x					SP7538	† Sipex	
		1.8	1775	x	x					x						DAC02310-103	† ILC-DDC	
				x	x					x						DAC02310-303	ILC-DDC	
		2	375 *	x	x	x				x	x			x		HS3140B-3	Sipex	40
				x	x	x				x	x			x		HS3140C-3	Sipex	
		3		x									x			**AD7244**	**AD (3516, 3538)**	
		4		x							x					**AD7840**	**AD (3516)**	
			450	x									x		x	**AD7840K**	**AD (3516)**	
		15	780		x					x	x					AD396T	† AD	45
	2	1.5		x										x	x	**AD7534A**	**AD (3517)**	
				x										x	x	**AD7534J**	**AD (3517)**	
				x										x	x	**AD7534S**	**† AD (3517)**	
				x										x	x	**AD7535A**	**AD (3517)**	
				x										x	x	**AD7535J**	**AD (3517)**	50
				x										x	x	**AD7535S**	**† AD (3517)**	
										x	x					**AD7536J**	**AD (3517)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
14	2	1.5								x	x					**AD7536S**	(Cont'd) † **AD** **(3517)**	
			45	x						x	x			x	x	MX7534A	Maxim	
				x						x	x			x	x	MX7534J	Maxim	
				x						x	x			x	x	MX7534S	† Maxim	
			60	x						x	x			x	x	MX7535A	Maxim	5
				x						x	x			x	x	MX7535J	Maxim	
				x						x	x			x	x	MX7535S	† Maxim	
					x					x	x			x	x	MX7536A	Maxim	
					x					x	x			x	x	MX7536J	Maxim	
					x					x	x			x	x	MX7536S	† Maxim	10
		1.8	1775	x	x					x						DAC02310-102	† ILC-DDC	
				x	x					x						DAC02310-302	ILC-DDC	
		2 *	40 *	x	x					x	x			x	x	MP7614K	MicroPwr	
				x	x					x	x			x	x	MP7614T	† MicroPwr	
		4	205	x									x			**AD7244J**	**AD (3516, 3538)**	15
				x									x			**AD7244S**	**AD (3516, 3538)**	
			450	x									x		x	**AD7840J**	**AD (3516)**	
				x									x		x	**AD7840S**	**AD (3516)**	
		15	780		x					x	x					AD396J	† AD	
					x					x	x					AD396K	AD	20
					x					x	x					AD396S	† AD	
		50	420	x	x						x				x	MP7610C	MicroPwr	
				x	x					x	x				x	MP7611C	MicroPwr	
		100		x	x			x		x						416BIN	Adv Analog	
	3	50	420	x	x						x				x	MP7610B	MicroPwr	25
				x	x					x	x				x	MP7611B	MicroPwr	
	4	2 *	40 *	x	x					x	x			x	x	MP7614J	MicroPwr	
				x	x					x	x			x	x	MP7614S	† MicroPwr	
		50	420	x	x						x				x	MP7610A	MicroPwr	
				x	x					x	x				x	MP7611A	MicroPwr	30
				x	x					x	x				x	MP7611S	MicroPwr	
16			50	x						x			x			PCM60P	Burr-Brown	
				x						x			x			**PCM56P**	**Burr-Brown (3468)**	
			260					x		x			x			**PCM56**	**Burr-Brown (3468)**	
		3	200							x	x			x		**AD569S**	† **AD (3516)**	35
	1/8	25	1425	x				x		x			x		x	MP8116	Analogic	
	1/4	3.5	750		x			x	x	x	x		x			MP1936	Analogic	
		5	500		x			x	x	x	x		x			MP1926A	Analogic	
		50	500		x			x	x	x	x		x			MP1926S	Analogic	
	1/2			x				x						x		ICL7121LC	Harris	40
				x				x						x		ICL7121LM	Harris	
		0.075	500	x	x					x	x		x		x	HS9390	† Sipex	
		0.1		x						x	x					HDAC52160	Signal Proc	
		2 *	60	x	x					x	x			x		DAC370B-16	† Sipex	
				x	x					x	x			x		DAC370C-16	Sipex	45
				x	x					x	x			x		DAC9331-16-6	Sipex	
		3	60	x	x					x	x			x	x	SP9316	† Sipex	
			500	x	x					x	x		x		x	SP1148	† Sipex	
		5 *	50 *	x	x					x	x			x	x	AD7546B	AD	
				x	x					x	x			x	x	AD7546K	AD	50
		7	1000	x	x					x					x	**AD7846K**	**AD (3516)**	
		15	675			x	x			x			x			DACHPB/883	† Datel (Continued)	

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
16	1/2	15	675			x	x									DACHPB1/883	(Cont'd) † Datel	
						x	x									DACHPB1/883B	Datel	
		20 *	500	x	x					x	x		x		x	DAC9377-16-6	Sipex	
	1			x				x						x		ICL7121JC	Harris	
				x				x						x		ICL7121JM	Harris	5
				x				x						x		ICL7121KC	Harris	
				x				x						x		ICL7121KM	Harris	
			25	x												ICL7121	Harris	
		0.1	900	x	x					x	x		x		x	HS9390B	† Sipex	
				x	x					x	x			x	x	HS9390C	Sipex	10
		0.5	250		x			x		x	x		x		x	TDA1543	Philips	
				x									x		x	TDA1543A	Philips	
	1 *	1 *	310 *		x	x	x	x	x			x	x	x		IR3K16BM	Sharp	
	1	1	790			x	x			x						**DAC700C**	**Burr-Brown (3469)**	
						x	x			x						**DAC700L**	**Burr-Brown (3469)**	15
						x	x			x						**DAC702C**	† **Burr-Brown (3469)**	
						x	x			x						**DAC702L**	**Burr-Brown (3469)**	
		1.5		x									x			AD1856	AD	
	1%	1.5	100 *	x							x					**AD1851**	**AD (3512, 3518)**	
	1	1.5	150	x						x	x					**AD766D/883B**	† **AD (3516)**	20
				x						x	x					**AD766J**	**AD (3516)**	
			260	x				x		x			x		x	**PCM56J**	**Burr-Brown (3468)**	
				x				x		x			x		x	**PCM56K**	**Burr-Brown (3468)**	
				x				x		x			x		x	**PCM56L**	**Burr-Brown (3468)**	
	1 *	1.5 *	260	x				x		x			x		x	PC556U	Burr-Brown	25
				x				x		x			x		x	PC56P	Burr-Brown	
	1	2 *	30	x	x	x	x			x	x			x	x	MP7626L	MicroPwr	
				x	x	x	x			x	x			x	x	MP7636AL	MicroPwr	
		2	60								x		x			µPD6355G	NEC	
		2 *	60	x	x					x	x			x		DAC9331-16-5	Sipex	30
		5	45							x	x			x	x	HS9371K	Sipex	
										x	x			x	x	HS9371T	† Sipex	
		5 *	50 *	x	x					x	x			x	x	AD7546A	AD	
				x	x					x	x			x	x	AD7546J	AD	
		5	50		x			x							x	SP9372	† Sipex	35
			900							x			x			ZPP2001	Burr-Brown	
		6		x							x			x		**AD7846**	**AD (3516)**	
		7	1000	x	x					x					x	**AD7846J**	**AD (3516)**	
				x	x					x					x	**AD7846S/883B**	† **AD (3516)**	
		8		x												DAC1136	AD	40
			780				x			x			x			**DAC703L**	**Burr-Brown (3469)**	
			790			x	x			x						**DAC701C**	**Burr-Brown (3469)**	
						x	x			x						**DAC701L**	**Burr-Brown (3469)**	
		13	625	x						x	x		x		x	**AD669A**	**AD (3516)**	
				x						x	x		x		x	**AD669B**	**AD (3516)**	45
		20 *	500	x	x						x		x	x	x	AD1147	AD	
				x	x						x		x	x	x	AD1148	AD (Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ±LSB	Settling Time ±½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
16	1																(Cont'd)	
		20	1260	x						x				x	x	DSC11524-1	† ILC-DDC	
				x						x				x	x	DSC11524-3	ILC-DDC	
		30		x	x			x		x						A867-16	Adv Analog	
	2	0.3	365			x				x			x			**MN3290I**	**† MicroNet (3692)**	
							x			x			x			**MN3291I**	**† MicroNet (3692)**	5
							x			x			x			**MN3292I**	**† MicroNet (3692)**	
			790			x				x	x		x			**DAC700B**	**Burr-Brown (3469)**	
						x				x	x		x			**DAC700K**	**Burr-Brown (3469)**	
							x	x		x	x		x			**DAC702B**	**Burr-Brown (3469)**	
							x	x		x	x		x			**DAC702K**	**Burr-Brown (3469)**	10
						x	x			x	x		x			**PCM53K-I**	**Burr-Brown (3468)**	
	2 *	0.35 *	230			x	x			x	x		x			**PCM55H**	**Burr-Brown (3468)**	
						x	x			x	x		x			**PCM55J**	**Burr-Brown (3468)**	
			540			x	x			x	x		x			**PCM54H**	**Burr-Brown (3468)**	
						x	x			x	x		x			**PCM54J**	**Burr-Brown (3468)**	15
						x	x			x	x		x			**PCM54K**	**Burr-Brown (3468)**	
	2	0.35 *	800	x				x		x	x		x		x	**DAC708B**	**Burr-Brown (3469)**	
				x				x		x	x		x		x	**DAC708K**	**Burr-Brown (3469)**	
				x				x		x	x		x		x	**DAC708S**	**† Burr-Brown (3469)**	
		1	750				x									**DAC700SH/883B**	**† Burr-Brown (3469)**	20
			790			x	x			x						**DAC700S**	**† Burr-Brown (3469)**	
						x	x			x						**DAC702S**	**† Burr-Brown (3469)**	
			950				x			x			x			DAC71-COB-I	Burr-Brown	
						x				x			x			DAC71-CSB-I	Burr-Brown	
							x			x			x			DAC72BH-COB-I	Burr-Brown	25
						x				x			x			DAC72BH-CSB-I	Burr-Brown	
			1200	x			x	x					x			**DAC71-COB-I**	**MicroNet (3692)**	
				x			x	x					x			**DAC71-CSB-I**	**MicroNet (3692)**	
			1225				x			x			x			ADDAC71-COB-I	AD	
						x				x			x			ADDAC71-CSB-I	AD	30
							x			x			x			ADDAC72-COB-I	AD	
						x				x			x			ADDAC72-CSB-I	AD	
		1.5		x				x								**AD766**	**AD (3516)**	
		2 *	30	x	x	x	x			x	x			x	x	MP7626K	MicroPwr	
				x	x	x	x			x	x			x	x	MP7626T	† MicroPwr	35
				x	x	x	x			x	x			x	x	MP7636AK	MicroPwr	
				x	x	x	x			x	x			x	x	MP7636AT	† MicroPwr	
		2	30	x	x					x	x			x		HS3160B-4	† Sipex	
				x	x					x	x			x		HS3160C-4	Sipex	
		2 *	60	x	x					x	x			x		DAC9331-16-4	Sipex	40
		4	20	x							x					**YM3014**	**Yamaha (3864)**	
			530			x				x			x			**MN3290V**	**† MicroNet (3692)**	
																	(Continued)	

INTERFACE

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
																	(Cont'd)	
16	2	4	530				x			x			x			**MN3291V**	**† MicroNet (3692)**	
							x			x			x			**MN3292V**	**† MicroNet (3692)**	
			940			x				x	x		x			**DAC701B**	**Burr-Brown (3469)**	
						x				x	x		x			**DAC701K**	**Burr-Brown (3469)**	
							x	x		x	x		x			**DAC703B**	**Burr-Brown (3469)**	5
							x	x		x	x		x			**DAC703K**	**Burr-Brown (3469)**	
							x	x		x	x					**DAC703KU**	**Burr-Brown (3469)**	
						x	x			x	x		x			**PCM53K-V**	**Burr-Brown (3468)**	
		5	45							x	x			x	x	HS9371J	Sipex	
										x	x			x	x	HS9371S	† Sipex	10
			500					x					x		x	CX20152	Sony	
			1225				x			x			x			ADDAC71-COB-V	AD	
						x				x			x			ADDAC71-CSB-V	AD	
							x			x			x			ADDAC72-COB-V	AD	
						x				x			x			ADDAC72-CSB-V	AD	15
		8 *		x				x								**DAC1600**	**Burr-Brown (3469)**	
		8				x	x			x						**DAC701S**	**† Burr-Brown (3469)**	
						x	x			x						**DAC703S**	**† Burr-Brown (3469)**	
			940				x			x			x			**DAC703C**	**Burr-Brown (3469)**	
			950												x	**DAC707**	**Burr-Brown (3469)**	20
								x		x	x		x		x	**DAC707B**	**Burr-Brown (3469)**	
								x		x	x		x		x	**DAC707K**	**Burr-Brown (3469)**	
								x		x	x		x		x	**DAC707S**	**† Burr-Brown (3469)**	
				x				x		x	x		x		x	**DAC709B**	**Burr-Brown (3469)**	
				x				x		x	x		x		x	**DAC709K**	**Burr-Brown (3469)**	25
				x				x		x	x		x		x	**DAC709S**	**† Burr-Brown (3469)**	
			1175					x		x			x		x	**DAC725K**	**Burr-Brown (3469)**	
		9	470					x					x		x	CX20133	Sony	
		10	950			x				x			x			DAC71-CSB-V	Burr-Brown	
							x			x			x			DAC72BH-COB-V	Burr-Brown	30
						x				x			x			DAC72BH-CSB-V	Burr-Brown	
			1200	x			x	x					x			**DAC71-COB-V**	**MicroNet (3692)**	
				x			x	x					x			**DAC71-CSB-V**	**MicroNet (3692)**	
		13	625	x						x	x		x		x	**AD669S**	**AD (3516)**	
		15	950				x			x			x			DAC70BH-COB-I	Burr-Brown	35
						x				x			x			DAC70BH-CSB-I	Burr-Brown	
		16	550							x	x		x		x	HS9378C	Sipex	
										x	x		x		x	HS9378T	† Sipex	
																	(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
16	2	35	1170			x	x			x			x			**DACHP16BMC**	(Cont'd) **Datel (3570)**	
						x	x			x			x			**DACHP16BMC-1**	**Datel (3570)**	
						x	x			x			x			**DACHP16BMM**	**† Datel (3570)**	
						x	x			x			x			**DACHP16BMM-1**	**† Datel (3570)**	
	3%		65	x						x	x					**AD1866**	**AD (3512, 3518)**	5
	3		940				x	x		x	x					**DAC703JU**	**Burr-Brown (3469)**	
		0.3 *	790			x				x			x			DAC710	Burr-Brown	
		1	300					x		x	x				x	**YAC502**	**Yamaha (3867)**	
		8	940			x				x			x			DAC711	Burr-Brown	
	4	0.3	790			x	x			x	x		x			**PCM53J-I**	**Burr-Brown (3468)**	10
		0.5	250	x						x	x			x		**DAC16**	**† AD (3517)**	
		1	790			x	x			x						**DAC702J**	**Burr-Brown (3469)**	
		2 *	30	x	x	x	x			x	x			x	x	MP7626J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7626S	MicroPwr	
				x	x	x	x			x	x			x	x	MP7636AJ	MicroPwr	15
				x	x	x	x			x	x			x	x	MP7636AS	† MicroPwr	
		4	940			x	x			x	x		x			**PCM53J-V**	**Burr-Brown (3468)**	
		6	40					x		x	x			x	x	LC7881	Sanyo	
			150							x	x				x	**AD569J**	**AD (3516)**	
										x	x				x	**AD569K**	**AD (3516)**	20
		8	940			x	x			x						**DAC703J**	**Burr-Brown (3469)**	
			1175					x		x			x		x	**DAC725J**	**Burr-Brown (3469)**	
		10	550	x						x						DAC712	Burr-Brown	
		16	550							x	x		x		x	HS9378S	† Sipex	
	8	2 *	—	x	x					x	x			x		MP7616K	MicroPwr	25
				x	x					x	x			x		MP7616T	† MicroPwr	
			200	x	x						x			x		MP7616BB	MicroPwr	
		2	30	x	x					x	x			x		HS3160B-3	† Sipex	
				x	x					x	x			x		HS3160C-3	Sipex	
		4 *	1000					x		x			x		x	**DAC707J**	**Burr-Brown (3469)**	30
	12	0.05		x						x			x		x	MB87020	Fujitsu	
	16	2 *	—	x	x					x	x			x		MP7616J	MicroPwr	
				x	x					x	x			x		MP7616S	† MicroPwr	
			200	x	x						x			x		MP7616BA	MicroPwr	
	42	5	20	x							x					YM3012	Yamaha	35
16 (dual)			50					x			x		x			**PCM66**	**Burr-Brown (3468)**	
	1	0.5 *	700	x	x			x								TDA1541A	Philips	
		8	1175	x				x								**DAC725B**	**Burr-Brown (3469)**	
16–4 Digit BCD	2	10	1225							x			x			DAC71-CCD-V	Burr-Brown	
							x			x			x			DAC71-COB-V	Burr-Brown	40
16–4 Digit BCD	1/2	15	1170							x			x			**DACHP16DC**	**Datel (3570)**	
										x			x			**DACHP16DM**	**Datel (3570)**	
16(dual)	2	8	1175	x				x								**DAC725A**	**Burr-Brown (3469)**	
18			410					x		x			x			**PCM58**	**Burr-Brown (3468)**	

(Continued)

Bin.—Binary
Off.—Offset
Magn.—Magnitude
Compl.—Complementary
Int Ref.—Internal Reference
CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
18		1.5	105					x		x			x			**PCM69A**	(Cont'd) **Burr-Brown (3468)**	
	1/2	0.0153	1500	x						x					x	IMP41C176-65	IMP	
				x						x					x	IMP41C176-80	IMP	
				x						x					x	IMP41C176L-65	IMP	
				x						x					x	IMP41C176L-80	IMP	5
		0.02	1500	x						x					x	IMP41C176-50	IMP	
				x						x					x	IMP41C176L-50	IMP	
		0.025	1500	x						x					x	IMP41C176-35	IMP	
				x						x					x	IMP41C176L-35	IMP	
		6	100	x	x				x		x		x	x	x	**AD1139**	**AD (3516)**	10
		10	750	x	x					x	x		x		x	SP9380	† Sipex	
		40		x						x						**AD1139K**	**AD (3516)**	
	0.004	2	825	x												**DSP202J**	**Burr-Brown (3468)**	
				x												**DSP202K**	**Burr-Brown (3468)**	
	0.006	2	825	x												**DSP201J**	**Burr-Brown (3468)**	15
				x												**DSP201K**	**Burr-Brown (3468)**	
	1%		260	x				x								**AD1865**	**AD (3512, 3518)**	
	1	1.5		x									x			AD1860	AD	
	1%	1.5	100 *	x							x					**AD1861**	**AD (3512, 3518)**	
	1	3	200					x		x	x			x	x	LC78850	Sanyo	20
		6		x										x		DAC1146	AD	
		10		x												DAC1138	AD	
		20	60	x	x					x	x		x		x	DAC370B-18	† Sipex	
				x	x					x	x		x		x	DAC370C-18	Sipex	
			500	x	x					x	x		x			DAC377-18	Sipex	25
				x	x					x	x		x		x	DAC377B-18	† Sipex	
				x	x					x	x		x		x	DAC377C-18	Sipex	
		40		x						x						**AD1139J**	**AD (3516)**	
	1dB		105					x					x			**PCM67**	**Burr-Brown (3468)**	
	2		260					x		x			x		x	**PCM61**	**Burr-Brown (3468)**	30
			380					x		x			x		x	**PCM1700P**	**Burr-Brown (3468)**	
		1	260					x		x	x		x		x	**PCM61P**	**Burr-Brown (3468)**	
		1.5		x									x			AD1864	AD	
				x									x			**AD1868**	**AD (3512, 3518)**	
		5	20	x		x	x	x					x			PCM64	Burr-Brown	35
		25	1630			x	x			x			x			**DAC729K**	**Burr-Brown (3469)**	
	4	25	1630			x	x			x			x			**DAC729J**	**Burr-Brown (3469)**	
	6	3	40					x		x	x			x	x	LC78820	Sanyo	
	10%		300					x		x	x		x			**PCM67P**	**Burr-Brown (3468)**	
								x		x	x		x			**PCM67PJ**	**Burr-Brown (3468)**	40
								x		x	x		x			**PCM67PK**	**Burr-Brown (3468)**	
								x		x	x		x			**PCM67U**	**Burr-Brown (3468)** (Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Settling Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
18	10%		300					x		x	x		x			**PCM67UJ**	(Cont'd) **Burr-Brown (3468)**	
								x		x	x		x			**PCM67UK**	**Burr-Brown (3468)**	
18 (dual)	2		400					x		x			x		x	**PCM1700**	**Burr-Brown (3468)**	
18MSPS	1	0.2	20	x				x		x				x		TDA1545	Philips	
20		0.2 *	250					x		x			x		x	**PCM1702**	**Burr-Brown (3468)**	5
		0.2	300	x				x					x		x	**PCM63P**	**Burr-Brown (3468)**	
				x				x					x		x	**PCM63PJ**	**Burr-Brown (3468)**	
				x				x					x		x	**PCM63PK**	**Burr-Brown (3468)**	
	2	0.35		x									x			**AD1862**	**AD (3512, 3518)**	
100 MSPS	0.2%	0.005	430	x									x			**AD9768J**	**AD (3517)**	10
				x									x			**AD9768S**	**AD (3517)**	
16	2			x				x			x					YM3020	Yamaha	
8																**DAC8229**	**AD (3516)**	

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Display Drivers

Function	Device	Source	Line
AC Plasma Axis Driver			
	SN65500E	TI	
	SN75500E	TI	
Anode Driver (high-voltage vacuum fluorescent)			
	MSC1163	OKI	
Anode Driver, 40-Bit			
	MSC7751	OKI	
Anode/Grid Driver, 10-Bit			
	MSC1150	OKI	5
Anode/Grid Driver, 20-Bit			
	MSC1165	OKI	
	MSC1171	OKI	
Anode/Grid Driver, 32-Bit			
	MSC1173	OKI	
Anode/Grid Driver, 40-Bit			
	MSC1172	OKI	
Bargraph LED	LM3914	National	10
	LM3915	National	
	RC1405	Rochester	
	LB1409	Sanyo	
	TC9404	TeledyneC	
Bargraph Vacuum Fluorescent			
	LM3916	National	15
Column Driver, –250V DC-PDP (64 drivers)			
	µPD16301	NEC	
Column Driver, 80V AC-PDP/EL/FIP (64 drivers)			
	µPD16306	NEC	
Controller, 12-Segment, 16-Digit			
	MSC7110	OKI	
Controller, 16-Segment, 12-Digit			
	MSC7112	OKI	
DC Plasma and Gas Discharge Data Line Driver			
	SN751508	TI	20
	SN751518	TI	
DC Plasma and Gas Discharge Scan Line Driver			
	SN751506	TI	
	SN751516	TI	
DC Plasma Data Line Driver			
	751508	Krueger	
	751516	Krueger	25
	751518	Krueger	
DC Plasma Scan Line Driver			
	751506	Krueger	
Display, Alphanumeric, LED			
	TIL305	TI	
Display Column Driver, 32-Channel Gray-Shade			
	HV3806	Supertex	
Display Controller/Driver (bargraph and numeric)			
	MSC1951-01	OKI	30
Display Driver, Alphanumeric			
	MSC1937-01	OKI	
Display Driver, Eight 7-Segment			
	ICM7228A	Harris	
	ICM7228B	Harris	
Display Driver, Eight 7-Segment, Microprocessor Compatible	ICM7228AI	Harris	
	ICM7228AMI	† Harris	35
	ICM7228BI	Harris	
	ICM7228BMI	† Harris	
	ICM7228CI	Harris	
	ICM7228CMI	† Harris	
	ICM7228DI	Harris	40
	ICM7228DMI	† Harris	
Display Driver, 35 High-Voltage LCD			
	HI8011	Holt	
Display Driver, 7-Segment Gas Discharge Display Cathode Driver with BCD Decoder			
	DI8884A	Dionics	
Display, Numeric, LED			
	TIL302	TI	
	TIL302A	TI	45
		(Continued)	
Display, Numeric, LED (Cont'd)			
	TIL303	TI	
	TIL303A	TI	
	TIL304	TI	
	TIL304A	TI	
	TIL306	TI	50
	TIL306A	TI	
	TIL307	TI	
	TIL307A	TI	
	TIL308	TI	
	TIL308A	TI	55
	TIL309	TI	
	TIL309A	TI	
Display, Hexadecimal, LED			
	TIL311	TI	
	TIL311A	TI	
Dot Matrix LCD Common Driver			
	NJU6418	**NJR (3705)**	60
Dot Matrix LCD Controller Driver (8 character/2-line)			
	NJU6408	**NJR (3705)**	
	NJU6426	**NJR (3705)**	
Dot Matrix LCD Driver (16-character/2-line)			
	NJU6420	**NJR (3705)**	
Dot Matrix LCD Driver (20-character/2-line)			
	NJU6423	**NJR (3705)**	
Dot Matrix LCD Driver (24-character/2-line)			
	NJU6406	**NJR (3705)**	65
Dot Matrix LCD 80-Segment Driver			
	NJU6419	**NJR (3705)**	
Dot Matrix LCD 40-Segment Driver			
	NJU6407	**NJR (3705)**	
	NJU6407B	**NJR (3705)**	
Dot Matrix LCD 64-Segment Driver			
	NJU6417	**NJR (3705)**	
	NJU6417B	**NJR (3705)**	70
Driver, 7-Segment (vacuum fluorescent)			
	MSC1178	OKI	
	MSC1179	OKI	
	MSC1190	OKI	
Electroluminescent Column Driver			
	SN65554	TI	
	SN65555	TI	75
	SN65556	TI	
Electroluminescent Column Driver, 32 Outputs			
	SN75555	TI	
	SN75556	TI	
Electroluminescent Even Column Driver, 32 Outputs			
	Si9554	Siliconix	
	SN55554	† TI	80
	SN75554	TI	
Electroluminescent Even Row Driver, 32 Outputs			
	SN55552	† TI	
	SN65552	TI	
	SN75552	TI	
Electroluminescent, High Voltage (octal, 450 V)			
	USH5801	Universal	85
	USH5802	Universal	
Electroluminescent, High Voltage (200 V)			
	USH5800	Universal	
Electroluminescent Odd Column Driver, 32 Outputs			
	Si9553	Siliconix	
	SN55553	† TI	
	SN75553	TI	90
Electroluminescent Odd Row Driver, 32 Outputs			
	SN55551	† TI	
	SN65551	TI	
	SN75551	TI	
Electroluminescent Row Driver, 32 Outputs			
	SN65557	TI	
	SN65558	TI	95
	SN75557	TI	
	SN75558	TI	
Electroluminescent Row Driver, 34 outputs			
	SN65563A	TI	
	SN65564A	TI	
	SN75563A	TI	100
	SN75564A	TI	
FIP Latch and Driver			
	µPD6323	NEC	
FIP/LCD Static Display Driver			
	µPD6320	NEC	
	µPD6321	NEC	
FIP/LED Driver			
	µPD6700	NEC	105
FIP Row/Column Driver, 200V (40 drivers)			
	µPD16304	NEC	
Flasher, Pulse Generator			
	U175M	AEG Corp	
	U176M	AEG Corp	
Gas Discharge Cathode Driver (225V max.)			
	DI220	Dionics	
Graphic LCD Display Controller			
	SED1351F	S-MOS	110
Graphic Video LCD Display Controller			
	SED1345F	S-MOS	
Grid/Anode Driver (high-voltage vacuum fluorescent)			
	MSC1164	OKI	
Grid Driver (high-voltage vacuum fluourescent)			
	MSC1162	OKI	
Grid Driver, 40-Bit			
	MSC7701	OKI	
High Voltage Display Driver, 30 Segments			
	HI8010-35	Holt	115
	HI8010-36	Holt	
	HI8010-37	Holt	
High Voltage Display Driver, 34 Segments			
	HI8010-31	Holt	
High Voltage Display Driver, 36 Segments			
	HI8010-32	Holt	
	HI8010-33	Holt	120
	HI8010-34	Holt	
High Voltage Display Driver, 86 Segments			
	HI8040	Holt	
	HI8040M	† Holt	
	HI8040M-01	† Holt	
High Voltage Driver for Panel, Vacuum Fluorescent, Electroluminescent Displays			
	µPD16310	NEC	125
Latched Driver, 12-Bit Serial Input			
	M54977	Mitsubishi	
LCD Alphanumeric Controller/Driver, Intelligent			
	µPD7225	NEC	
	LC7583	Sanyo	
LCD Character Display Driver			
	SED1278F	S-MOS	
LCD Clock Driver, 3– 1/2 Digit.			
	MIC8027	Micrel	130
LCD, Column Driver Controller (108 outputs, high voltage)	H01373	† Hughes	
LCD Common Driver			
	LC7942	Sanyo	
LCD Controller	M50530FP	Mitsubishi	
	M50532FP	Mitsubishi	
	M6265	OKI	135
LCD Controller and Column Driver, 10 Way Multiplex			
	V7036	ℓ EM Micro	
LCD Controller/Driver (for dot-matrix)			
	GM9120	GoldStar	
	µPD16430	NEC	
LCD Controller/Driver, 2 Row x 16 Character Dot Matrix			
	H0216	Hughes	
LCD Controller/Driver, 2 Row x 8 Character Dot Matrix			
	H0208	Hughes	140

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line
LCD Controller, Large Panel	SED1330F	S-MOS	
LCD Controller with Built-In Character Generator	HD43160AH	Hitachi	
LCD Controller, Two Rows by 8 Character	H01421	† Hughes	
LCD Controller, 16-Dot Row, 40-Dot Column	M6222	OKI	
LCD/CRTC Controller (640x400 Dot Matrix)	TC7779	Toshiba	5
LCD Display Driver, 32-Segments	MIC8014	Micrel	
LCD Dot Matrix Controller	M6240	OKI	
	M6255	OKI	
	LC7980	Sanyo	
	LC7981	Sanyo	10
	LR3692	Sharp	
LCD Dot Matrix Controller/Driver, Intelligent	µPD7227	NEC	
	µPD7228	NEC	
LCD Dot Matrix Controller, 16-Digit	MSC7128	OKI	
LCD Dot Matrix Controller, 8-Digit	MSC7125	OKI	15
LCD Dot Matrix Display Controller	HD61830	Hitachi	
LCD Dot Matrix Display Controller and Driver	HD44780	Hitachi	
LCD Dot Matrix Driver	HD44102CH	Hitachi	
	HD44103CH	Hitachi	
	HD44105CH	Hitachi	20
	HD61102	Hitachi	
	HD61103A	Hitachi	
	HC0515	Hughes	
	HC0538A	Hughes	
	HC0539A	Hughes	25
	HC0540	Hughes	
	HC0550	Hughes	
	HC0551	Hughes	
	HC0607	Hughes	
	SED1200	S-MOS	30
	LH5823	Sharp	
	LH5826	Sharp	
LCD Dot Matrix Driver, 40-Segment	LH5006A	Sharp	
LCD Dot Matrix Driver, 80-Segment	LH5021A	Sharp	
LCD Driver	LC7582	Sanyo	35
LCD Driver, Active Matrix	M5280	OKI	
	M5282	OKI	
LCD Driver, Bit Serial (hex, BCD)	MAX7232	Maxim	
LCD Driver, Bit Serial (upper case ASCII)	MAX7234	Maxim	
LCD Driver, Column Output (160 segment)	SED1704	S-MOS	40
LCD Driver, Column Output (160 segment drive outputs)	SED1702	S-MOS	
LCD Driver, Large Panel	**LCD1600**	**Krueger** **(3663)**	
	SED1180F	S-MOS	
	SED1181F	S-MOS	
	SED1190F	S-MOS	45
	SED1191F	S-MOS	
	SED1600F	S-MOS	
	SED1610F	S-MOS	
LCD Driver, Low Multiplex	V6116	EM Micro	
	V6118	ℓ EM Micro	50
LCD Driver, Low Multiplex (2 rows, 38 columns)	V6120-2	ℓ EM Micro	
LCD Driver, Low Multiplex (4 rows, 36 columns)	V6120-4	ℓ EM Micro	
LCD Driver, Low Multiplex (8 rows, 32 columns)	V6120-8	ℓ EM Micro	
LCD Driver, Segment Selectable (8/16/24/32)	PCF8568	Philips	
LCD Driver, Static	V6117	EM Micro	55
LCD Driver with Character Generator	LC7584N	Sanyo	
LCD Driver with High Voltage Charge Pump, 30 Segments (external osc, 40V max)	ICS1504E1	IntCirSys	
	ICS1504E2	IntCirSys	
	ICS1504E3	IntCirSys	
LCD Driver with Key Scan, 1/2 Duty (80/120 segments)	**NJU6435**	**NJR** **(3705)**	60
LCD Driver (with 40-Channel outputs)	GM9110	GoldStar	
LCD Driver, Four Digit, Seven Segment	CD7211	Harris	
LCD Driver, 3–3/4 Digit	TC822	TeledyneC	
	TC823	TeledyneC	
LCD Driver, 3–3/4 Digit	TC814	TeledyneC	65
	TC824	TeledyneC	
LCD Driver, 5-Digit, 8-Segment	M58292	OKI	
LCD Driver, 20-Bit	µPD6332	NEC	
LCD Driver, 30 Segments	MIC8010	Micrel	
	MIC8012	Micrel	70
	MIC8013	Micrel	
LCD Driver, 30 Segments (external oscillator)	HI8010M-05	† Holt	
	HI8010M-35	† Holt	
LCD Driver, 30 Segments (external oscillator, 35V maximum)	HI8010-05	Holt	
LCD Driver, 30 Segments (internal oscillator)	HI8010M-07	† Holt	75
	HI8010M-37	† Holt	
LCD Driver, 30 Segments (internal oscillator, 35V max.)	HI8010-07	Holt	
LCD Driver, 30 Segments (selectable internal or external oscillator, 35V max.)	HI8010-06	Holt	
	HI8010-15	† Holt	
	HI8010M-06	† Holt	80
	HI8010M-36	† Holt	
	HI8010M06	† Holt	
LCD Driver, 32 Segments	M6003	ℓ EM Micro	
LCD Driver, 32 Segments (external oscillator, 35V max.)	HI8020-84	Holt	
LCD Driver, 32 Segments (selectable internal or external oscillator)	HI8020-85	† Holt	85
LCD Driver, 32/64 Segment	HD61602	Hitachi	
	HD61603	Hitachi	
	PCF8577	Philips	
LCD Driver, 32-Dot Row	M5238	OKI	
LCD Driver, 33-Segment w/Serial Interface	MC145453	Motorola	90
LCD Driver, 34 Segments (external oscillator, 35V max.)	HI8010-65	Holt	
LCD Driver, 34 Segments (internal oscillator, 35V max.)	HI8010-67	Holt	
LCD Driver, 34 Segments (selectable internal or external oscillator)	HI8010-01	Holt	
	HI8010-66	Holt	
	HI8010M-01	† Holt	95
	HI8010M-31	† Holt	
LCD Driver, 35V max, 38 Outputs	HI8010	Holt	
LCD Driver, 38 Segments	MIC8011	Micrel	
LCD Driver, 38 Segments (external oscillator)	HI8010M-04	† Holt	
	HI8010M-34	† Holt	100
LCD Driver, 38 Segments (external oscillator, 35V max.)	HI8010-04	Holt	
	HI8020-63	Holt	
	HI8020-81	Holt	
	HI8020M-63	† Holt	
	HI8020M-81	† Holt	105
	HI8020M-84	† Holt	
LCD Driver, 38 Segments (internal oscillator)	HI8010M-03	† Holt	
	HI8010M-33	† Holt	
	H18010M-03	† Holt	
LCD Driver, 38 Segments (internal oscillator, 35V max.)	HI8010-03	Holt	110
	HI8020-61	Holt	
	HI8020-80	Holt	
	HI8020M-61	† Holt	
	HI8020M-80	† Holt	
LCD Driver, 38 Segments (selectable internal or external oscillator)	HI8010-02	Holt	115
	HI8010-16	† Holt	
	HI8010M-02	† Holt	
	HI8010M-32	† Holt	
LCD Driver, 40 Segments	M6004	EM Micro	
LCD Driver, 40/80/120/160 Segments	PCF8576	Philips	120
LCD Driver, 40-Channel	M50521FP	Mitsubishi	
LCD Driver, 40-Dot Column	M5259	OKI	
	M5839B	OKI	
LCD Driver, 48-Dot	M5219B	OKI	
LCD Driver, 56-Dot	M5221	OKI	125
LCD Driver, 64-Dot Row	M5278	OKI	
LCD Driver, 68-Dot Row	M5298	OKI	
LCD Driver, 80 Output Direct Drive/ Multiplexed	H0480	Hughes	
LCD Driver, 80/160-Dot	M5265	OKI	
LCD Driver, 80-Channel	M50524FP	Mitsubishi	130
LCD Driver, 80-Dot Column	M5279	OKI	
	M5299	OKI	
LCD Driver, 80-Dot Row/Column	M5260	OKI	
LCD Driver, 100 Segment	µPD16410	NEC	
LCD Driver (120 output horizontal)	µPD16400	NEC	135
	µPD16406	NEC	
LCD Driver (120 output vertical)	µPD16402	NEC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line
LCD Driver, (120 output, 8 Tones)	µPD16421	NEC	
LCD Driver, (140 output vertical)	µPD16404	NEC	
LCD Driver, 160 Segment	µPD16412	NEC	
LCD Driver (192 output)	µPD16423	NEC	
LCD Driver, (192 output, 16 Tones)	µPD16426	NEC	5
LCD Driver, 192 Segment	µPD16411	NEC	
LCD Driver, 30 Segments (internal osc, 40V max)	ICS1502E1	IntCirSys	
LCD Driver, 30 Segments (selectable internal or external oscillator, 40V max)	ICS1502E3	IntCirSys	
LCD Driver, 32 Segments (external osc, 40V max)	ICS1505E2	IntCirSys	
LCD Driver, 32 Segments (internal osc, 40V max)	ICS1505E1	IntCirSys	10
LCD Driver, 32 Segments (selectable internal or external oscillator, 40V max)	ICS1505E3	IntCirSys	
LCD Driver, 38 Segments (external osc, 40V max)	ICS1501E1 ICS1501E2	IntCirSys IntCirSys	
LCD Driver, 38 Segments (selectable internal or external oscillator, 40V max)	ICS1501E3	IntCirSys	
LCD Driver, 40-Channel Output	HD44100H	Hitachi	15
LCD Driver, 6-bit Parallel	MAX7231	Maxim	
LCD Driver, 75 Segments (external osc, 40V max)	ICS1521E4	IntCirSys	
LCD Driver, 75 Segments (internal osc, 40V max)	ICS1521E2	IntCirSys	
LCD Driver, 80-Channel Output	HD61100A	Hitachi	
LCD Driver,30 Segments (external osc, 40V max)	ICS1502E2	IntCirSys	20
LCD Graphics Driver	SED1500	S-MOS	
LCD Panel Driver (120 output vertical)	µPD16422	NEC	
LCD Row Driver (common output)	SED1703	S-MOS	
LCD, Row Driver Controller (108 outputs, high voltage)	H01374	† Hughes	
LCD Segment Driver	LC7940	Sanyo	25
LCD 5x7 Dot Driver	LH5003 LH5004	Sharp Sharp	
LCD, 16 Character Extender	H01371A	† Hughes	
LCD, 80-output Direct Drive	H01371B	† Hughes	
LED Digit Driver	MSL966	OKI	30
LED Display Driver for 5 or 10 LEDs	U237B U244B U247B U254B U257B U267B	AEG Corp AEG Corp AEG Corp AEG Corp AEG Corp AEG Corp	35
LED Display Driver, 8-Digit, Serially Interfaced	MAX7219C	Maxim	
LED Display Driver, 33 Outputs, 15 mA Sink Capability	MM5486 M5486	National SGS-Thomson	
LED Display Driver, 34 Outputs, 15 mA Sink Capability	M5450	SGS-Thomson	40
LED Display Driver, 35 Outputs, 15 mA Sink Capability	M5451	SGS-Thomson	
LED Display Driver, 3 1/2 Digits	MM5480	National	
LED Driver, Scale Controller	U2066B U2067B	AEG Corp AEG Corp	
LED Driver, Stereo Control Indicator	U2068B	AEG Corp	45
LED Driver System, 8 Decade, 8x8 Memory, Decoder (versions either hardwire or processor controlled; with 7 segment and digit drivers for either common anode or cathode LEDs; 2–6 V supply)	ICM7218A ICM7218AI ICM7218B ICM7218BI ICM7218C ICM7218CI ICM7218D ICM7218DI ICM7218A ICM7218B ICM7218C ICM7218D	Harris Harris Harris Harris Harris Harris Harris Harris Maxim Maxim Maxim Maxim	50 55
LED Driver, 4-Digit, 7-Segment	V6010	ℓ EM Micro	
LED driver, 4x6 Dot Matrix	µPD6322	NEC	
LED Driver, 5-Dot	IR2E01 IR2E13 IR2E31 IR2E32N	Sharp Sharp Sharp Sharp	60
LED Driver, 7 Segment	SL5451 MM5450 MM5451	† Lansdale Micrel Micrel	65
LED Driver, 7-Dot	IR2E02 IR2E19 IR2E29	Sharp Sharp Sharp	
LED Driver, 7-Segment	IR2C07	Sharp	70
LED Driver, 8 Dot LED Level Indicator	M51909	Mitsubishi	
LED Driver, 8/16-Segment, serial input	CD22401	Harris	
LED Driver, 8-Bit	µPD6345	NEC	
LED Driver, 8-Bit (three-state output)	M66312	Mitsubishi	
LED Driver, 12-Dot	IR2E05 IR2E16 IR2E30 IR2E38 IR2E41 IR2406 IR2431 IR2432 IR2433	Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp	75 80
LED Driver, 16-Bit (anode common)	M66311	Mitsubishi	
LED Driver, 16-Bit (cathode common)	M66310	Mitsubishi	85
LED Driver, 16-Dot	IR2E03 IR2E04	Sharp Sharp	
LED Driver, 16 ± -Bit (cathode common)	M66314	Mitsubishi	
LED Driver, 32-Bit (anode common)	M66313	Mitsubishi	
LED Driver, 15 Outputs	U3081M	AEG Corp	90
LED Driver, 19 Outputs	U3082M U3084M U3085M	AEG Corp AEG Corp AEG Corp	
LED Driver, 4-Digit w/ I^{2}C Bus Interface	SAA1064	Philips	
LED Driver, 8 Outputs	U3088M U3089M	AEG Corp AEG Corp	95
LED Flasher (See also Flasher this section)	LM3909	National	
LED/Lamp Driver Circuit	HM5401	Hualon Micro	
Level Meter, 8-Dot	MSM9353	OKI	
Level Meter, 32-Dot	MSM9356	OKI	100
Line 21 Acquisition and Display (LITOD)	**SAA5252**	**Philips (3743)**	
Multiplexed LCD Driver, Master and Slave	MM58201	National	
Multiplexed LCD Driver, Master and Slave with Serial Interface	MC145000 MC145001	Motorola Motorola	
Open Collector Driver (150V max.)	DI480 DI481 DI482	Dionics Dionics Dionics	105
Plasma Display Row Driver (41 bit)	µPD16300GF µPD16307	NEC NEC	
Plasma Display Row Driver (64 bit)	µPD16309	NEC	110
Plasma Driver, AC	SN55501E	TI	
Quartz Analog Clock Circuit, 32 kHz	CD22777	Harris	
Row Driver for Electroluminescent or Plasma Displays	µPD6337	NEC	
Row Driver, 200V AC-PDP (40 drivers)	µPD16305	NEC	
Row Driver, 200V DC-PDP (41 drivers)	µPD16300	NEC	115
Row Driver, 250V Electroluminescent (40 drivers)	µPD16302	NEC	
Segment Driver for Gas Discharge Displays	DI232 DI242	Dionics Dionics	
Segment Driver with Dimming Function and Keyscan, 60-Bit Duplex	MSC1200	OKI	
Segment Driver with Dimming Function, 33-Bit	MSC1187	OKI	120
Segment Driver, 33-Bit	MSC1149 MSM5267B-15 MSM5328	OKI OKI OKI	
Serial to Parallel Converter, 32-Channel	HV9308 HV9408 HV9708 HV9808	Supertex Supertex Supertex Supertex	125

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line
Serial to Parallel Converter, 64-Channel (for electroluminescent displays)	HV7708	Supertex	
	HV7808	Supertex	
Sink Driver, Eight High Voltage Outputs (for lamps, solenoids, displays, relays, print heads, heaters, etc.)	**MIC4807**	**Micrel (3687)**	
Symmetric Row Driver, 34-Channel (for AC thin-film electroluminescent displays)	HV7022	Supertex	
Symmetric Row Drivers, 40-Channel (for AC thin-film electroluminescent displays)	HV7225	Supertex	5
Timer (CMOS 555) Low Power	HI7555M	† Holt	
	HI7555M-01	† Holt	
Totem-Pole Output	DI740	Dionics	
TV On-Screen Display Driver	LR67151	Sharp	
Vacuum Fluorescent Display Driver, 20-Bit	µPD6340	NEC	10
Vacuum Fluorescent Display Driver, 35V (alphanumeric or dot matrix)	MM58342	National	
Vacuum Fluorescent Driver	LC7573M	Sanyo	
	LC7574E/W	Sanyo	
	SN65513B	TI	
	SN75513B	TI	15
Vacuum Fluorescent Driver (8-bit parallel-in/out, negative voltage)	MSL915	OKI	
	MSL917	OKI	
Vacuum Fluorescent Driver (8-bit parallel-in/out, positive voltage)	MSL912	OKI	
	MSL918	OKI	
Vacuum Fluorescent, Level Shifted (50 V operation)	DI512BR	Dionics	20
Vacuum Fluorescent, Level Shifted (80 V operation)	DI513BR	Dionics	
Vacuum Fluorescent, Level Shifted (110 V operation)	DI514BR	Dionics	
Vacuum Fluorescent Tube Driver	MSM5267-15	OKI	
Vacuum Fluorescent, 8-Line	UCN5815A	Allegro Micro	
Vacuum Fluorescent, 20 Outputs	TL5812I	TI	25
Vacuum Fluorescent, 32 Outputs	SN65518	TI	
Vacuum Fluorescent, 32-Channel	HV518	Supertex	
Vacuum Fluorescent, 40-Channel	HV701	Supertex	
	HV702	Supertex	
	HV711	Supertex	30
	HV712	Supertex	
Video Display Driver	1902	TeledyneC	
Video or RGB to LCD Interface Controller	SED1341F	S-MOS	
BCD (hexadecimal) to 7-Segment Decoder/Driver with Latch Active Low, Open Collector	9370C	National	
BCD (hexadecimal) to 7-Segment LED Decoder/Driver, Constant Current, with Latch	9368C	National	35
BCD Plus 1 to 7-Segment	U143M	AEG Corp	

Function	Device	Source	Line
BCD to 7-Segment Decoder/Driver	MC14547BC	Motorola	
	MC14558B	Motorola	
BCD to 7-Segment Decoder/Driver, Active High, Resistive Pull-Up	GD8307	GoldStar	
	MC74LS249	Motorola	40
	SN54LS249	Motorola	
	SN74LS248	Motorola	
	SN74LS48	Motorola	
	54LS248	† National	
	54LS249	† National	45
	54LS48	† National	
	54LS49	† National	
	74LS248	National	
	74LS249	National	
	74LS48	National	50
	5448	† Rochester	
	7448	Rochester	
	9307	Rochester	
	T74LS248	SGS-Thomson	
	T74LS248B1	SGS-Thomson	55
	SN54LS248	† TI	
	SN54LS48	† TI	
	SN54LS49	† TI	
	SN5448	† TI	
BCD to 7-Segment Decoder/Driver, Active Low, Open Collector	MC4039	Motorola	60
	SN74LS247	Motorola	
	SN74LS47	Motorola	
	DM5447A	† National	
	DM7446A	National	
	DM7447A	National	65
	54LS247	† National	
	54LS347	† National	
	54LS447	† National	
	54LS47	† National	
	74LS247	National	70
	74LS347	National	
	74LS447	National	
	74LS47	National	
	7447	National	
	9317BC	National	75
	7446	Rochester	
	9317	Rochester	
	383A/C	TeledyneC	
	SN54LS247	† TI	
	SN54LS47	† TI	80
	SN54246	† TI	
	SN54247	† TI	
	SN5446A	† TI	
	SN5447A	† TI	
	SN74LS247	TI	85
	SN74LS47	TI	
	SN7446A	TI	
	SN7447A	TI	
BCD to 7-Segment Decoder/Driver, for Liquid Crystal Displays	CD4055B	† Harris	
	TC4055B	Toshiba	90
BCD to 7-Segment Decoder/Driver, 2-Digit, Direct Driver for Common Anode LED Displays	DS8669	National	
BCD to 7-Segment Latch/Decoder/Driver (CMOS with bipolar output)	GD4511B	† GoldStar	
	CD4511B	† Harris	
	MC14511BC	Motorola	
	MC14513BC	Motorola	95
	CD4511BC	National	
	CD4511BM	† National	
	HEF4511B	Philips	
	HEF4511BD	Philips	
	HCC4511B	SGS-Thomson	100
	HCF4511B	SGS-Thomson	
	TC4511B	Toshiba	

Function	Device	Source	Line
BCD to 7-Segment Latch/Decoder/Driver, for Liquid Crystal Displays	CD4543B	Harris	
BCD to 7-Segment Latch/Decoder/Driver (strobed latch), for Liquid Crystal Displays	CD4056B	† Harris	
	LS7100	**LSI Comp (3683)**	105
	MC14543BC	Motorola	
	TC4056B	Toshiba	
BCD to 7-Segment Latch/LCD/Decoder/Driver (ripple blanking)	MC14544BC	Motorola	
BCD to 7-Segment LED Decoder/Driver	CA3168	Harris	
BCD to 7-Segment LED Decoder/Driver, Constant Current	NE587	Philips	110
BCD to 7-Segment LED Decoder/Driver with Latch, Output 0–9,—,E,H,L,P	9374C	National	
BCD-to-Decimal Decoder/Driver (for lamps)	380A/C	TeledyneC	
	381A/C	TeledyneC	
BCD-to-Decimal Decoder/Driver (nixie driver)	DM5441A	† National	
	382A/C	TeledyneC	115
BCD-to-Decimal Decoder/Driver with Blanking (for cold cathode indicator tubes)	54141	† Rochester	
	74141	Rochester	
BCD-to-Seven Segment Decoder/Driver with Active Pull-up	SN54LS247	Motorola	
	SN54LS248	Motorola	
	SN54LS47	Motorola	120
	SN54LS48	Motorola	
Hex TTL to LED Bulb Driver, with Latch	DS8859	National	
Hexadecimal to 7-Segment Latch/Decoder/Driver (CMOS with bipolar output)	MC14495	Motorola	
Seven High Current NPN Transistors, Common Collector	CA3082	† Harris	
Seven NPN Transistors, Common Emitter	CA3081	† Harris	125
Seven Segment LED (serial interface)	MC14489	Motorola	
2-Digit Display Driver	MM5481	National	
2-Digit LED Driver	M5481	SGS-Thomson	
	M5482	SGS-Thomson	
3–1/2-Digit LED Driver	M5480	SGS-Thomson	130
4 Digit LCD/LED	ICM7211AI	Harris	
	ICM7211I	Harris	
	ICM7212AMI	Harris	
4/5-Digit Vacuum Fluorescent (serial data input)	MM5450	National	
	MM5451	National	135
4–1/2-Digit Counter/Decoder/Driver	ICM7224	Maxim	
	ICM7224C	Maxim	
	ICM7225	Maxim	
	ICM7225C	Maxim	
4-Bit Multiplexed LCD Driver (4x7)	HC7211-1	Hughes	140
	HC7211-2	Hughes	
4-Channel Plasma	XR2284	Exar	
4-Character, 18-Segment Triplexed LCD Decoder/Driver	ICM7233	Maxim	
	MAX7233A	Maxim	
	MAX7233B	Maxim	145

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line
4-Digit Gas Discharge Display Anode Driver	DI500B	Dionics	
	DI502B	Dionics	
4-Digit LCD Driver	ICM7211AM	Maxim	
	ICM7211M	Maxim	
4-Digit LED Driver, Multiplexed BCD or Binary to 7-Segment Decoder/Driver	ICM7212	Maxim	5
	ICM7212A	Maxim	
4-Digit LED Driver, BCD or Binary to 7-Segment Decoder/Driver, Data and Digit Select Code Latches for µP Interface	ICM7212A	Harris	
	ICM7212AM	Maxim	
	ICM7212M	Maxim	
	TC7212A	TeledyneC	10
	TC7212AM	TeledyneC	
4-Digit Liquid Crystal, Multiplexed BCD to LCD Decoder/Driver, AC Drive	ICM7211	Harris	
	ICM7211A	Harris	
	ICM7211	Maxim	
	ICM7211A	Maxim	15
4-Digit/Segment Vacuum Fluorescent	DI503B	Dionics	
	DI504B	Dionics	
4-Digit Select Microprocessor Interface (4x7)	HC7211-3	Hughes	
	HC7211-4	Hughes	
4-Digit (stores segment and address data, drives 7–8 segment digits)	MM74C911	National	20
4-Digit/8-Segment Vacuum Fluorescent	COP470	National	
4-Digit, 17-Segment Alpha-Numeric with Memory, Decoder and LED Drivers	MM74C956	National	
	NSM4507	National	
4-Digit, 7-Segment LCD Decoder/Driver	TC7211A	TeledyneC	
4-Segment Liquid Crystal	CD4054B	Harris	25
	TC4054B	Toshiba	
4-Segment MOS to LED Anode Driver	DS55493	† National	
	DS75491	National	
	DS75493	National	
5-Character, 18-Segment Triplexed LCD Decoder/Driver	ICM7234	Maxim	30
	MAX7234A	Maxim	
	MAX7234B	Maxim	
5-Line Plasma Display Axis Driver	DI5140	Dionics	
	DI5180	Dionics	
	DI5240	Dionics	35
	DI5280	Dionics	
5x2 LED Driver	IR2E27	Sharp	
6-Digit Gas Discharge Display Anode Driver	DI505B	Dionics	
	DI507B	Dionics	
	DI603A	Dionics	40
	DI604A	Dionics	
	DI605A	Dionics	
6-Digit MOS to LED Cathode Driver	DS55494	† National	
	DS75492	National	
	DS75494	National	45
	DS8870	National	
6-Digit/Segment Vacuum Fluorescent	UDN6116A	Allegro Micro	
	DI508B	Dionics	
	DI509B	Dionics	
6-Digit BCD (stores segment and address data, drives 7–8 segment digits)	MM74C912	National	50
6-Digit Hex (stores segment and address data, drives 7 segments)	MM74C917	National	
6-Digit, 7-Segment LCD Driver with Decimal Points, or Three 16-Segment Characters. 48-Stage Shift Register, 48-Bit Data Latch and 48-Segment Driver	MSM5219	OKI	
7-Digit MOS to Gas Discharge	XR2272	Exar	
7-Digit/Segment MOS to Vacuum Fluorescent	XR2271	Exar	
7-Line Dot Matrix or Segmented	SN75581	TI	55
7-Segment Decoder/Driver with Serial Interface	MC14499	Motorola	
7-Segment Gas Discharge Display Cathode Driver, with BCD Decoder	DS7880	† National	
	DS8880	National	
	DS8884A	National	
7-Segment, LCD Driver	IR2E34	Sharp	60
7-Segment to BCD Converter/Driver	MM54C915	† National	
	MM74C915	National	
7x2 LED Driver	IR2E28	Sharp	
8-Channel Plasma	XR2288	Exar	
8-Character, 14/16 Segment LED Display Driver	ICM7243	Harris	65
	ICM7243AI	Harris	
	ICM7243BI	Harris	
8-Digit Gas Discharge Display Anode Driver	DI510B	Dionics	
	DI512B	Dionics	
	DI803A	Dionics	70
	DI804A	Dionics	
	DI805A	Dionics	
8-Digit MOS to LED Cathode Driver	DS8863	National	
	DS8963	National	
8-Digit/Segment Vacuum Fluorescent	UDN6118A	Allegro Micro	75
	DI513B	Dionics	
	DI514B	Dionics	
	XR6118	Exar	
	XR6128	Exar	
	NE594	Philips	80
	SA594	Philips	
8-Digit, 7-Segment Triplexed LCD Decoder/Driver	ICM7231B	Harris	
	ICM7231BFI	Harris	
	ICM7232AFI	Harris	
	ICM7232CRI	Harris	85
	ICM7231	Maxim	
	MAX7231A	Maxim	
	MAX7231B	Maxim	
	MAX7231C	Maxim	
8-Output Digit-Scan Counter/Decoder for Cold-Cathode Counter Tubes	MSL9510R	OKI	90
	MSL9511R	OKI	
8-Segment Gas Discharge Display Cathode Driver	DI210	Dionics	
	DI230A	Dionics	
	DI240A	Dionics	
	DI300	Dionics	95
	DI302	Dionics	
	DS7889	† National	
	DS8889	National	
8-Segment MOS to LED Anode Driver	DS8867	National	
9-Digit MOS to LED Cathode Driver	DS8973	National	100
9-Digit MOS to LED Cathode Driver with Shift Register Decoding	DS8874	National	
10-Bit Serial In/Parallel Out Fluorescent (for µP systems)	TL4810B	TI	
	TL4810BI	TI	
	UCN4810A	TI	
10-Channel Serial-Input Latched Display Driver	HV6810	Supertex	105
10-Digit, 7-Segment Triplexed LCD Decoder/Driver	ICM7232A	Harris	
	ICM7232	Maxim	
	MAX7232A	Maxim	
	MAX7232B	Maxim	
	MAX7232C	Maxim	110
12-Line Vacuum Flourescent	UCN5811A	Allegro Micro	
12-Line Vacuum Fluorescent	SN75514	TI	
12-Line Vacuum Fluorescent Display Driver	SN65512B	TI	
	SN75512B	TI	
12-Segment, LCD Driver	IR2429	Sharp	115
12x2 LED Driver	IR2E20	Sharp	
16-Line Vacuum Fluorescent	DS8881	National	
16-Segment LED Display Drivers	MM5484	National	
20-Digit Alphanumeric or Dot Matrix VF Driver	MM58242	National	
20-Line Vacuum Fluorescent Display Driver	TL5812	TI	120
20-Segment Vacuum Fluorescent Display Driver	SED2020F	S-MOS	
30-Bit LCD Driver/Register	MD4330B	Mitel	
32-Bit LCD Driver	S4521	American Micro	
32-Channel AC Plasma Display Driver	HV500	Supertex	
	HV501	Supertex	125
32-Channel Liquid Crystal Display Driver, ± 40V	HV6008	Supertex	
32-Channel Serial to Parallel Converter with P-Channel Open Drain Outputs (for AC Electroluminescent Displays)	HV4122	Supertex	
	HV4222	Supertex	
	HV4522	Supertex	
	HV4530	Supertex	130
	HV4622	Supertex	
	HV4630	Supertex	
	HV5122	Supertex	
	HV5222	Supertex	
	HV5408	Supertex	135
	HV5522	Supertex	
	HV5530	Supertex	
	HV5622	Supertex	
	HV5630	Supertex	
	HV5708	Supertex	140
	HV5808	Supertex	
32-Channel Serial to Parallel Converters with High Voltage Push-Pull Outputs (for AC Electroluminescent Displays), 80V	HV5308	Supertex	
32-Digit Alphanumeric or Dot Matrix VF Driver	MM58241	National	
	MM58248	National	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Display Drivers (Cont'd)

Function	Device	Source
32-Digit Alphanumeric or Dot Matrix VF Driver (Cont'd)		
	MM58341	National
	MM58348	National
32-Line AC Plasma Display Axis Driver		
	SN55500E	† TI
	SN65501E	TI
	SN75501E	TI
32-Line Electroluminescent Display Column Drivers		
	SN75567	TI
	SN75568	TI
32-Line Vacuum Fluorescent		
	SN75518	TI
32-Row LCD Dot-Matrix Driver		
	MSM5238	OKI
32-Segment LCD		
	MM5452	National
	MM5453	National
32-Segment LCD Controller/Driver		
	µPD7255	NEC
32-Segment LCD Driver		
	AY0438I	Microchip
	MM5483	National
	PCF2112	Philips
32-Segment Vacuum Fluorescent Display Driver		
	SED2032F	S-MOS
40-Segment LCD Duplex		
	PCF2100	Philips
40V FIP Driver, 20 Outputs		
	µPD6300	NEC
64-Channel Serial to Parallel Converter with Open Drain Outputs (for AC electroluminescent displays), 220V		
	HV0322	Supertex
	HV0330	Supertex
	HV04H06	Supertex
	HV04H08	Supertex
	HV0406	Supertex
	HV0408	Supertex
	HV0522	Supertex
	HV0530	Supertex
	HV06H06	Supertex
	HV06H08	Supertex
	HV0606	Supertex
	HV0608	Supertex
64-Segment LCD Duplex		
	PCF2111	Philips
104 Segment 1/2 Duty LCD Driver		
	NJU6432	**NJR** **(3705)**

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Error Checking Circuits

Function	Max. Serial Data Rate, MHz	Supply Voltage, V	Device	Source	Line
Bus Buffer Correction (4-bit for use with EDAC unit)		5	MC74F2961A	Motorola	
			MC74F2962A	Motorola	
Clock Recovery Circuit	50	5	T7032	AT&T	
Codec, Convolutional Coder/Viterbi Decoder (for forward error correction)	0.01	5	STI5268	STEL	
Convolutional Encoder	1	5	STEL2012	STEL	5
CRC Generator/Checker	12	5	54F401	† National	
			74F401	National	
CRC Generator/Checker (expandable)	30	5	54F402	National	
			74F402	National	
Decoder, Forward Error Correction (Viterbi decoding algorithm)	2.1	5	SCOM2001B	† Spancom	10
	2.7	5	SCOM2001C1	Spancom	
			SCOM2001PJ	Spancom	
EDC or ECC Code Generation and Encoder for Rewritable CD-ROM		5	LC89581	Sanyo	
Error Correction with FIFO and SRAM for CD-ROM Decoder	2.3	5	LC89510	Sanyo	
Error Detection/Correction Circuit	—	5	8206	Intel	15
	33	5	ACS630MS	‡ Harris	
			ACTS630MS	Harris	
Error Detection/Correction Circuit (ECL)	—	–5.2	MC10163	Motorola	
Error Detection/Correction Circuit (TTL)	—	5	MC74F2960	Motorola	
			DP8402A	National	20
			DP8403	National	
			DP8404	National	
			DP8405	National	
			54F420	† National	
			74F420	National	25
			SN54LS630	† TI	
Error Detection/Correction Circuit (TTL), Serial Burst	—	5	74F430	National	
Error Detection/Correction Unit (CMOS)		5	IDT49C466	† IDT	
			P54PCT632	† Performance	
			P74FCT632	Performance	30
Expandable Error Checker and Corrector	—	5	DP8400	National	
Foward Error Correction (FEC) Encoder/Decoder (for MIL-STD–188–141A and FED STD 1045).			SRT-141A/1045	SpaceResearch	
Foward Error Correction (FEC) Encoder/Decoder (24,12 Extended Golay).			SRT24-12-03	SpaceResearch	
Polynominal Generator/Checker	3.5 *	5	SCN68653	Philips	
Real Time Error Correction CD-ROM Decoder	2.3	5	LC8951	Sanyo	35
Reed-Solomon Error Correction Circuit	32	5	NCR85C20	NCR	
Viterbi Decoder (for forward error correction)	256 kb/s	5	STI2010	STEL	
Winchester Disk CRC Checker/Generator			HDC1100-04	SMC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Keyboard Encoder-Decoders

No. of Keys	No. of Output Bits	Code	Max. Clock Rate, KHz	Supply Voltage, V	Comments	Device	Source
16	4	Binary			Status output	**LS7222** **LS7223**	**LSI Comp (3683)** **LSI Comp (3683)**
16	4	Binary	—	3–15	2 key rollover, 3 state output	MM54C922 °† MM74C922 °	National National
20	5	Binary	—	3–15	2 key rollover, 3 state output	MM54C923 † MM74C923	National National
82		Binary	4000	3 to 5	PC/XT/AT/PS2. Supports 128 keys on 8x16 matrix. Interfaces with Fujitsu FKB7211 laptop/notebook keyboard to BIOS compatible systems.	**UR5HCFJ8** ℓ	**USAR Systems (3848)**
85	8	ASCII/HEX	1000	4–6.5	Scans and generates code for 53 key ASCII plus 32 non-ASCII keys	CDP1871AC	Harris
				4–10.5	Scans and generates code for 53 key ASCII plus 32 non-ASCII keys	CDP1871A	Harris
90	10	External ROM Programmable	100	5	9x10 matrix, N key rollover, parallel output	KR9600	SMC
					9x10 matrix, N key rollover, parallel output, caps lock, auto repeat	KR9601	SMC
		Mask Programmable	100	5	9x10 matrix, N key rollover, serial output, caps lock, auto repeat	KR9602	SMC
128		Binary	4000	3 to 5	PC/XT/AT/PS2. 8x16 matrix. For laptop/notebook keyboards. N-key Rollover. 8042 compatible auxilary port. Low power consumption. Implements 101/102 keyboard with 82 keys.	**UR5HC428** ℓ	**USAR Systems (3848)**
					PC/XT/AT/PS2. 8x16 matrix. For standard keyboards. N-Key Rollover. 8042 compatible auxilary port.	**UR5HC418** ℓ	**USAR Systems (3848)**
		Hexadecimal	4000	3 to 5.5	PC/XT/AT/PS2. 8x16 matrix. RAM-programmable key assignments.	**UR5HC439** ℓ	**USAR Systems (3848)**
	9	Mask Programmable	100	5	16 x 8 matrix, three-state I/O, 2 or 3 key alarm	MSM3914A	OKI
144		Binary	4000	3 to 5	PC/XT/AT/PS2. 8x16 matrix. For large keyboards. N-key Rollover. Auxilary port for pointing devices.	**UR5HC408** ℓ	**USAR Systems (3848)**
					PC/XT/AT/PS2. 8X18 matrix. Interfaces 83/101/102 standard keyboard. Two-key Inhibit. Auxilary port for external keyboard, barcode reader, or PS2 style mouse.	**K25C81** ℓ	**USAR Systems (3848)**
		Hexadecimal	4000	3 to 5	RS232 Interface. Two-Key Inhibit. Serial encoder with optical knob interface.	**S25C8** ℓ	**USAR Systems (3848)**
				3 to 5.5	PC/XT/AT/PS2 or RS232. User-programmable keys including macros. Data Retention without battery backup	**UR5HC449** ℓ	**USAR Systems (3848)**
256		RS423	4000	3 to 5.5	For standard or custom DEC compatible keyboards	**UR5HCDEC**	**USAR Systems (3848)**
					Protocol converter - PC/XT/AT/PS2 to HP-HIL	**UR6HCPCH** ℓ	**USAR Systems (3848)**
					ProtocOl converter - PC/XT/AT/PS2 to Parallel	**UR6HCPCP** ℓ	**USAR Systems (3848)**
					Protocol converter - PC/XT/AT/PS2 TO RS232	**UR6HCPCS** ℓ	**USAR Systems (3848)**

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Line Circuits

Line Drivers—Single Ended

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
1		No	+,-5	Video Line Driver, High Speed Op-Amp	CA3450	Harris	
2	-0.5 to 5.5 V	No	5	RS422A, RS423A	μA9639C	TI	
	±4 to 6 V	No	±9 to ±15	RS232, RS423, CCITT V.26, V.28	μA9636AC	National	
					μA9636AM	† National	
					μA9636AC	TI	5
	±8 V	No	±12	RS232C	DS75150	National	
					75150	Rochester	
					SN75150	TI	
	±15 V	No	±15	RS423A, RS423C	μ9636A	TI	
	High Current	Yes	5	Coax/Twisted Pair	**SL8T23**	**Lansdale (3675)**	10
					DS75123	National	
					SN75123	TI	
				Emitter Follower for Coax/Twisted Pair	**SL8T13**	**Lansdale (3675)**	
					DS55121	† National	
					DS75121	National	15
					S8T13	Philips	
					SN55121	† TI	
					SN75121	TI	
	TTL	No	5	Three-State, Inverting	LD6005	Adv Analog	
			7		DS55110A	† National	20
					DS75110A	National	
	0.8 to 12 V	No	4.5 to 16	2 A out, Three-State	EL7232	Elantec	
	0.8 to 2.0		±12	RS-423/RS-232C	MC3488A	Motorola	
	2.4		5	General Purpose Interface Bus	SN75ALS121	TI	
	12 mA	No	±7		μA55110A	† National	25
					μA75110A	National	
3	±6 V	No	±12	RS232B/C, CCITT, MIL188	μA9616HC	National	
					μA9616HEC	National	
					μA9616HM	† National	
4		No	5	4 RS-232 Drivers	**AD234**	**AD (3514)**	30
	±3 to ±9 V	No	±4.5 to ±12	RS232C, CCITT V. 24	DS14C88	National	
	±4 to 6 V	No	±5	RS423, RS422 with mode control	AM26LS30C	AMD	
					DS3691	National	
					AM26LS30	Philips	
			±5.5	RS423, RS422 with mode control	AM26LS30M	† AMD	35
					DS1691	† National	
		Yes	±5	RS423, Three-State	AM26LS29C	° AMD	
			±5.5	RS423, Three-State	AM26LS29M	°† AMD	
	±6 to 9 V	No	±4.5 to ±15	RS232C	SN65C188	TI	
					SN75C188	TI	40
				RS232C, CCITT V.24	SN65C198	TI	
					SN75C198	TI	
			±9 to ±15	RS232C, CCITT V.24	XR1488	Exar	
					SL1488	Lansdale	
					MC1488	Motorola	45
					DS1488	National	
					MC1488	Philips	
					MC1488	SGS-Thomson	
					SN55188	°† TI	
					SN75188	° TI	50
	±30	No	±5 to ±15	RS-232/423, Three-State	LT1030C	LinearTech	
					LT1030	TI	
	±4 to 6 V	Yes	±5 V	RS423, Three-State	M5A26LS29	Mitsubishi	
	TS	No	±5 to ±15	RS-232 Driver	LT1032C	LinearTech	
					LT1032M	† LinearTech	55
	TTL	No	5	Meets IBM 360/370 I/O Interface Specifications	SN75ALS130	TI	
				RS-232C Compatible	M75188	Mitsubishi	
				RS-232C Line Driver	SG1488	Linfinity Micro	
				RS-422A Compatible	M5M3487	Mitsubishi	
		NO	5	RS232C Compatible	KS5788	Samsung	60
		No	8	RS-422 Compatible	DS3587	† National	
		Yes	5	DS7831 w/o Vcc Clamp	DS7832	† National	
					DS8832	National	
				Three-State	S8T09	† Philips	
				2-Input NAND, 80 mA	96101C	National	65
				2-Input NAND, 80 Ma	96101M	† National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Drivers—Single Ended (Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source
4	TTL	Yes	5			(Cont'd)
				4-Input AND, NAND	DS7831	† National
					DS8831	National
	0.15 to 4 V	No	5	IBM360/370	MC3481	Motorola
					MC3485	Motorola
	0.5 to 2.5		5	EIA–422-A	MC26C31	Motorola
					MC34C87	Motorola
	0.8 to 2	±7	5	RS–422	DS34F87	National
					DS35F87	National
		No	5	4 RS–232 Drivers	MAX234C	Maxim
					MAX234E	Maxim
					MAX234M	† Maxim
				4 RS–232 Drivers	**AD234J**	**AD (3514)**
					AD234S	**AD (3514)**
		TTL	5	4 RS–232 Drivers	SP234	Sipex
	0.8 to 2 V	No	5	IBM 360/370	SN75ALS126	TI
5		No	5	5 RS–232 Drivers	**AD230**	**AD (3514)**
	0.8 to 2	No	5	5 RS–232 Drivers with Shutdown	MAX230C	Maxim
					MAX230E	Maxim
					MAX230M	† Maxim
				5 RS–232 Drivers	**AD230J**	**AD (3514)**
	0.8 to 2.4	No	5	RS–232	MAX230	Maxim
6	–0.1 to –14.2	No	5,–5	NTDS Hex Driver, MIL-STD 1397A	GET47521168	GET Eng
	NTDS	No	5,–5	NTDS Hex Driver	MOF1305B	† GEC Plessey
			5,–15	NTDS	MOA268B	† GEC Plessey
8	—	Yes	—	RS–2326/RS–423A CCITT V.10/X.26	NE5170	Philips
	±12V		±15V	RS232/423, Tri-State Outputs	UC5170C	Unitrode
	TTL	Yes	5	Three-State (also see index for 74S244, 74LS244, 67S304, 67LS304)	GD54LS244	† GoldStar
					GD74LS241	GoldStar
					GD74LS244	GoldStar
					SL54LS244	† Lansdale
					SL54S241	**Lansdale (3674)**
					SL74LS541	Lansdale
					SL74S244	**Lansdale (3675)**
					MM54C941	‡ Micrel
					SN54LS241	† Motorola
					SN54LS244	† Motorola
					SN74LS241	Motorola
					SN74LS244	Motorola
					SN74LS541	Motorola
					DM54S241	† National
					DM74LS241	National
					DM74LS244	National
					DM74S241	National
					MM54C941	† National
					MM74C941	National
					54LS241	† National
					74LS241	National
					74LS244	National
					SN54ALS244A	°† TI
					SN54ALS541	°† TI
					SN54AS241	°† TI
					SN54AS244	°† TI
					SN54LS241	°† TI
					SN54LS244	°† TI
					SN54S241	† TI
					SN54S244	† TI
					SN74ALS241A	° TI
					SN74ALS244A	° TI
					SN74ALS541	° TI
					SN74ALS541-1	° TI
					SN74AS241	° TI
					SN74AS244	° TI
					SN74LS241	TI
					SN74LS244	° TI
					SN74LS541	° TI

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Drivers—Single Ended (Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
8	TTL	Yes	5	Three-State (also see index for 74S244, 74LS244, 67S304, 67LS304)	(Cont'd)		
					SN74S241	TI	
					SN74S244	TI	
				Three-State, Inverting	GD54LS240	† GoldStar	
					GD74LS240	GoldStar	
					SL54S240	**Lansdale (3674)**	5
					SL74LS540	**Lansdale (3674)**	
					SN54LS240	† Motorola	
					SN74LS240	Motorola	
					SN74LS540	Motorola	
					DM54S240	† National	10
					DM74S240	National	
					54F240	°† National	
					54LS240	† National	
					74F240	National	
					74LS240	National	15
					74LS540	National	
					74F540	° Philips	
					SN54AS240	°† TI	
					SN54LS240	°† TI	
					SN54LS540	°† TI	20
					SN54S240	† TI	
					SN74ALS240A	° TI	
					SN74ALS540	° TI	
					SN74ALS540-1	° TI	
					SN74AS240	° TI	25
					SN74LS240	° TI	
					SN74LS540	° TI	
					SN74S240	TI	
10	0.8 to 2	TTL	5	5 Independent RS–232 Drivers and 5 Receivers	MAX235C	Maxim	
					MAX235E	Maxim	30
					MAX235M	† Maxim	
16	TTL	Yes	5	Three-State	GD74LS367A	GoldStar	
					SN54LS365A	† TI	
					SN54LS367A	† TI	
					SN74LS365A	TI	35
					SN74LS367A	TI	
				Three-State, Inverting	SN54LS366A	† TI	
					SN54LS368A	† TI	
					SN74LS366A	TI	
					SN74LS368A	TI	40

Line Drivers—Differential

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
1	±3		±5	100 MHz, 750 mA Output, 3-State	BT694	Brooktree	
	0.8 to 2	TTL, CMOS	5	Differential Line Driver and Receiver Pair, Meets ST506/412 and ESDI Disk Drive Standards	DS8921A	National	
2	±3 V	Yes	±5	RS422 at Low Data Rates, RS423	AM26LS30C	AMD	
					AM26LS30	Philips	
			±5.5	RS422 at Low Data Rates, RS423	AM26LS30M	† AMD	45
	±5	No	5	ARINC 429 Standard	RM3182	Raytheon	
	±5V	No	±15, ±5	ARINC 429, 100K bits data rate	HS3182	† Harris	
					HS3182-5	Harris	
					HS3182-8	Harris	
	CMOS/TTL	No	5		DS9638	National	50
					UA9638	Rochester	
				ARINC 429 Standard	HI-8382CM	Holt	
					HI-8382SM	Holt	
	High Current CMOS	No	3–15	CMOS 50 mA, 4-Input AND, NAND	MM78C30	‡ Micrel	
					MM78C30	† National	55
					MM88C30	National	
	High Current TTL	No	5	40 mA, Open Collector/Active Pull-up	DS55114	† National	
					DS75114	National	
					SN55114	°† TI	
					SN75114	° TI	60
				40 mA, RS422	SN55158	TI	
					SN75158	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Drivers—Differential (Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
2	High Current TTL	No	5			(Cont'd)	
				40 mA, 4-Input AND, NAND	DM74S140	National	
					DS7830	† National	
					DS8830	National	
					SN54S140	† TI	
					SN55183	† TI	5
					SN74S140	TI	
					SN75183	TI	
		Yes	5	Three-State	DS7831	† National	
					DS8831	National	
				DS7831 w/o Vcc Clamp	DS7832	† National	10
				40 mA, Open Collector/Active Pull-Up, Three-State	DS55113	† National	
					DS75113	National	
					SN55113	† TI	
					SN75113	TI	
				40 mA, RS422, Three-State	DS8832	National	15
					SN75159	TI	
	TTL	No	5	RS–422	DS8921	National	
					DS8922	National	
					DS8923	National	
				RS–422/423	51998	† Micropac	20
			7		DS9614	National	
				RS–485/422	DS96F177C	National	
					DS96F177M	† National	
					DS96F178C	National	
					DS96F178M	† National	25
	TTL/CMOS	No	5	ARINC 429 Standard	HI8382M	† Holt	
					HI8382M-01	† Holt	
	0.8 to 2	TTL, CMOS	5	Dual Differential Line Driver and Receiver Pair	DS8923A	National	
				Dual Line Driver and Receiver Pair	DS8922A	National	
	2.5 to 3.5	No	5	High Speed	µA9638C	TI	30
	3.5 mA	Yes	±5	Twisted Pair	SN55109A	† TI	
					SN75109A	TI	
	6.5 mA	Yes	±5	Twisted Pair, Level Shifting	75110	Rochester	
					SN55110A	† TI	
					SN75110A	TI	35
	15mA	Yes	5		MC75S110	Motorola	
	18 mA	Yes	±5	Higher Current 75110	SN75112	TI	
	40 mA	No	7		µA9614	National	
	50 mA	No	5	High Speed, EIA-RS422	µA9638C	National	
					µA9638M	† National	40
3	TTL, DTL	No	5	Triple Line Transmitter	HS245RH	‡ Harris	
4	High Current CMOS	No	3–15	CMOS, 25 mA	MM78C29	‡ Micrel	
					MM78C29	† National	
					MM88C29	National	
	High Current TTL	No	5	50 Ohm Lines	SN74128	TI	45
				75 Ohm Lines	SN54128	† TI	
		Yes	5	RS–422, RS–423, Three-State	MC3487	Motorola	
					µA3487	National	
					DS3487	National	
				RS–422, Three-State	SN55ALS194	° TI	50
				RS–422A, Three-State	SN75ALS194	° TI	
	TTL	No	7		DS8924	National	
				RS–485/422	DS96F172C	National	
					DS96F172M	† National	
					DS96F174M	† National	55
				RS485/422	DS96F174C	National	
	TTL TS	No	5	RS422A	MC3487	TI	
	0.8 to 2		5	Hysteresis, High-Speed	HS26CT31MS	‡ Harris	
					HS26C31MS	‡ Harris	
		±7	5	RS–422	DS26F31C	National	60
					DS26F31M	† National	
					DS34C87	National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Drivers—Differential (Cont'd)

(Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source
4	0.8 to 2	±14	5	Hysteresis, High-Speed	DS26C31C	National
	5	Yes	5	RS–422, Three-State	AM26LS31	Philips
		YES	5	RS–422, Three-State	26LS31	† Philips
	11 mA	Yes	±5	Quad 75110	MC3453A	Motorola
				Quad 75110	MC3453	TI
					SN55111	† TI
					SN75111	TI
	20 mA	Yes	5	MIL188–114, Three-State	DS1692	† National
					DS3692	National
				RS–422, Three-State	AM26LS31C	° AMD
					AM26LS31M	°† AMD
					M5A26LS31	Mitsubishi
					AM26LS31	Motorola
					DS26LS31C	† National
					DS26LS31M	National
					AM26LS31C	Philips
					AM26LS31I	Philips
					AM26LS31M	Philips
					AM26LS31C	TI
					SN55ALS192	° TI
					SN75ALS192	° TI
	40 mA	No	5	4 ns propagation delay, reduced power	41LG	AT&T
		Yes	5	RS–422, Fed. 1020, Three-State	SN75151	TI
					SN75153	TI
	60 mA	No	5		DS96172	National
					DS96174	National
		Yes	5	RS–422A, Three-State	SN75172	TI
					SN75174	TI
				RS–485	μA96172	National
					μA96174	National
	85mA	Yes	5	RS–485	MC75172B	Motorola
					MC75174B	Motorola
	160 mA	No	5		41LP	AT&T
					41MG	AT&T
					41MP	AT&T
4 (dual)	20 mA	Yes	5	RS–422, Three-State	DPL26LS31X	Dense-Pac

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Receivers—Single Ended

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
2			5	IBM360/370	SN75ALS123	TI	
	±0.1 V (ref)		5	Ext. Ref. Adj. 1.5 to 3.5 V with Optional Internal 2.5 V Reference	75142	Rochester	
					75143	Rochester	
				Ext. Reference Adjustable from 1.5 to 3.5 V	75140	Rochester	
					75141	Rochester	5
					SN75140	TI	
					SN75141	TI	
	±2.0		5	Hysteresis, EIA/MIL	S8T16	Philips	
	0.4 to 2.8	±15	5		μA9622	National	
					DS9622	National	10
		±25	5		μA9627	National	
					DS9627	National	
	0.8 to 2		5	Photo Coupler Receiver	M753114	Mitsubishi	
				RS–422A/423A, Three-State	M5M3486	Mitsubishi	
	0.8–2		5	ARINC 429 Dual Line Receiver	HI8282	† Holt	15
3	0.7 to 1.7		5	Hysteresis, IBM360/370	DS75124	National	
					SN75124	TI	
	0.8 to 2.0 V		5	Hysteresis, High-Speed	DS55122	† National	
					SN55122	† TI	
					SN75122	TI	20
4	±0.2	±7	±5	Three-State, RS–422/423A	M5A26LS32A	Mitsubishi	
	±3 to ±9 V	No	±4.5 to ±12	RS232C, CCITT V. 24	DS14C89A	National	
	±3/0.8 to 3		5 or 12	RS232C, Hysteresis, Fail Safe Option	DS75154	National	
					75154	Rochester	
					SN75154	TI	25
	0.75 to 1.5 V		5	RS232C, Programmable Threshold, Hysteresis	SL1489	Lansdale	
					M75189	Mitsubishi	
					MC1489	Motorola	
					DS1489	National	
					MC1489	Philips	30
					MC1489	SGS-Thomson	
					SN55189	°† TI	
					SN65C189	TI	
					SN65C189A	TI	
					SN75C189	TI	35
					SN75C189A	TI	
					SN75189	° TI	
	0.75 to 2.25		5	RS232C, Programmable Threshold, Wider Hysteresis than 1489	XR1489A	Exar	
					SG1489A	Linfinity Micro	
					MC1489A	Motorola	40
					DS1489A	National	
					MC1489A	Philips	
					SN55189A	°† TI	
					SN75189A	° TI	
	0.8 t 2		5	RS–232, Three-State	M75188	Mitsubishi	45
	0.8 to 2		5	RS–232, Three-State	M54655	Mitsubishi	
					M54656	Mitsubishi	
				RS–232C, Three-State	M75189A	Mitsubishi	
				RS–485, Three-State	M75173	Mitsubishi	
					M75175	Mitsubishi	50
		±30	7		KS5789A	Samsung	
		30	5	RS–232C Line Receiver	SG1489	Linfinity Micro	
	0.97 to 2.65		5	Hysteresis, 120 Ohm System	DS7836	† National	
	1.05 to 2.5		5	Hysteresis, 120 Ohm System	DS8836	National	
	1.2 to 1.8		5	120 Ohm System, No Hysteresis, NOR Input	DS7640	† National	55
	1.3 to 1.7		5	120 Ohm System, No Hysteresis, NOR Input	DS8640	National	
	1.7		5	No Hysteresis, NOR Input	96106	Rochester	
	5 to 7.5		15	Hysteresis, Interface to CMOS	367A	TeledyneC	
				Hysteresis, Open Collector, Interface to CMOS	368A	TeledyneC	
	5.5 to 8		12	Hysteresis, Open Collector, Inferface to CMOS	368C	TeledyneC	60
				Hystersis, Interface to CMOS	367B	TeledyneC	
					367C	† TeledyneC	
6	−1 to 4.5/−1.5 to 13		5	NTDS	MOB272	† GEC Plessey	
	−1.5 to 5.5/−18.5 to 5.5		5	NTDS Type A/B Receiver	GET47521172	GET Eng	
	0.97 to 2.65		5	Hysteresis, 120 Ohm System	DS7837	† National	65
	1.05 to 2.50		5	Hysteresis, 120 Ohm System	**SL8T37**	**Lansdale (3675)**	
					MC3437	Motorola	
					DS8837	National	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Receivers—Single Ended (Cont'd)

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
7			5	IBM360/370	SN75ALS125	TI	
					SN75ALS127	TI	
	0.7 to 1.7		5	IBM360/370	MC75125	Motorola	
					MC75127	Motorola	
					DS75125	National	5
					DS75127	National	
					SN75125	TI	
					SN75127	TI	
8	—		5	RS-232C/RS-422A/RS-423A CCITT V.10, V.11, V.28, X.26, X.27	NE5180	Philips	
					NE5181	Philips	10
	0.7 to 1.7		5	IBM360/370	MC75128	Motorola	
					MC75129	Motorola	
					DS75128	National	
					DS75129	National	
					SN75128	TI	15
					SN75129	TI	

Line Receivers—Differential

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
2	±0.01	±3	±5	10 mV, MOS Sense, Active Pull-up	DS75208	National	
	±0.010	±3	±5	10 mV, MOS Sense, Active Pull-up	SN75207	TI	
				75207 with Diode Protected Input Stage	SN75207B	TI	
	±0.025	±3	±5	25 mV, Active Pull-up	MC75107	Motorola	20
				25 mV, Active Pull-Up	DS55107	† National	
					DS75107	National	
				25 mV, Active Pull-up	SN55107A	† TI	
				25 mV, Open Collector	MC75108	Motorola	
					DS55108	† National	25
					DS75108	National	
					SN55108A	† TI	
				25 mV, Three-State 55107	DS1603	† National	
					DS3603	National	
				55107A with Diode Protected Input Stage	DS55107	† National	30
					DS75107	National	
					SN55107B	† TI	
				55108A with Diode Protected Input Stage	DS55108	† National	
					DS75108	National	
					SN55108B	† TI	35
	±0.2	±7	5	RS-422, RS-423	µA9639A	National	
	±0.2/0.3	±10/15	5	Twisted Pair, ±15 V CMV. Response Control	DS78LS120	† National	
					DS88LS120	National	
		±15	5	CMOS Compatible, Response Control	DS78C120	† National	
					DS88C120	National	40
	±0.2/0.5	±7/15	5	RS232, RS422/3	µA9637AC	National	
					µA9637AM	† National	
					75117	Rochester	
					µA9637AC	TI	
					µA9637AM	TI	45
					SN55157	† TI	
					SN75157	TI	
	±0.4	±7	5	RS-422, RS-423/C and CCITT compatible	µA9639AC	National	
	±0.5/1	±0/15	5	±15 V CMV, Response Control	DS55115	† National	
					DS75115	National	50
					SN55115	°† TI	
					SN75115	° TI	
		±3/15	5	Twisted Pair, ±3/15 V CMV, Response Control	DS7820A	‡ National	
					DS8820A	National	
					SN55182	† TI	55
					SN75182	TI	
		±10/15	5	Twisted Pair, ±15 V CMV, Response Control	DS78C20	† National	
					DS7820	† National	
					DS88C20	National	
					DS8820	National	60
					L7820	† SGS-Thomson	
	±0.5/3	±25	±12	Adjusts RS232C/MIL-188, ±25 V CMV, Hysteresis	75152	Rochester	
					SN75152	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Receivers—Differential (Cont'd)

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
2						(Cont'd)	
	± 0.8/2.7	± 5	± 12	ARINC 429, TTL/CMOS Outputs	RM3283	Raytheon	
					RM3283/883B	† Raytheon	
					RV3283	Raytheon	
	TTL/CMOS		± 20	ARINC 429	HI8482M	† Holt	
					HI8482M-01	† Holt	5
	0.4 to 2.4	± 25	7	RS–422A, RS–423A, RS–232, V.28.	DS9615	National	
	0.5 to 2.5		5		SN75146	TI	
		± 15	5		DS9637A	National	
					UA9637	Rochester	
		± 25	5		DS9639A	National	10
	0.8 to 2	± 5	5	ARINC 429 Standard	RM3183	† Raytheon	
		± 25	7		µA9615	National	
		15	5		**SSM2141**	**AD (3520)**	
3	TTL, DTL	No	5	Triple Line Receiver	HS246RH	‡ Harris	
					HS249RH	‡ Harris	15
		Yes	5	Triple Party-Line Receiver	HS248RH	‡ Harris	
4			± 15/12–24	Quad Comparator, 3mV Hysteresis	ESM1600	SGS-Thomson	
					ESM1602	SGS-Thomson	
			5	RS422A, RS423A	MC3486	TI	
	± 0.025	± 3	± 5	Four 75107, Active Pull-up	MC3450	Motorola	20
					DS1650	† National	
					DS3650	National	
					MC3450	TI	
				Four 75108, Open Collector	MC3452	Motorola	
					DS1652	† National	25
					DS3652	National	
					MC3452	TI	
	± 0.2	-7,12	5	Three State, RS–422/423, CCITT V.10 and V.11	AM26LS32BC	° AMD	
					AM26LS32BM	°† AMD	
					AM26LS34C	AMD	30
					AM26LS34M	† AMD	
		± 3	5	Three-State, RS422/423	MC3486	Motorola	
					DS3486	National	
		± 7	± 5	Three-State, RS–422/423	AM26LS32C	° AMD	
					AM26LS32M	°† AMD	35
					AM26LS32	Motorola	
					DS26LS32AM	‡ National	
					DS26LS32C	National	
					DS26LS32M	† National	
					AM26LS32AC	TI	40
					AM26LS32AM	† TI	
				Three-State, RS422/423	26LS32	† Philips	
					26LS32A	† Philips	
			5	Three State, RS–422/423	µA3486	National	
		± 12	5	RS–422/485	µA96173	National	45
					µA96175	National	
				RS–485/422	DS96F173	National	
					DS96F175	National	
				Three-State, RS–422A/RS–423A	SN75173	Motorola	
					SN75175	Motorola	50
					SN55173	† TI	
					SN75173	TI	
					SN75175	TI	
				Three-State, RS–422A/423A/485, CCITT V.10, V.11, V.26, V.27	SN55ALS195	° TI	
					SN75ALS195	° TI	55
		7	5		AM26LS32C	Philips	
					AM26LS32I	Philips	
					AM26LS32M	† Philips	
	± 0.5	± 15	± 5	Three-State	AM26LS33C	AMD	
					AM26LS33M	† AMD	60
					DS26LS33C	National	
					DS26LS33M	† National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE–Line Circuits (Cont'd)

Line Receivers–Differential (Cont'd)

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source
						(Cont'd)
4	±0.5	±15	±5	Three-State	26LS33	† Philips
					26LS33A	† Philips
					AM26LS33AC	TI
					AM26LS33AM	† TI
		15	5		AM26LS33C	Philips
					AM26LS33I	Philips
					AM26LS33M	† Philips
	±0.8	-12, ±7.5	±5,-5	NTDS	MOF1623B	† GEC Plessey
	0.20	±4	5	4 ns propagation delay, reduced power	41LF	AT&T
	0.4 to 2	±25	7	RS–422/423	DS26LS32AC	National
					DS26LS33AC	National
	0.8 to 2		5		41LR	AT&T
					41LS	AT&T
					41LT	AT&T
					41MF	AT&T
					41MR	AT&T
					41MT	AT&T
		±7	5	Hysteresis, High-Speed	DS34C86	National
				Quad Line Receivers, Three-State	SN75ALS197	TI
					SN75ALS199	TI
				RS–422/423	HS26CT32MS	‡ Harris
					HS26C32MS	‡ Harris
					DS26C32C	National
		±14	5	EIA–422-A	MC26C32	Motorola
					MC34C86	Motorola
		±15	5	RS–422/423	DS34F86	National
					DS35F86	National
		±25	5		DS96173	National
					DS96175	National
				RS–422/423	DS26F32C	National
					DS26F32M	† National
			7	RS–485/422	DS96F173C	National
					DS96F173M	† National
					DS96F175C	National
					DS96F175M	† National
	0.8 to 2.0	7,–7	5	Three-State, RS–422A, RS–423A, RS–485, CCITT V.10, V.11, X.26, and X.27	SN75ALS193 °	TI
				Three-State, RS–422A, RS–485, CCITT V.10, V.11, X.26, and X.27	SN55ALS193 °	TI
4 (dual)	±0.2	±7	±5	Three-State, RS–422/423	DPL26LS32X	Dense-Pac
8		±25	5		UC5181	Unitrode
	±0.225	±25	5	High Speed Version of UC5180C	UC5181C	Unitrode
				Low Icc, Input Filter, RS232/423/422	UC5180C	Unitrode

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Transceivers—Single Ended

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source
1	0.8 to 2	TTL	5	RS-232-C Driver and Receiver	SN75155	TI
				RS-232C, Three-State	M751701	Mitsubishi
				RS-485, Three-State	M75176	Mitsubishi
					M75177	Mitsubishi
					M75178	Mitsubishi
					M75179	Mitsubishi
2	0.8 to 1.4	TTL/CMOS	5	Three-State, Dual RS-232 Driver/Receiver	LT1080C	LinearTech
					LT1080M	† LinearTech
					LT1081C	LinearTech
					LT1081M	† LinearTech
	0.8 to 1.6	TTL/CMOS	5	Line-Powered RS-232 Circuit	DS1275	Dallas
	0.8 to 2	TTL	5	RS-422A, Three-State	M5M34050	Mitsubishi
					M5M34051	Mitsubishi
				1 Independent RS-232 Driver and 1 Receiver; Serial/Parallel Interface Circuit	ITC232A	ITC Microcomps
3	0.8 to 2	TTL/CMOS	5	Three-State, Triple Driver/Receiver	LT1039C	LinearTech
	0.8 to 2.0	TTL/CMOS	5	Three-State, Triple Driver/Receiver	LT1039M	† LinearTech
4					SN75ALS053	TI
			5	Two Drivers/Two Receivers	SN75ALS085	TI
		TTL	5	IEEE 896.1	SN75ALS057	TI
	0.05 to 2.5	TTL	5	Open Collector, 1 V Hysteresis	**SL8T38**	**Lansdale** **(3675)**
					DS8838	National
	0.21 to 1.84	TTL	5	Open Collector (Inverting), Common Enable	96103	Rochester
	0.5 to 2	TTL	5	Bus Transceiver, Tridirectional, Three-State	SN54LS442	† TI
	0.6 to 2	TTL	5	Bus Transceiver, Tridirectional, Three-State	SN74LS442	TI
	0.6 to 2.0	TTL	5	General Purpose Interface Bus, Open Collector, for MOS Input	MC3446A	Motorola
	0.8 to 1.8	TTL/MOS	5	General Purpose Interface Bus, Bidirectional Bus Transceiver, Three-State	MC3448A	Motorola
	0.8 to 2		5	Two RS-232 Drivers, Two RS-232 Receivers	**AD231**	**AD** **(3514)**
					AD233	**AD** **(3514)**
				Two RS-232 Drviers, Two RS-232 Receivers	**AD232**	**AD** **(3514)**
		TS	5		LT1180C	LinearTech
					LT1180I	LinearTech
					LT1180M	† LinearTech
					LT1181C	LinearTech
					LT1181I	LinearTech
					LT1181M	† LinearTech
		TTL	5	Bus Transceiver Three-State, Inverting	SL54LS242	† Lansdale
					SN54LS242	† Motorola
				RS-422A, Three-State	M66805	Mitsubishi
				Three-State, Hysteresis	SN74ALS242B	° TI
					SN74ALS243A	° TI
					SN74LS242	° TI
					SN74LS243	° TI
				Two RS-232 Drivers, Two RS-232 Receivers	**AD233A**	**AD** **(3514)**
				Two RS-232 Drviers, Two RS-232 Receivers	**AD232A**	**AD** **(3514)**
				2 Independent RS-232 Drivers and 2 Receivers	MAX220C	Maxim
					MAX220M	Maxim
					MAX222C	Maxim
					MAX222M	Maxim
					MAX231C	Maxim
					MAX231E	Maxim
					MAX231M	† Maxim
					MAX232AC	Maxim
					MAX232AM	Maxim
					MAX233AC	Maxim
					MAX242C	Maxim
					MAX242M	Maxim
					MAX243C	Maxim
					MAX243M	Maxim
				2 Independent RS-232 Drivers and Receivers	**AD231A**	**AD** **(3514)**
					AD231J	**AD** **(3514)**
					AD232J	**AD** **(3514)**
					AD232S	**AD** **(3514)**
					AD233J	**AD** **(3514)**
				2 RS-232 Drivers/2 Receivers	SP231	Sipex
					SP232	Sipex
					SP233	Sipex
			6	Futurebus Trapezoidal Transceiver	DS3897	National

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Transceivers—Single Ended (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
4	0.8 to 2				(Cont'd)		
		TTL/CMOS	5	2 Independent RS–232 Drivers and Receivers	MAX202C	Maxim	
					MAX202E	Maxim	
					MAX202M	† Maxim	
					MAX203C	Maxim	
					MAX203E	Maxim	5
					MAX203M	† Maxim	
				4 Independent RS–232 Drivers	MAX204C	Maxim	
					MAX204E	Maxim	
					MAX204M	† Maxim	
			7	Bus Transceiver, Three-State	MC3446	TI	10
	0.8 to 2.0	BiCMOS	5	Open Collector B and Three-State R Outputs	DS1777	National	
		TTL	5	Bus Transceiver Three-State, Inverting	SL54LS243	† Lansdale	
					SN54LS243	† Motorola	
					SN54ALS242B	°† TI	
					SN54ALS243A	† TI	15
					SN54LS242	°† TI	
					SN54LS243	°† TI	
				General Purpose Interface Bus, Open Collector, 100 mA Output	MC3440A	Motorola	
					MC3441A	Motorola	
					DS3662	National	20
					DS7641	† National	
					DS8641	National	
				Line Transceiver with Driver Enable.	MC34051	Motorola	
				Line Transceiver with Separate Enable for Driver and Receiver.	MC34050	Motorola	
				Three-State, Bus Transceiver	SFC2915A	SGS-Thomson	25
					TS2915A	Thomson Comp	
				Three-State, Bus Transceiver, Parity Generator/Checker	SFC2917	SGS-Thomson	
					TS2917A	Thomson Comp	
				Three-State, Hysteresis	SN74LS242	Motorola	
					SN74LS243	Motorola	30
					DM74LS243	National	
				Three-State (Inverting)	SL8T26A	Lansdale	
					MC8T26A	Motorola	
					DS8T26A	National	
					DS8T26AM	† National	35
					N8T26	TI	
				Three-State, Inverting	SN54AS242	°† TI	
					SN74AS242	° TI	
					SN74AS243	° TI	
				Three-State (Inverting)	SN75136	TI	40
				Three-State, True	MC8T28	Motorola	
					DS8T28	National	
					DS8T28M	† National	
					8T28	Rochester	
		TTL/CMOS	5	Two Drivers/Two Receivers	DS14C232	National	45
	0.8 to 2.4	±9	5	Optically Isolated, Dual RS–232 Driver/Receiver Chip	MAX251C	Maxim	
					MAX251E	Maxim	
					MAX251M	† Maxim	
					MAX252C	Maxim	
					MAX252E	Maxim	50
				Optically Isolated, Dual RS–232 Driver/Receiver with DC-to-DC Converter	MAX250C	Maxim	
					MAX250E	Maxim	
					MAX250M	† Maxim	
				Two Independent RS–232 Drivers and 2 Receivers	ICL232C	Harris	
					ICL232I	Harris	55
					ICL232M	Harris	
					MAX232C	Maxim	
					MAX232E	Maxim	
					MAX232M	† Maxim	
					MAX233C	° Maxim	60
					MAX233E	° Maxim	
		TTL	5	RS–232 Transceiver Module; includes 2 RS–232 Drivers and 2 RS–232 Receivers	MAX252A	Maxim	
					MAX252B	Maxim	
	0.8 to 2.4V	±5	5	2 Independent RS–232 Drivers and Receivers-high impedance with power off	MAX232A	† Maxim	
				2 Independent Rs–232 Drivers and Receivers-high impedance with Power off	MAX233A	† Maxim	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Transceivers—Single Ended (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
4	0.8 to 2.4V	±5	5			(Cont'd)	
				2 Independent RS–232 Drivers and 2 Receivers-high impedance with power off	MAX232	TI	
				2 Independent RS–232 Drivers and 2 Receivers-low power plus shutdown	MAX222	† Maxim	
		±5V	5	Identical to MAX222 with three-state outputs	MAX242	† Maxim	
				Identical to MAX232A with (-) input threshold on one receiver	MAX243	† Maxim	
				2 Independent RS–232 Drivers and 2 Receivers-low	MAX220	† Maxim	5
	0.97 to 2.65	TTL	5	Open Collector, 1 V Hysteresis	DS7838	† National	
	1.05 to 2.5	TTL	5	Inverting 7833/8833	DS7835	† National	
					DS8835	National	
	1.05 to 2.50	TTL	5	Inverting 7839/8839	**SL8T34**	**Lansdale (3675)**	
					DS7834	† National	10
					DS8834	National	
				Three-State, NOR Gate, Transmit Disable, Hysteresis	DS7839	† National	
					DS8839	National	
				Three-State, T/R Disables, Hysteresis	DS7833	† National	
					DS8833	National	15
	1.5 to 2.4	TTL	5	Q-bus Compatible 2907	AM2908M	† AMD	
	1.5 to 3.2	TTL	5	Open Collector, 100 mA Output	SN55138	† TI	
	1.6 to 2.3	TTL	5	Open Collector, 100 MA Output, Parity Generator/Checker	AM2907C	AMD	
				Q-bus Compatible 2907	AM2908C	AMD	
	1.6 to 2.4	TTL	5	Open Collector, 100 mA Output	µA9640M	† National	20
					DS26S10M	† National	
					DS26S11M	† National	
	1.75 to 2.25	TTL	5	Open Collector, 100 mA Output	MC26S10	Motorola	
					µA9640C	National	
					DS26S10C	National	25
					DS26S11C	National	
					AM26S10C	TI	
					AM26S11C	TI	
	1.8 to 2.9	TTL	5	Open Collector, 100 mA Output	SN75138	TI	
5	0.8 to 2	TTL	5	Two RS–232 Drivers, One RS–232 Receiver, One RS–422 Driver, One RS–232/RS–422 Configurable Receiver	**AD7306**	**AD (3514)**	30
		TTL/CMOS	5	5 Independent RS–232 Drivers with Shutdown	MAX200C	Maxim	
					MAX200E	Maxim	
					MAX200M	† Maxim	
6	0.8	TTL	±15	Three Drivers/Three Receivers	SN75C1406	TI	
				Three RS232C Drivers/Three Receivers	SN65C1406	TI	35
	0.8 to 1.4	TTL/CMOS	5	Universal Level Translator/RS–232 Line Receiver	LTC1045C	LinearTech	
					LTC1045M	† LinearTech	
	0.8 to 2	TTL	5		MC145407	Motorola	
				RS–232C, 3 Drivers/3 Receivers	NJU6402B	NJR	
7	0.8 to 2		5	Four RS–232 Drivers, Three RS–232 Receivers	**AD236**	**AD (3514)**	40
		TTL	5	4 Independent RS–232 Drivers and 3 Receivers	MAX236C	Maxim	
					MAX236E	Maxim	
					MAX236M	† Maxim	
				4 Independent RS–232 Drivers and 3 Receivers	**AD236J**	**AD (3514)**	
				4 RS–232 Drivers/3 Receivers	SP236	Sipex	45
		TTL/CMOS	5	4 Independent RS–232 Drivers and 3 Receivers with Shutdown	MAX206C	Maxim	
					MAX206E	Maxim	
					MAX206M	† Maxim	
8		TTL	5	IEEE 896.1	SN75ALS056	TI	
	—	TTL/CMOS	5	General Purpose Interface Bus	DS75160A	National	50
					DS75161A	National	
					DS75162A	National	
					75160	Rochester	
					75161	Rochester	
	–0.8 to 2.2	TTL/CMOS	5	4 RS–232 Drivers, 4 RS–232 Receivers	µPD4712B	NEC	55
	–1.8 to 2.2	TTL/CMOS	5	4 RS–232 Drivers, 4 RS–232 Receivers	µPD4712A	NEC	
	TTL	TTL	5	Bidirectional Bus Transceiver, Three-State	DP8304	National	
	0.5 to 2	TTL	5	Bidirectional Bus Transceiver, Open Collector	SN54LS641	† TI	
					SN54LS642	† TI	
					SN54LS644	† TI	60
	0.5 to 2.0	TTL	5	Bidirectional Bus Transceiver, Three-State	DP7304B	† National	
					DP7308	† National	
					DP8303	National	
					DP8304B	National	
					DP8307	National	65
					DP8308	National	
						(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Transceivers—Single Ended (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
8	0.5 to 2.0	TTL	5	Bidirectional Bus Transceiver, Three-State	(Cont'd) SN54ALS245A	*† TI	
					SN54ALS645A	† TI	
					SN54LS640	† TI	
					SN54LS645	† TI	
	0.6 to 2	TTL	5	Bidirectional Bus Transceiver, Open Collector	**SL74LS641-1**	**Lansdale (3674)**	5
					SL74LS642-1	**Lansdale (3674)**	
					SN74LS641	TI	
					SN74LS641-1	TI	
					SN74LS642	TI	
					SN74LS642-1	TI	10
					SN74LS644	TI	
					SN74LS644-1	TI	
	0.6 to 2.0	TTL	5	Bidirectional Bus Transceiver, Three-State	GD54LS245	† GoldStar	
					GD74LS245	GoldStar	
					SL74LS640-1	**Lansdale (3674)**	15
					SL74LS645-1	**Lansdale (3674)**	
					SN74LS245	TI	
					SN74LS623	° TI	
					SN74LS640	TI	
					SN74LS640-1	TI	20
					SN74LS645	TI	
					SN74LS645-1	TI	
	0.7 to 2	TTL	5	Bidirectional Bus Transceiver, Open Collector	SN54LS641	† Motorola	
					SN54LS642	† Motorola	
				Bidirectional Bus Transceiver, Three-State	SN54LS645	† Motorola	25
					54LS245	† National	
	0.7 to 2.0	TTL	5	Bidirectional Bus Transceiver, Three-State	SL54LS245	† Lansdale	
					SN54LS245	† Motorola	
					SN54LS640	† Motorola	
	0.8	TTL	±4.5 to ±15	Four RS232C Drivers/Four Receivers	SN65C1154	TI	30
					SN75C1154	TI	
	0.8 to 2		5	Five RS–232 Drivers, Three RS–232 Receivers	**AD237**	**AD (3514)**	
				Four RS–232 Drivers, Four RS–232 Receivers	**AD238**	**AD (3514)**	
				Three RS–232 Drivers, Five RS–232 Receivers	**AD239**	**AD (3514)**	
				3 Driver/5 Receiver, RS–232	LT1137A	LinearTech	35
					LT1237	LinearTech	
				3 Driver/5 Receiver, RS–232, 3 V Logic Interface	LT1330	LinearTech	
		TS	5	3 Driver/5 Receiver, RS–232	LT1133C	LinearTech	
					LT1137C	LinearTech	
				3 Drivers/5 Receivers, RS–232	LT1141C	LinearTech	40
				4 Driver/4 Receiver, RS–232	LT1134C	LinearTech	
				4 Drivers/4 Receivers, RS–232	LT1139C	LinearTech	
				5 Driver/3 Receiver, RS–232	LT1132C	LinearTech	
					LT1135C	LinearTech	
				5 Drivers/3 Receivers, RS–232	LT1138C	LinearTech	45
					LT1140C	LinearTech	
		TTL	5	Bidirectional Bus Transceiver, Open Collector	**SL74LS641**	**Lansdale (3674)**	
					SL74LS642	**Lansdale (3674)**	
					SN74LS641	Motorola	
					SN74LS642	Motorola	50
				General Purpose Interface Bus	SN75163B	TI	
					SN75164B	TI	
				RS–232C, 3 Drivers, 5 Receivers	NJU6401B	NJR	
				RS–422A, Three-State	M66806	Mitsubishi	
				3 Independent RS–232 Drivers and 5 Receivers	MAX239C	Maxim	55
					MAX239E	Maxim	
					MAX239M	† Maxim	
				4 Independent RS–232 Drivers and 3 Receivers	MAX237M	† Maxim	
				4 Independent RS–232 Drivers and 4 Receivers	MAX238C	Maxim	
					MAX238E	Maxim	60
					MAX238M	† Maxim	
				5 Independent RS–232 Drivers and 3 Receivers	MAX237C	Maxim	
					MAX237E	Maxim	
				3 Independent RS–232 Drivers and 5 Receivers	**AD239J**	**AD (3514)**	
					AD239S	**AD (3514)**	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

Line Transceivers—Single Ended (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source		Line
8	0.8 to 2	TTL	5				(Cont'd)	
				3 RS-232 Drivers/5 Receivers	SP239	Sipex		
				4 Independent RS-232 Drivers and Receivers	**AD238J**	**AD**	**(3514)**	
					AD238S	**AD**	**(3514)**	
				4 RS-232 Drivers/4 Receivers	SP238	Sipex		
				5 Independent RS-232 Drivers and 3 Receivers	**AD237J**	**AD**	**(3514)**	5
				5 RS-232 Drivers/3 Receivers	SP237	Sipex		
			6	Futurebus Trapezoidal Transceiver	DS3896	National		
				Trapezoidal Bus Transceiver	DS3862	National		
		TTL/CMOS	5	4 Independent RS-232 Drivers and 4 Receivers	MAX208C	Maxim		
					MAX208E	Maxim		10
					MAX208M	† Maxim		
				5 Independent RS-232 Drivers and 3 Receivers	MAX207C	Maxim		
					MAX207E	Maxim		
					MAX207M	† Maxim		
	0.8 to 2.0	±9	3	Three Drivers, Five Receivers	DS14C335	National		15
		TTL	5	Bidirectional Bus Transceiver, Three-State	SL74LS640	Lansdale		
					SL74LS645	**Lansdale**	**(3674)**	
					MC54F245	† Motorola		
					MC74F245	Motorola		
					SN74LS245	Motorola		20
					SN74LS640	Motorola		
					SN74LS645	Motorola		
					DM74LS245	National		
					DS3667	† National		
					74LS245	National		25
					SN74ALS245A			
						° TI		
					SN74ALS645A	TI		
					SN74AS245	° TI		
					SN74LS646	° TI		
					SN74LS648	° TI		30
				General Purpose Interface Bus	MC3447	Motorola		
					SN75ALS163	TI		
					SN75160B	TI		
					SN75161B	TI		
					SN75162B	TI		35
			7	General Purpose Interface Bus.	SN75ALS160	TI		
					SN75ALS161	TI		
					SN75ALS162	TI		
					SN75ALS164	TI		
					SN75ALS165	TI		40
	0.8 to 2.4	TS	5	3 Driver/5 Receiver, RS-232	LTC1337C	LinearTech		
					LT1341C	LinearTech		
		TS, LV	5/3.3	3 Driver/5 Receiver, RS-232	LT1342C	LinearTech		
		TTL/CMOS	3.3 or 5	3 Driver/5 Receiver, RS-232	LTC1327C	ℓ LinearTech		
			5	4 Independent RS-232 Drivers and Receivers	MAX223C	Maxim		45
					MAX223E	Maxim		
9			3	Four RS-232 Drivers, Five RS-232 Receivers	CM561	ℓ CMD Micro		
				Four RS-232 Drivers, Five RS-232 Receivers with Ring Indicator	CM560	ℓ CMD Micro		
		TTL	5	Four RS-232 Drivers, Five RS-232 Receivers	CM241	CMD Micro		
				Four RS-232 Drivers, Five RS-232 Receivers with Ring Indicator	CM223	CMD Micro		50
	0.4 to 2.4	TTL/CMOS	3.3	4 Independent EIA/TIA-562 Drivers and 5 Receivers	MAX560C	ℓ Maxim		
					MAX561C	Maxim		
					DS14C561	† National		
	0.8 to 2		5	Four RS-232 Drivers, Five RS-232 Receivers	**AD241**	**AD**	**(3514)**	
		TS	5	4 Driver/5 Receiver, RS-232	LT1136C	LinearTech		55
				5 Driver/4 Receiver, RS-232 w/Shutdown	LT1131C	LinearTech		
		TTL	5	4 Independent RS-232 Drivers and 5 Receivers	MAX241C	Maxim		
					MAX241E	Maxim		
					DS14C241	National		
				4 Independent RS-232 Drivers and 5 Receivers	**AD241J**	**AD**	**(3514)**	60
				4 RS-232 Drivers/5 Receivers	SP241	Sipex		
		TTL/CMOS	5	4 Independent RS-232 Drivers and 5 Receivers with Shutdown	MAX211C	Maxim		
					MAX211E	Maxim		
					MAX211M	† Maxim		
10	0.8 to 2	TTL	5	5 RS-232 Drivers/5 Receivers	SP230	Sipex		65
	0.8 to 2		5	Five RS-232 Drviers, Five RS-232 Receivers	**AD235**	**AD**	**(3514)**	
		TS	5	5 Driver/5 Receiver, RS-232	LT1130C	LinearTech		
							(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source
Line Transceivers—Single Ended						**(Cont'd)**
						(Cont'd)
10	0.8 to 2	TTL	5	5 Independent RS 232 Drivers and 5 Receivers	MAX240M	† Maxim
				5 Independent RS–232 Drivers and 5 Receivers	MAX240C	Maxim
					MAX240E	Maxim
				5 Independent RS–232 Drivers and Receivers	**AD235J**	**AD** **(3514)**
				5 RS–232 Drivers/5 Receivers	SP235	Sipex
		TTL/CMOS	5	5 Independent RS–232 Drivers and Receivers with Shutdown	MAX205C	Maxim
					MAX205E	Maxim
					MAX205M	† Maxim
16	0.8 to 2	TTL	5	6 Independent RS–232 Drivers and 10 Receivers	MAX249C	Maxim
					MAX249E	Maxim
					MAX249M	† Maxim
				8 Independent RS–232 Drivers and 9 Receivers	MAX248C	Maxim
					MAX248E	Maxim
					MAX248M	† Maxim
17	0.8 to 2	TTL	5	8 Independent RS–232 Drivers and 9 Receivers	MAX247C	Maxim
					MAX247E	Maxim
					MAX247M	† Maxim
18	0.8 to 2	TTL	5	8 Independent RS–232 Drivers and 10 Receivers	MAX244C	Maxim
					MAX245C	Maxim
					MAX245E	Maxim
					MAX245M	† Maxim
					MAX246C	Maxim
					MAX246E	Maxim
					MAX246M	† Maxim
				8 Independent RS232 Drivers and 10 Receivers	MAX244E	Maxim
	0.8 to 2.0	TTL	5	Three-State, True	SCAN18245T	National
Line Transceivers—Differential						
1		TTL	5	Designed to meet proposed EIA Standard RS485	DS3695	• National
					DS3696	National
					DS3697	National
					DS3698	National
				EIA Standard RS422-A, RS–485	SN65176B	TI
					SN75176B	TI
				IEEE 802.3, 1 Base 5	SN75061	TI
					SN75062	TI
	±0.2	TTL	5	Independent Driver and Receiver, RS–422A/485, CCITT V.11, X.27	SN75179B	TI
	±0.5	TTL	5	RS–485/422	DS36277	National
	±0.5/±1 V	TTL	5	Independent Three-State 55113 Driver and 55115 Receiver	SN55116	† TI
					SN75116	TI
				Same as 55116 with Three-State Receiver	75118	Rochester
					SN75118	TI
				Same as 55117 with Three-State Receiver	SN75119	TI
				Three-State 8 Pin, 40 mA	75117	Rochester
					SN75117	TI
	0.8 to 2	TTL	5	Bidirectional Bus Repeater, Three-State, RS–485/422A	μA96177	National
					μA96178	National
				Bidirectional Bus Transceiver, Three State	μA96176	National
					75176	Rochester
					SN65ALS176	TI
					SN75ALS176	TI
					SN75ALS176A	TI
					SN75176A	TI
				Bus Repeater	SN75177B	TI
					SN75178B	TI
				Designed to meet proposed EIA Standards RS485 and RS422A	TL3695	TI
				High Speed, Half Duplex	LTC1485	LinearTech
				Slew-Rate Limited, Low Power RS–485	MX481C	Maxim
					MX481E	Maxim
					MX481I	Maxim
					MX481M	† Maxim
					MX483C	Maxim
					MX483E	Maxim
					MX483I	Maxim
					MX483M	† Maxim
					MX485C	Maxim
					MX485E	Maxim

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
Line Transceivers—Differential						**(Cont'd)**	
1	0.8 to 2	TTL	5	Slew-Rate Limited, Low Power RS–485		(Cont'd)	
					MX485I	Maxim	
					MX485M	† Maxim	
2	0.2	TTL/ECL	5	Contains two ECL-to-TTL converters and two TTL-to-ECL converters	41LK	AT&T	
					41LL	AT&T	
					41LM	AT&T	5
	0.2 to 2	TTL	7	Diff RS422 Driver, Diff RS422 Receiver, RS562 Driver, and Two RS562 Receivers	LTC1320C	LinearTech	
	0.8 to 2	±7	5	RS–485/422	DS75176A	National	
					DS75176AT	National	
		BiCMOS	5	Two RS–232 drivers and receivers; two RS–422 drivers and receivers.	SP301	Sipex	
		TTL	5	Bus Transceiver	DS96176	National	10
					DS96177	National	
				Designed to meet EIA Standards RS422A and RS485	SN75AS030	TI	
					SN75AS031	TI	
				RS–422/485 driver/receiver with separate enables	SN75ALS180	TI	
			7	RS–485/422	DS16F95	† National	15
					DS36F95	National	
4	0.8 to 2	BiCMOS	5	Four RS–232 drivers and receivers and two RS–422 drivers and receivers.	SP302	Sipex	
		TTL	5		41MK	AT&T	
					41ML	AT&T	
					41MM	AT&T	20
				Two RS–422 drivers and receivers	MC75176B	Motorola	
5	±0.2	TTL	5	Two RS–232 Drivers, One RS–232 Receiver, One RS–422 Driver, One RS–232/RS–422 Configurable Receiver	**AD7306**	**AD (3514)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on tHe page noted.

INTERFACE—Memory Drivers

Function	Device	Source	Line
Asynchronous SCSI Interface (ASI)	DP5380	National	
Bank Switch	DS1222	Dallas	
Burst Mode DRAM Controller	74F1766	Philips	
Burst Mode DRAM Controller, 64K to 16MB	NSBMC290	National	
Burst Mode DRAM Controller, 256K to 64MB	NSBMC096	National	5
	NSBMC292	National	
Data Separator (for disk drives)	DP8465	National	
Data Synchronizer (for disk drives)	DP8455	National	
Data Synchronizer (1, 7 RLL Endec)	**SSI32D5391**	**SiliconSys (3779)**	
	SSI32D5392	**SiliconSys (3779)**	10
Data Synchronizer (1, 7 RLL Endec) with Write Precompensation	**SSI32D5371**	**SiliconSys (3779)**	
	SSI32D5372	**SiliconSys (3779)**	
	SSI32D5373	**SiliconSys (3779)**	
	SSI32D5374	**SiliconSys (3779)**	
Data Synchronizer (1,7 RLL Endec)	**SSI32D539**	**SiliconSys (3779)**	15
Data Synchronizer (2,7 RLL Endec)	DP8469	National	
Direct Memory Access Controller (8 MHz)	HD63450-8	Hitachi	
Direct Memory Access Controller (10 MHz)	HD63450-10	Hitachi	
Direct Memory Access Controller (12.5 MHz)	HD63450-12	Hitachi	
Disk Drive, Access Servo Controller	M52838FP	Mitsubishi	20
Disk Drive Channel Processing Element	**AD890J**	**AD (3540)**	
Disk Drive Data Qualifier	**AD891**	**AD (3540)**	
	AD891J	**AD (3540)**	
Disk Drive Data Qualifier (50 Mb/s)	**AD891AJ**	**AD (3540)**	
Disk Drive Data Recovery Element	**AD890**	**AD (3540)**	25
Disk Drive, Disk Data Controller	DP8466	National	
Disk Drive, Disk Data Separator	SSI34D441	SiliconSys	
Disk Drive, Disk Pulse Detector	DP8464	National	
Disk Drive, Encoder/Decoder, 2, 7	DP8462	National	
	DP8463	National	30
Disk Drive, Equalizing and Detector IC	M52871FP	Mitsubishi	
Disk Drive, Error Detection and Correction	M64400FP	Mitsubishi	
Disk Drive, Flexible Disk Support Circuit (port expansion for 8048 microprocessor)	SSI34B580	SiliconSys	
Disk Drive, Hard Disk Controller	AM9580	AMD	
Disk Drive, Head Amplifier	M52870FP	Mitsubishi	35
Disk Drive, Head Amplifier (4)	µPC2132	NEC	
	µPC2134	NEC	
Disk Drive, Head Amplifier (8)	µPC2130	NEC	
Disk Drive, MFM Data Separator	DP8460	National	
Disk Drive Peak Detector, 30 Mb/s	**AD892EJ**	**AD (3540)**	40
	AD892TJ	**AD (3540)**	
Disk Drive, Position Demodulator	M52834FP	Mitsubishi	
Disk Drive, Preamplifier (4, 6 and 8 head)	XR511	Exar	
	XR511R	Exar	
Disk Drive, Programmable Filter	M52881FP	Mitsubishi	45
Disk Drive, Pulse Peak Detector	M52846FP	Mitsubishi	
Disk Drive, Pulse Peak Detector and Data Separator	M52857FP	Mitsubishi	
Disk Drive, Pulse Peak Detector with Equalizer	M52887FP	Mitsubishi	
Disk Drive Read Channel (enhanced)	VM443	VTC	
Disk Drive Read Channel (40 mbit/s data transfer rate)	**AD897**	**AD (3540)**	50
Disk Drive Read/Write Amplifier, Single Supply	XR505	Exar	
	XR505R	Exar	
Disk Drive RLL (2,7) Data Separator	XR532	Exar	
Disk Drive Servo/Data Channel Processing Element	**AD880J**	**AD (3540)**	
Disk Drive, Spindle Motor Driver	M56635FP	Mitsubishi	55
Disk Drive, VCM Controller	M56735FP	Mitsubishi	
Disk Drive, Winchester Servo Preamp	CS101A	Cherry Semi	
Disk Drive, Winchester Thin Film Head Servo Preamp	CS116	Cherry Semi	
Disk Drive, Single-Chip READ Channel with Filter	M52883FP	Mitsubishi	
Disk Drive, 2-Channel Ferrite R/W Amplifier	M52884FP	Mitsubishi	60
Disk Drive, 4-Channel Ferrite R/W Amplifier	M52885FP	Mitsubishi	
Disk Drive, 4-Channel Thin-Film R/W Amplifier	M52882FP	Mitsubishi	
Disk Pulse Detector and Embedded Servo	DP8468B	National	
DRAM Controller/Driver (4M, 1M, 256K, 64K control)	AM29C668	AMD	
	AM29C668-1	AMD	65
DRAM Controller, 1 Mb and 4 Mb Devices	M66200AFP	Mitsubishi	
	M66200AP	Mitsubishi	
Driver, 11-Bit DRAM	AM2976C	AMD	
Dynamic Memory Controller	MC54F29368	Motorola	
Dynamic Memory Controller (for 256K DRAMs)	MC74F2968A	Motorola	70
Dynamic Memory Controller (for 16K, 64K, 256K, and 1-Megabit DRAMs)	MC74F29368	Motorola	
Dynamic Memory Controller (for 256K DRAMs)	AM2968A	AMD	
Dynamic RAM Controller	TMS34061	TI	
Dynamic RAM Controller/Driver (for 256K RAMs)	DP8419X	National	
Dynamic RAM Controller/Driver (microCMOS programmable for up to 256K DRAMs)	DP8420A	National	75
	DP8421A	National	
	DP8422A	National	
Dynamic RAM Controller Interface Circuit (for the iAPX 286 microprocessor)	DP84532	National	
Dynamic RAM Controller Interface Circuit (for the NS32332 microprocessor)	DP84512	National	
Dynamic RAM Controller Interface Circuit (for the 68020 microprocessor)	DP84522	National	80
Dynamic RAM Controller (up to 1 Mbit)	54F968	† National	
	74F968	National	
Dynamic RAM Controller (40 MHz for 256K, 1M, and 4M DRAMs)	KS84EC30-40	Samsung	
Dynamic RAM Controller, 256K	THCT4502B	° TI	
Enhanced Asynchronous SCSI Interface (EASI)	DP8490	National	85
Floppy Disk Controller	HM8188	Hualon Micro	
	HM8197	Hualon Micro	
Floppy Disk Drive Read Amplifier System	NJM3201	NJR	
	NJM3470	NJR	
	NJM3470A	NJR	90
Floppy Disk Subsystem Controller	HM81C65	Hualon Micro	
	HM81C65A	Hualon Micro	
	HM81C65B	Hualon Micro	
Floppy Disk VFO	MB4107A	Fujitsu	
	MB4108A	Fujitsu	95
Floppy Disk Write Controller/Head Driver	MC3469	Motorola	
	MC3471	Motorola	
Hard Disk Controller (ATA–2)	**SSI32C9600**	**SiliconSys (3779)**	
Hard Disk Controller (PC AT Combo)	**SSI32C9001**	**SiliconSys (3779)**	
	SSI32C9003	**SiliconSys (3779)**	100
Hard Disk Controller (SCSI Combo)	**SSI32C9020**	**SiliconSys (3779)**	
Hard Disk Data Separator /Data Synchronizer (1, 7 RLL ENDEC)	**SSI32D5362A**	**SiliconSys (3779)**	
Hard Disk Data Separator /Data Synchronizer (2,7 RLL ENDEC)	SSI32D532I	SiliconSys	
Hard Disk Drive Bus Interface for PC	M66802	Mitsubishi	
Hard Disk Drive Interface Circuit	XR510A	Exar	105
	XR510AR	Exar	
Hard Disk MFM Data Separator	**SSI32D534A**	**SiliconSys (3779)**	
Hard Disk Motion Controller	CL-SH7200	Cirrus	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Memory Drivers (Cont'd)

Function	Device	Source	Line
Hard Disk 2,3 RLL Read/Write Channel Device	CL-SH3300	Cirrus	
	CL-SH4400	Cirrus	
Hard Disk 2,7 RLL Data Separator with Write Pre-Compensation	**SSI32D5351**	**SiliconSys** (3779)	
	SSI32D5351A	SiliconSys	
Hard Dist 1,7 RLL Data Separator, 20 to 64 Mb/s	**SSI32D4040**	**SiliconSys** (3779)	5
	SSI32D4041	**SiliconSys** (3778)	
Hard Dist 1,7 RLL Data Separator, 24 to 40 Mb/s	**SSI32D5393**	**SiliconSys** (3779)	
	SSI32D5394	**SiliconSys** (3779)	
Hard Dist 2,7 RLL Data Separator, 7.5 to 13 Mb/s	**SSI32D5322A**	**SiliconSys** (3779)	
Hard Dist 2,7 RLL Data Separator, 7.5 to 15 Mb/s	**SSI32D5321**	**SiliconSys** (3779)	10
	SSI32D5322	SiliconSys	
Head Driver, 12-Bit Pre-Head Driver	M66320	Mitsubishi	
IBM PC/XT/AT Floppy Disk Formatter/Controller	MCS3201	Motorola	
Low Power Programmable Electronic Filter (for hard disk)	**SSI32F8001**	**SiliconSys** (3778)	
	SSI32F8003	**SiliconSys** (3778)	15
Mass Storage Read Channel Device (for Winchester Hard Disks)	ATT91C010	AT&T	
	ATT91C011	AT&T	
	ATT91C020	AT&T	
Memory Driver	SG55325	† Linfinity Micro	
Memory Driver, FIFO RAM Controller	SL8X60	Lansdale	20
Memory Driver, Dual 600 mA Sink/Source	SG75325	Linfinity Micro	
	DS55325	† National	
	DS75325	National	
	75325	Rochester	
Memory Driver, Quad, 600 mA Sink	SG55326	† Linfinity Micro	25
	SG55327	† Linfinity Micro	
	SG75326	Linfinity Micro	
	SG75327	Linfinity Micro	
	55327	Rochester	
	75326	Rochester	30
	75327	Rochester	
MOS Clock Driver	MH0007C	National	
MOS Dynamic RAM Controller	8202A	Intel	
	8203	Intel	
	8205	Intel	35
MOS Dynamic RAM Controller/Driver	DP8408	National	
	DP8417	National	
	DP8418	National	
MOS Dynamic RAM Controller/Driver, Multimode	DP8408	National	
	DP8409	National	40
MOS Dynamic RAM Controller/Driver, 16-Bit	DP8428	National	
	NS32828	National	
MOS Dynamic RAM Controller/Driver, 32-Bit	DP8429	° National	
	NS32829	National	

Function	Device	Source	Line
MOS Dynamic RAM Controller Interface Circuit	DP84322	National	45
MOS Dynamic RAM Controller, Two Port	74F764	° Philips	
MOS Dynamic RAM Programmable Refresh Timer	DP84300	National	
Motor, Hall-Sensorless Speed Control	**SSI32M7010**	**SiliconSys** (3779)	
Motor Speed Commutator, Hall-Sensorless	**SSI32M7011**	**SiliconSys** (3779)	
Optical Disk Drive (Read Channel, no ENDEC)	**SSI33P3733**	**SiliconSys** (3779)	50
	SSI33P3733A	**SiliconSys** (3779)	
Paged Memory Management Unit	MC68851	° Motorola	
Peak Detector and Data Synchronizer	**AD897J**	**AD** (3540)	
Preamplifier (for hard disk servo positioning motor)	**SSI32H6110**	**SiliconSys** (3779)	
Programmable Active Filter (for hard disk)	**SSI32F8011**	**SiliconSys** (3778)	55
	SSI32F8012	**SiliconSys** (3778)	
	SSI32F8020	**SiliconSys** (3778)	
	SSI32F8020A	**SiliconSys** (3778)	
	SSI32F8021	SiliconSys	
	SSI32F8022	SiliconSys	60
	SSI32F8022A	SiliconSys	
	SSI32F8023	SiliconSys	
Programmable Electronic Filter (for hard disk)	**SSI32F8030**	**SiliconSys** (3778)	
	SSI32F8130	**SiliconSys** (3778)	
	SSI32F8131	**SiliconSys** (3778)	65
Programmable Electronic Filter (low power for hard disk)	**SSI32F8120**	**SiliconSys** (3778)	
Programmable Filter (for disk drives)	**AD896J-13**	**AD** (3540)	
	AD896J-23	**AD** (3540)	
Programmable 16/64 Mbit DRAM Controller/Driver, up to 32-bit bus width	DP8440	National	
	DP8441	National	70
Pulse Detector	**SSI32P5491**	**SiliconSys** (3778)	
Pulse Detector and Data Separator (1, 7 RLL ENDEC)	SSI32P4720	SiliconSys	
	SSI32P4721	SiliconSys	
Pulse Detector and Data Synchronizer	**SSI32P5482**	**SiliconSys** (3778)	
	SSI34P3200	**SiliconSys** (3779)	75
	SSI34P3201	**SiliconSys** (3779)	
	SSI34P553	**SiliconSys** (3779)	
	SSI34P5531	**SiliconSys** (3779)	
Pulse Detector and Servo Demodulator	**SSI32P3030**	**SiliconSys** (3778)	

Function	Device	Source	Line
Pulse Detector (MFM and RLL encoded signals)	**SSI32P549**	**SiliconSys** (3778)	80
Pulse Detector with Programmable Filter	SSI32P3010	SiliconSys	
	SSI32P3040	**SiliconSys** (3778)	
	SSI32P3041	**SiliconSys** (3778)	
Pulse Detector (with programmable filter for Hard Disk)	**SSI32P3000**	**SiliconSys** (3778)	
	SSI32P3001	**SiliconSys** (3778)	85
	SSI32P3011	SiliconSys	
	SSI32P3013	**SiliconSys** (3778)	
	SSI32P3015	**SiliconSys** (3778)	
	SSI32P3017	SiliconSys	
Read Channel Circuit, 32 Mb/s	**AD899**	**AD** (3540)	90
Read Channel Circuit, 32 Mb/s or 24 Mb/s	IMP62C338	ℓ IMP	
	IMP62C538	IMP	
Read Channel Circuit, 50 Mb/s	DP84910	National	
Read Data Processor (detects and qualifies all MFM and RLL encoded read signals)	CS541	Cherry Semi	
Read Data Processor (detects and qualifies MFM and RLL signals in disk drives)	SG541	Linfinity Micro	95
Read/Write Amplifier, 4-Channel (for Winchester drives, includes damping resistor)	SG510AR4	Linfinity Micro	
	SG510A4	Linfinity Micro	
Read/Write Device, 2 or 4-Channel	DPC2020R	National	
	DPC2021R	National	
Read/Write Device, 2 or 4-Channel Ferrite/MIG Recording Heads	**SSI32R1201**	**SiliconSys** (3778)	100
Read/Write Device, 2 or 4-Channel Thin Film	**SSI32R2031A**	**SiliconSys** (3778)	
Read/Write Device, 2 or 4-Channel Thin Film	**SSI32R2030A**	**SiliconSys** (3778)	
Read/Write Device, 2-Channel	**SSI32R2020R-2**	**SiliconSys** (3778)	
	SSI32R2021R-2	**SiliconSys** (3778)	
Read/Write Device, 2-Channel Ferrite/MIG Recording Heads	**SSI32R1200-2**	**SiliconSys** (3778)	105
	SSI32R1201-2	**SiliconSys** (3778)	
Read/Write Device, 2-Channel (for Ferrite/MIG recording heads)	SSI32R1220-2	SiliconSys	
	SSI32R1221-2	SiliconSys	
	SSI32R1222-2	SiliconSys	
Read Write Device, 2-Channel Thin Film	ML4610R-2	MicroLinear	110
	SSI32R2030A-2	**SiliconSys** (3778)	
	SSI32R2031A-2	**SiliconSys** (3778)	
	SSI32R4610A-2	**SiliconSys** (3778)	
	SSI32R4611A-2	**SiliconSys** (3778)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Memory Drivers (Cont'd)

Function	Device	Source	Line
Read/Write Device, 2-Channel Thin Film, with Internal Damping Resistor	**SSI32R2031AR-2**	**SiliconSys (3778)**	
	SSI32R4610AR-2	**SiliconSys (3778)**	
	SSI32R4611AR-2	**SiliconSys (3778)**	
Read/Write Device, 4-Channel	DPC2020R-4	National	
	SSI32R2020R-4	**SiliconSys (3778)**	5
	SSI32R2021R-4	**SiliconSys (3778)**	
Read/Write Device, 4-Channel Ferrite/MIG Recording Heads	**SSI32R1200-4**	**SiliconSys (3778)**	
	SSI32R1201-4	**SiliconSys (3778)**	
Read/Write Device, 4-Channel (for Ferrite/MIG recording heads)	SSI32R1220-4	SiliconSys	
	SSI32R1221-4	SiliconSys	10
	SSI32R1222-4	SiliconSys	
Read Write Device, 4-Channel Thin Film	ML4610R-4	MicroLinear	
	ML4611R-4	MicroLinear	
	SSI32R2024	**SiliconSys (3778)**	
	SSI32R2024R	SiliconSys	15
	SSI32R2025	**SiliconSys (3778)**	
	SSI32R2026	**SiliconSys (3778)**	
	SSI32R2030A-4	**SiliconSys (3778)**	
	SSI32R2031A-4	**SiliconSys (3778)**	
	SSI32R2063	**SiliconSys (3778)**	20
	SSI32R2064	**SiliconSys (3778)**	
	SSI32R2065	**SiliconSys (3778)**	
	SSI32R2200R	**SiliconSys (3778)**	
	SSI32R2201R	**SiliconSys (3778)**	
	SSI32R2300R	**† SiliconSys (3778)**	25
	SSI32R2301	† SiliconSys	
	SSI32R2301R	† SiliconSys	
	SSI32R2310	**† SiliconSys (3778)**	
	SSI32R2310R	**† SiliconSys (3778)**	
	SSI32R4610A-4	**SiliconSys (3778)**	30
	SSI32R4611A-4	**SiliconSys (3778)**	
Read/Write Device, 4-Channel Thin Film, with Internal Damping Resistor	**SSI32R2031AR-4**	**SiliconSys (3778)**	
	SSI32R4610AR-4	**SiliconSys (3778)**	
	SSI32R4611AR-4	**SiliconSys (3778)**	
Read/Write Device, 6-Channel	SSI32R2020R-6	SiliconSys	35
	SSI32R2021R-6	SiliconSys	
Read/Write Device, 6-Channel Thin Film	**SSI32R2041**	**SiliconSys (3778)**	
Read/Write Device, 8-Channel, MR	**SSI32R1510R**	**SiliconSys (3778)**	
Read/Write Device, 8-Channel Thin Film	**SSI32R2060**	**SiliconSys (3778)**	
	SSI32R4610A-8	**SiliconSys (3778)**	40
	SSI32R4610B	SiliconSys	
	SSI32R4611A-8	**SiliconSys (3778)**	
Read Write Device, 8-Channel Thin Film, with Internal Damping Resistor	**SSI32R4610AR-8**	**SiliconSys (3778)**	
	SSI32R4611AR-8	**SiliconSys (3778)**	
Read/Write Device, 10-Channel	**SSI32R2020R-10**	**SiliconSys (3778)**	45
	SSI32R2021R-10	**SiliconSys (3778)**	
Read/Write Device, 10-Channel (for ferrite/MIG recording heads)	SSI32R5161R	SiliconSys	
	SSI32R5161R-10C	SiliconSys	
Read/Write Device, 10-Channel Thin Film	SSI32R2028R	SiliconSys	
	SSI32R2100R	**SiliconSys (3778)**	50
Read/Write Device, 14-Channel Thin Film	**SSI32R2040**	**SiliconSys (3778)**	
	SSI32R5121	**SiliconSys (3778)**	
	SSI32R5121-14C	**SiliconSys (3778)**	
Read/Write Device, 14-Channel Thin Film, with Internal Damping Resistors	**SSI32R5121R-14C**	**SiliconSys (3778)**	
Read/Write Device, 14-Channel Thin Film (with 180 ohm damping resistor)	**SSI32R5121R**	**SiliconSys (3778)**	55
Read/Write Device, 16-Channel Thin Film	**SSI32R2015R-16**	**SiliconSys (3778)**	
Read/Write Device, 24-Channel Thin Film	**SSI32R2110**	**SiliconSys (3778)**	
Read/Write Device, 16-Channel Thin Film	**SSI32R2015R**	**SiliconSys (3778)**	
Read/Write Device, 2 or 4-Channel	**SSI32R2020R**	**SiliconSys (3778)**	
	SSI32R2021R	**SiliconSys (3778)**	60
Read/Write Device, 2 or 4-Channel Ferrite/MIG Recording Heads	**SSI32R1200**	**SiliconSys (3778)**	
Read/Write Device, 2 or 4-Channel (for Ferrite/MIG recording heads)	SSI32R1203R	SiliconSys	
	SSI32R1220	SiliconSys	
	SSI32R1221	SiliconSys	
	SSI32R1222	SiliconSys	65
Read/Write Device (2, 4, or 6 channel)	CS510A	Cherry Semi	
Read/Write Device (2, 4, or 6 channel, 750 ohm damping resistor)	CS510AR	Cherry Semi	
Read Write Device, 2, 4 or 8-Channel Thin Film	**SSI32R4610A**	**SiliconSys (3778)**	
	SSI32R4611A	**SiliconSys (3778)**	
Read/Write Device, 4-Channel Thin Film	SSI32R2025R	SiliconSys	70
	SSI32R2026R	SiliconSys	
	SSI32R2300	**† SiliconSys (3778)**	
	SSI34R1203R	**SiliconSys (3779)**	
RISC Memory Controller/Driver	VL86C110	VLSI Tech	
Servo Controller, Embedded	**SSI32H6520**	**SiliconSys (3779)**	75
Servo Motor Driver (for hard disk)	**SSI32H6240**	**SiliconSys (3779)**	
	SSI32H6510	**SiliconSys (3779)**	
Spindle and Voice Coil Actuation Manager/Driver	A8980	Allegro Micro	
Thin Film Read/Write Device 10-Channel	**SSI32R2010R**	**SiliconSys (3778)**	
	SSI32R2010R-10	**SiliconSys (3778)**	80
	SSI32R2011R	**SiliconSys (3778)**	
Thin Film Read/Write Device, 16-Channel	SSI32R2010R-16	SiliconSys	
Time Base Generator	**SSI32D4664**	**SiliconSys (3779)**	
	SSI32D4666	**SiliconSys (3779)**	
Time Base Generator (for hard disk data recovery)	**SSI32D4661**	**SiliconSys (3779)**	85
Time Base Generator (for hard disk recovery)	**SSI32D4662**	**SiliconSys (3779)**	
	SSI32D4663	**SiliconSys (3779)**	
Time Base Generator For Use in Constant Density Recording	**SSI32D4660**	**SiliconSys (3779)**	
Video RAM Controller/Driver (up to 1 Mbit)	DP8521	National	
	DP8521A	National	90
Video RAM Controller/Driver (up to 256K bits)	DP8520	National	
	DP8520A	National	
Video RAM Controller/Driver (up to 4 Mbits)	DP8522	National	
	DP8522A	National	
Winchester Differential Input High Gain Read/Write Amplifier (for Thin Film Heads)	SSI32R528	SiliconSys	95
Winchester Differential Input Read/Write Amplifier (for Thin Film Heads)	SSI32R527	SiliconSys	
	SSI32R527R	SiliconSys	
Winchester Disk Drive Read/Write Device	SSI32R501R	SiliconSys	
Winchester Disk Driver Differential Amplifier	SSI32H101	SiliconSys	
Winchester Disk Memory Read/Write Circuit (for ferrite heads)	SSI32R501	SiliconSys	100
Winchester Disk Read/Write Preamplifier (2 channels)	DP117-2	National	
	DP117-2R	National	
Winchester Disk Read/Write Preamplifier (4 channels)	DP117-4	National	
	DP117-4R	National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Memory Drivers (Cont'd)

Function	Device	Source	Line
Winchester Disk Read/Write Preamplifier (6 channels)			
	DP117-6	National	
	DP117-6R	National	
Winchester Disk Servo Preamplifier (provides termination, gain and impedance buffering)	DP2580	National	
Winchester Ferrite Head Read/Write Amplifier	**SSI32H566R**	**SiliconSys** **(3779)**	
Winchester Low Noise Read/Write Amplifier (for Ferrite Heads)	**SSI32R516**	**SiliconSys** **(3778)**	5
Winchester Read/Write Amplifier (for ferrite heads)	**SSI32R511**	**SiliconSys** **(3778)**	
	SSI32R511R	**SiliconSys** **(3778)**	
Winchester Read/Write Amplifier (for thin-film heads)	**SSI32R512**	**SiliconSys** **(3778)**	
	SSI32R522	SiliconSys	
	SSI32R524	SiliconSys	10
	SSI32R524R	**SiliconSys** **(3778)**	
	SSI32R525R	SiliconSys	
Winchester Read/Write Circuit (6 channels)	DP5016	National	
Winchester Read/Write Circuit (6 channels, internal damping resistance)	DP5016R	National	
Winchester Read/Write Circuit (8 channels)	DP5018	National	15
Winchester Read/Write Circuit (8 channels, internal damping resistance)	DP5018R	National	
Winchester Servo Preamp (for ferrite heads)	CS201A	Cherry Semi	
Winchester Thin Film Servo Head Read/Write Amplifier	**SSI32H523AR**	**SiliconSys** **(3779)**	
Winchester Thin-Film Head Read/Write Circuit	SSI32R520	SiliconSys	
	SSI32R520R	SiliconSys	20
	SSI32R521	SiliconSys	
	SSI32R521R	SiliconSys	
Single Chip Read Channel	SSI32P4740	SiliconSys	
Single Chip Read Channel, ENDEC	**SSI32P4730**	**SiliconSys** **(3778)**	
	SSI32P4731	SiliconSys	25
	SSI32P4741	**SiliconSys** **(3778)**	
	SSI32P4742	**SiliconSys** **(3778)**	
	SSI32P4743	**SiliconSys** **(3778)**	
	SSI32P4744	**SiliconSys** **(3778)**	
	SSI32P4745	**SiliconSys** **(3778)**	30
Single Chip Read Channel, no ENDEC	**SSI32P4733**	**SiliconSys** **(3778)**	
Dual AND TTL to MOS Driver (NMOS memory interface)	μA9643C	National	
	55363	Rochester	
	75363	Rochester	
Dual MOS Clock Driver			
	DS0025	† National	35
	DS0025C	National	
	DS0026	† National	
	DS0026C	National	
	DS0056	† National	
		(Continued)	
Dual MOS Clock Driver (Cont'd)			
	DS0056C	National	40
	75369	Rochester	
Dual TTL to MOS Driver (MOS memory interface)	DS75361	National	
	DS75362	National	
Quad MOS Clock Driver	DS3245	National	
Quad MOS Memory I/O Register	DS3647	National	45
Quad Multiplexer/Driver, for MOS Systems	DS1648	† National	
	DS1678	† National	
	DS3648	National	
	DS3678	National	
Quad NAND TTL to MOS Driver (MOS memory interface-clock driver)	DS75365	National	50
	75365	Rochester	
Quad NMOS Memory Driver	DS1674	† National	
	DS3674	National	
Quad TTL to NMOS Memory Driver (for 2105, 2107, etc.)	μA9645C	National	
Hex Inverter/MOS Driver, Disable Causes Logic 1 State	DS16149	† National	55
	DS16179	† National	
	DS36149	National	
	DS36179	National	
Hex Inverter/MOS Driver, Three-State	DS1649	† National	
	DS1679	† National	60
	DS3649	National	
	DS3679	National	
Hex Latch/Driver, for MOS Memories	DS1675	† National	
	DS3645	National	
	DS3675	National	65
Octal MOS Driver, Three-State	DP84240	National	
	DP84244	National	
	DS1628	† National	
	DS3628	National	
10-Bit Memory Driver	54BCT2827C	National	70
	54BCT2828A	National	
	SN54BCT2827A	°† TI	
	SN54BCT2828A	† TI	
3ow Power Programmable Electronic Filter (for hard disk)	**SSI32F8002**	**SiliconSys** **(3778)**	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE–Peripheral Drivers

Function	Device	Source	Line
Stepper Motor Driver	UC1517	† Unitrode	
	UC1717	† Unitrode	
Stepper Motor Driver, 10 to 45 V	UC3717	Unitrode	
Stepper Motor Translator/Driver	UCN5804B	Allegro Micro	
Actuator/Driver	ULN2005A	TI	5
Addressable Peripheral Driver (latched, 8-output driver)	NE590	Philips	
	NE591	Philips	
BiMOS Latched Driver	UCN5800A	Allegro Micro	
	UCN5801A	Allegro Micro	
Buffer Driver, Septuple (with open collector)	M751271	Mitsubishi	10
CCD Clock Generator/Driver	μPD9318	NEC	
CCD Driver	EL7182	Elantec	
	TC430	TeledyneC	
Clock Driver, 1 to 10	CGS74B2528	National	
Clock Driver, 1 to 10, PECL to TTL	CGS100P2530	National	15
Clock Driver, 1 to 4	CGS74CT2524	National	
Clock Driver, 1 to 8	CGS74CT2527	National	
Clock Driver, 2 to 10, PECL to TTL	CGS100P2531	National	
Clock Driver, 1 to 10	CGS64B2528	National	
Clock Generator/Oscillator, to 10 MHz, 8 and 1 Divider, for Microprocessors	ICM7209	† Harris	20
Clock Generator to 175 MHz (For use with Brooktree RAMDACs), Divide by 2,3 4,5, or 8.	BT438	Brooktree	
Clock Generator, 150 MHz, for RAMDACs divide by 3,4,5 or 8 (for use with RAMDACs)	BT439	Brooktree	
Commutator/Controller, Brushless DC Motor	**LS7362**	**LSI Comp (3682)**	
Current Driver (drives loads up to 400 mA/28V)	DH0006	National	
Current Driver (drives up to 400 mA/28V)	DH0006C	National	25
Data Acquisition Controller (intelligent) for A/D Converter	CY600	Cybernetic	
Deflection Circuit (CRT display use)	STK78617	Sanyo	
Double High Side Driver, Dual 0.5A	**TLE4215**	**Siemens (3772)**	
Double Low Side Driver, Dual 0.5A	**TLE4214**	**Siemens (3772)**	
Double Low Side Driver, Dual 2A	**TLE4211**	**Siemens (3772)**	30
Driver, Full-Bridge, DMOS (motor)	L6201	SGS-Thomson	
	L6202	SGS-Thomson	
	L6203	SGS-Thomson	
Driver, Full-Bridge (2 A per channel)	CS298	Cherry Semi	
Driver, H-Bridge, Dual	L293C	SGS-Thomson	35
Driver, Half-Bridge, N- and P-Channel Enhancement Mode	SI9950	Siliconix	
Driver, High Current FET, 6A	UC1710	† Unitrode	
	UC1710/883B	† Unitrode	
	UC3710	Unitrode	
Driver, High Side Driver Switch (drives loads from positive side of power supply)	MC3399T	Motorola	40
Driver, High Speed, 1.5 A	UC1705	† Unitrode	
Driver, High Speed, 1.5A	UC1705/883B	† Unitrode	
	UC3705	Unitrode	
Driver, High Speed, 4 A	EL7134	Elantec	
Driver, High Voltage Current	M5248P	Mitsubishi	45
	M5265P	Mitsubishi	
	M5286P	Mitsubishi	
Driver, Injector	L9335	SGS-Thomson	
	L9336	SGS-Thomson	
Driver, Laser Diode	IR3C01	Sharp	50
	IR3C02A/N	Sharp	
Driver, Low-Noise Switchmode (for three-phase brushless dc motors)	UC3623	Unitrode	
Driver, Monolithic Dual Pin Electronics	BT692	Brooktree	
Driver, MOSFET (dual, inverting)	IXLD426	IXYS	
Driver, MOSFET (dual, non-inverting)	IXLD427	IXYS	55
Driver, MOSFET (dual, one inverting/one non-inverting)	IXLD428	IXYS	
Driver, MOSFET (opto-isolated, 1μA short-circuit current)	DIG12-08-010	Dionics	
Driver, MOSFET (opto-isolated, 10μA short circuit current)	DIG12-06-100	Dionics	
Driver, MOSFET (opto-isolated, 15μA short-circuit current)	DIG11-06-150	Dionics	
Driver, MOSFET (opto-isolated, 2.5μA short-circuit current)	DIG12-06-025	Dionics	60
Driver, MOSFET (opto-isolated, 25μA short-circuit current)	DIG12-06-250	Dionics	
Driver, MOSFET (opto-isolated, 4.5μA short-circuit current)	DIG12-08-045	Dionics	
Driver, MOSFET (opto-isolated, 5μA short-circuit current)	DIG11-08-050	Dionics	
Driver, MOSFET (single inverting)	IXLD429	IXYS	
Driver, MOSFET, 2A (dual, dual-input)	EL7242	Elantec	65
	EL7252	Elantec	
Driver, MOSFET, 2A (dual, inverting)	EL7262	Elantec	
Driver, MOSFET, 2A (dual, non-inverting)	EL7272	Elantec	
Driver, MOSFET, 4A (single, dual-input)	EL7144	Elantec	
Driver, MOSFET, 4A (single, inverting)	EL7114	Elantec	70
Driver, MOSFET, 4A (single, non-inverting)	EL7104	Elantec	
Driver, Power Bridge	MD930	AnalogSys	
Driver, Push Pull with Diodes	L293D	SGS-Thomson	
Driver, Push-Pull Quad (600 mA per channel)	CS293D	Cherry Semi	
Driver, SAW Filter	U4744B	AEG Corp	75
Driver, SCR (opto-isolated)	DIG11-04-200F	Dionics	
Driver, Solenoid (2.4 A)	MC3484S2	Motorola	
Driver, Stepper Motor	L6217A	SGS-Thomson	
	PBL3717A	SGS-Thomson	
Driver, Stepper Motor with Chopper Control	M54640P	Mitsubishi	80
Driver, Stepper Motor with Chopper Control (of 2 Phase Current)	M54646AP	Mitsubishi	
	M54670P	Mitsubishi	
	M54671SP	Mitsubishi	
Driver, Switching Transistor	UC2950	Unitrode	
Driver, to drive power transistors	MA500	AnalogSys	85
Driver, to 80 V, 0.2 A	DI445A	Dionics	
Driver, Universal High-Current Sink Driver	**PBD3545/1**	**Ericsson (3609)**	
Driver, Universal High-Current Source Driver	**PBD3548/1**	**Ericsson (3609)**	
Driver, Dual Channel High Current (1.5A) MOSFET Compatible	UC1707	† Unitrode	
	UC1707/883B	† Unitrode	90
	UC3707	Unitrode	
Driver, Dual H-Bridge, Dual (for motors)	L298N	SGS-Thomson	
Driver, Dual MOSFET, to 24 V	SN75372	TI	
Driver, Dual N-Channel and P-Channel Matched MOSFET Pair	ALD1103	AdvLinear	
Driver, Dual Output High Current (1.5A) MOSFET Compatible	UC1706	† Unitrode	95
	UC1706/883B	† Unitrode	
	UC3706	Unitrode	
Driver, Dual, to 18 V, 0.5 A	SG1644	† Linfinity Micro	
	SG2644	Linfinity Micro	
	SG3644	Linfinity Micro	100
Driver, Dual Ultra High-Speed FET (1.5A)	UC1711	† Unitrode	
	UC1711/883B	† Unitrode	
	UC3711	Unitrode	
Driver, Dual, 2-Input, Sink or Source 500 mA	SG1627	† Linfinity Micro	
	SG3627	Linfinity Micro	105
Driver, Dual 8-Bit, BiMOS Latched	UCN5881EP	Allegro Micro	
Driver, Triple Tri-State Power (25W)	UC3657	Unitrode	
Driver, Quad	FZL4145	Siemens	
	FZL4146	Siemens	
Driver, Quad, High Side (for relays, solenoids, lamps, motors)	LMD18400	National	110
Driver, Quad MOSFET, to 24 V	SN75374	TI	
Driver, Quad, Sink 2.5 A	SG3645	Linfinity Micro	
Driver, 1 Channel (lamp relay driver)	TDE3207	SGS-Thomson	
Driver, 2 Channel (hammer), to 35 V, 1 A	SG3700	Linfinity Micro	
Driver, 4 Channel, Push Pull	L293B	SGS-Thomson	115

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line
Driver, 5 Channel Darlington, to 400 mA	XR2200	Exar	
	XR2200M	† Exar	
	LB1287	Sanyo	
	LB1288	Sanyo	
Driver, 7 Channel, CMOS/PMOS Input (hammer, lamp, relay driver)	ULN2004	Allegro Micro	5
	ULN2024	Allegro Micro	
	XR2204	Exar	
	XR2204M	† Exar	
	SG2004	† Linfinity Micro	
	SG2014	† Linfinity Micro	10
	SG2024	† Linfinity Micro	
	MC1416	Motorola	
	µA9668C	National	
	µA9668M	† National	
	ULN2004A	SGS-Thomson	15
	ULN2004A	TI	
Driver, 7 Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULN2003	Allegro Micro	
	ULN2013A	Allegro Micro	
	ULN2023	Allegro Micro	
	ULN7003A	Allegro Micro	20
	XR2003M	† Exar	
	XR2203	Exar	
	SG2003	† Linfinity Micro	
	SG2005	† Linfinity Micro	
	SG2013	† Linfinity Micro	25
	SG2015	† Linfinity Micro	
	SG2023	† Linfinity Micro	
	SG2025	† Linfinity Micro	
	MC1413	Motorola	
	µA9667C	National	30
	µA9667M	† National	
	ULN2003A	SGS-Thomson	
	ULN2003A	TI	
Driver, 7 Channel, MOS/TTL Input (hammer, lamp, relay driver)	ULN2001	Allegro Micro	
	XR2201	Exar	35
	XR2201M	† Exar	
	SG2001	† Linfinity Micro	
	SG2011	† Linfinity Micro	
	SG2021	† Linfinity Micro	
	MC1411	Motorola	40
	µA9665C	National	
	ULN2001A	SGS-Thomson	
	ULN2001A	TI	
Driver, 7 Channel, PMOS Input (hammer, lamp, relay driver)	XR2202	Exar	
	XR2202M	† Exar	45
	SG2002	† Linfinity Micro	
	SG2012	† Linfinity Micro	
	SG2022	† Linfinity Micro	
	MC1412	Motorola	
	µA9666C	National	50
	µA9666M	† National	
	ULN2002A	TI	
Driver, 8 Channel, CMOS/PMOS Input (hammer, lamp, relay driver)	ULN2804	Allegro Micro	
	ULN2804	Motorola	
	ULN2804A	SGS-Thomson	55
Driver, 8 Channel, CMOS/PMOS Input (lamp, relay driver)	UDN2982A	Allegro Micro	
	UDN2984A	Allegro Micro	
Driver, 8 Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULN2803	Allegro Micro	
	ULN2823	Allegro Micro	
	ULN2803	Motorola	60
	NE5090	Philips	
	SA5090	Philips	
	ULN2803A	SGS-Thomson	
	ULN2805A	SGS-Thomson	
Driver, 8 Channel, CMOS/TTL Input (lamps, relay driver)	UDN2596A	Allegro Micro	65
	UDN2597A	Allegro Micro	
	UDN2981A	Allegro Micro	
Driver, 8 Channel, CMOS/TTL Input (lamps, relay driver) (Cont'd)	UDN2983A	Allegro Micro	
	UDN2985A	Allegro Micro	
Driver, 8 Channel, MOS/TTL Input (hammer, lamp, relay driver)	ULN2801	Allegro Micro	70
	ULN2801	Motorola	
	ULN2801A	SGS-Thomson	
Driver, 8 Channel, PMOS Input (hammer, lamp, relay driver)	ULN2802	Motorola	
	ULN2802A	SGS-Thomson	
Driver, 8-Bit Serial Input, Latched 100 V Sink	UCN5823A	Allegro Micro	75
Driver, 8-Bit Serial Input, Latched 50 V Sink	UCN5821A	Allegro Micro	
Driver, 8-Bit Serial Input, Latched 80 V Sink	UCN5822A	Allegro Micro	
Driver, 8-Channel Current Sink Driver	UDN2595A	Allegro Micro	
Driver, 10-Bit Serial-Input Latched Source	UCN5810F	Allegro Micro	
Driver, 16-Bit, BiMOS Addressable Latched	UCN5816A	Allegro Micro	80
Driver, 20-Bit Serial-Input Latched Source	UCN5812F	Allegro Micro	
Driver, 32-Bit for Displays, Relays, Solenoids, Print Heads and Motors	S4521	American Micro	
Driver, 32-Bit Serial-Input Latched Source	UCN5818F	Allegro Micro	
Driver, 7-Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULN2003AM	TI	
EGA Logic Decoder Interface	STK192	Sanyo	85
FET Driver, 1.5A, 30V	TC4431	TeledyneC	
	TC4432	TeledyneC	
FET Driver, 9A High-Speed	TC4421	TeledyneC	
	TC4422	TeledyneC	
Floppy/Hard Disk Data Controller	DP8466A	National	90
Full Bridge Driver, Dual (2A output per channel)	LM18298	National	
Full Bridge Power Amplifier	UC3176	Unitrode	
	UC3177	Unitrode	
Full-Bridge Power Driver, Dual	L298D	Unitrode	
Half Bridge Gate Driver, High Voltage IC	**HIP5500I**	**Harris (3638)**	95
Half Bridge Power Driver, 500 VDC	**SP600**	**Harris (3638)**	
	SP601	**Harris (3638)**	
Half Bridge 500 VDC Driver	**HIP2500I**	**Harris (3638)**	
Half-Bridge Driver	SG1635A	† Linfinity Micro	
	SG1650	† Linfinity Micro	100
	SG3635A	Linfinity Micro	
	SG3650	Linfinity Micro	
Half-Bridge Driver Chip (part of chipset)	IXBD4410	IXYS	
	IXBD4411	IXYS	
	IXBD4412	IXYS	105
	IXBD4413	IXYS	
Half-Bridge Printhead/Motor Driver ± 4A	UDN2961B	Allegro Micro	
Hall Effect Device (senses magnetic field)	UGN3503U	Allegro Micro	
Hall Effect Switch (differential)	**TLE4974**	**Siemens (3772)**	
Hall Effect Switch (senses magnetic field)	**TLE4905**	**Siemens (3771)**	110
	TLE4935	**Siemens (3772)**	
Hard Disk Three-Phase Motor Speed Control	**SSI32M594**	**SiliconSys (3779)**	
	SSI32M595	**SiliconSys (3779)**	
High Current Switch Driver (to drive high power, high speed NPN switching transistors)	SG1629	† Linfinity Micro	
	SG3629	Linfinity Micro	115
High Side Driver with Overload Protection (1A)	**HIP1030A**	**Harris (3638)**	
High Side Driver with Transient Protection (0.5A)	**HIP1031**	**Harris (3638)**	
High Side Driver with Transient Protection (1A)	**HIP1090**	**Harris (3638)**	
High Side Predriver, Dual (for MOSFETs)	MIC5012	Micrel	
High Side Predriver, Dual with Current Limiting (for power MOSFETs)	MIC5013	Micrel	120
High Voltage Driver, Serial Input/Parallel Output (BiCMOS)	LZ1440	Sharp	
High Voltage, High Current Driver (3A max. at 45V)	DH0008	National	
	DH0008C	National	
High-Speed, High Current Single MOSFET Driver	**MIC4420**	**Micrel (3688)**	
	MIC4429	Micrel	125
High-Speed, 6 A Single MOSFET Driver	MAX4420C	Maxim	
	MAX4420E	Maxim	
	MAX4420M	† Maxim	
	MAX4429C	Maxim	
	MAX4429E	Maxim	130
	MAX4429M	† Maxim	
	MXT429C	Maxim	
	MXT429E	Maxim	
	MXT429M	† Maxim	
High-Voltage Analog Switch Array, 2 Channels with 8 circuits each	TC9162	Toshiba	135
	TC9163	Toshiba	
	TC9164	Toshiba	
High-Voltage Analog Switch, 5 Circuits	TC9214	Toshiba	
High-Voltage Analog Switch, 6 Circuits	TC9215	Toshiba	
I/O Expander, I²C Serial Bus	PCF8574	Philips	140
	PCF8574A	Philips	
Ignition Pre-Driver (regulates inductive load circuits)	CS345	Cherry Semi	
Ignition Predriver (for regulating inductive load currents)	CS345A	Cherry Semi	
Inverter Driver, Septuple (with open collector)	M751270	Mitsubishi	
Inverter Interface and Digital Deadtime Generator (for 3-phase PWM controls)	IXPD630	IXYS	145
	IXPD631	IXYS	
Isolated Drive Transmitter	UC1724	† Unitrode	
	UC1724/883B	† Unitrode	
	UC2724	Unitrode	
	UC3724	Unitrode	150
Isolated High Side FET Driver	UC1725	† Unitrode	
	UC1725/883B	† Unitrode	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line
Isolated High Side FET Driver (Cont'd)			
	UC2725	Unitrode	
	UC3725	Unitrode	
Lamp Dimmer, Momentary or Prolonged Touch			
	LS7331	**LSI Comp (3682)**	
Lamp Dimmer, Ten Level Power Control			
	LS7315	**LSI Comp (3683)**	
LAN Arcnet Coax Driver			
	HYC9068	SMC	5
Laser Diode Driver, N-Type (40 Mbit/sec.)			
	M66512	Mitsubishi	
Laser Diode Driver, R-Type (20 Mbit/sec.)			
	M66510	Mitsubishi	
Latched Driver (4-Input)			
	MIC5800	**Micrel (3687)**	
Latched Driver (8-Input)			
	MIC58P01	**Micrel (3687)**	
	MIC5801	**Micrel (3687)**	10
Latched Drivers, Parallel Input (8-bit S/P shift register)			
	MIC59P50	**Micrel (3687)**	
Latched Drivers, Serial Input (8-bit S/P shift register)			
	MIC58P42	**Micrel (3687)**	
	MIC5821	**Micrel (3687)**	
	MIC5822	**Micrel (3687)**	
	MIC5841	**Micrel (3687)**	15
	MIC5842	**Micrel (3687)**	
	MIC59P60	**Micrel (3687)**	
LCD Driver, Dot Matrix (I^2C serial interface)			
	PCF8578	Philips	
	PCF8579	Philips	
LDC (Load/Driver/Comparator)			
	BT698	Brooktree	20
Level Translator			
	HT0130P	AT&T	
Low Side Driver 4A			
	TLE4220	**Siemens (3772)**	
	TLE4224	**Siemens (3772)**	
Matrix Printhead Driver, 32 + 22-Channel Dual			
	HV3304	Supertex	
MICROWIRE Interface Device (for ISDN terminal adapters)	TP3464	National	25
	TP3465	National	
MOS Dynamic RAM Controller/Driver			
	DP8419	National	
MOS Dynamic RAM Controller Interface Circuit			
	DP84412	National	
MOSFET Driver			
	TK75050	Toko	
MOSFET Driver, Dynamic Discharge			
	DIG11-8-30DD	Dionics	30
	DIG12-8-30DD	Dionics	
	DIG22-8-30DD	Dionics	
MOSFET Driver, High Current Single			
	IXLD4420	IXYS	
	IXLD4429	IXYS	
MOSFET Driver, High Frequency H-Bridge			
	HIP4080I	**Harris (3638)**	35
	HIP4081I	**Harris (3638)**	
MOSFET Driver, High Speed			
	HV400C	Harris	
	HV400I	Harris	
	HV400M/883	† Harris	
MOSFET Driver, Single High Speed, High Current			
	MIC4451	**Micrel (3688)**	40
	MIC4452	Micrel	
MOSFET Driver, Dual High Side Micropower			
	LTC1155	LinearTech	
MOSFET Driver, Dual High Speed (inverting)			
	IXLD1426	IXYS	
MOSFET Driver, Dual High Speed (inverting and non-inverting)			
	IXLD1428	IXYS	
MOSFET Driver, Dual High Speed (non-inverting)			
	IXLD1427	IXYS	45
MOSFET Driver, Dual Power			
	MAX626	Maxim	
	MAX627	Maxim	
	MAX628	† Maxim	
	TSC426	Maxim	
	TSC427	Maxim	50
	TSC428	† Maxim	
MOSFET Driver, Dual 1.5A			
	MAX4426C	Maxim	
	MAX4426E	Maxim	
	MAX4426M	† Maxim	
	MAX4427C	Maxim	55
	MAX4427E	Maxim	
	MAX4427M	† Maxim	
	MAX4428C	Maxim	
	MAX4428E	Maxim	
	MAX4428M	† Maxim	60
MOSFET Driver, Quad High Side Micropower			
	LTC1156	LinearTech	
MOSFET Driver, 0.5A			
	TC1410	TeledyneC	
	TC1410N	TeledyneC	
MOSFET Driver, 1.5A Dual Open-Drain			
	TC4404	TeledyneC	
	TC4405	TeledyneC	65
MOSFET Driver, 1A			
	TC1411	TeledyneC	
	TC1411N	TeledyneC	
MOSFET Driver, 2A			
	TC1412	TeledyneC	
	TC1412N	TeledyneC	
MOSFET Driver, 3A			
	TC1413	TeledyneC	70
	TC1413N	TeledyneC	
MOSFET Driver, 3A Dual Open-Drain			
	TC4406	TeledyneC	
	TC4407	TeledyneC	
MOSFET Driver, 6A Open Drain			
	MIC4401	Micrel	
	MIC4402	Micrel	75
	TC4401	TeledyneC	
MOSFET Driver, 9A High-Speed			
	MIC4421	**Micrel (3688)**	
	MIC4422	Micrel	
MOSFET Pair, Dual N-Channel, Matched			
	ALD1101	AdvLinear	
	ALD1101A	AdvLinear	80
	ALD1101B	AdvLinear	
MOSFET Pair, Dual P-Channel, Matched			
	ALD1102	AdvLinear	
	ALD1102A	AdvLinear	
	ALD1102B	AdvLinear	
MOSFET Predriver			
	MIC5014A	**† Micrel (3688)**	85
	MIC5014B	**Micrel (3688)**	
	MIC5015A	**† Micrel (3688)**	
	MIC5015B	**Micrel (3688)**	
MOSFET Predriver, High Speed High Side			
	MIC5021	**Micrel (3688)**	
MOSFET Predriver, High Speed Low Side			
	MIC5020	**Micrel (3688)**	90
MOSFET Predriver, Dual			
	MIC5016A	**† Micrel (3688)**	
	MIC5016B	**Micrel (3688)**	
	MIC5017A	**† Micrel (3688)**	
	MIC5017B	**Micrel (3688)**	
MOSFET Predriver, Dual Half Bridge			
	MIC5022	Micrel	95
Motion Controller (for dc and brushless dc motors)			
	LM628	National	
	LM629	National	
Motor, AC Motor Control Circuit			
	HEF4752V	Philips	
Motor and Solenoid Driver			
	CA3169	Harris	
Motor, Bidirectional Motor Driver			
	GL7445	GoldStar	100
Motor, Brushless DC Motor Commutator, 3 Phase			
	LS7261	**LSI Comp (3682)**	
	LM621	National	
Motor, Brushless DC Motor Speed Controller			
	LS7260	**LSI Comp (3682)**	
Motor, Closed-Loop Brushless Speed Control Adapter			
	MC33039	Motorola	
Motor Control Circuit, Low-Power			
	TK10500	Toko	105
	TK10501	Toko	
	TK10502	Toko	
Motor Controller, Brushless			
	UC3655	Unitrode	
Motor Controller, Brushless DC			
	MC33033	Motorola	
	MC33035	Motorola	110
	NE5570	Philips	
	SA5570	Philips	
	SE5570	Philips	
Motor Controller, DC Brushless (Electrical Sensor Phasing of 120/240 Degrees)			
	MC33034-120	Motorola	
	MC33034-60	Motorola	115
Motor Controller, DC Motor Speed Control			
	NJM2606A	NJR	
Motor Controller/Driver, DC Servo			
	MC33030	Motorola	
Motor Controller/Driver, Dual Channel Unipolar Stepper			
	PBD3517	**Ericsson (3609)**	
Motor Controller (intelligent) for 4-Phase Stepper Motors	CY500	Cybernetic	
	CY512	Cybernetic	120
	CY525	Cybernetic	
Motor Controller, Dual Channel Microstepping			
	PBM3960	**Ericsson (3609)**	
Motor Controller, Three-Phase			
	UC3625	Unitrode	
Motor Controller, Three-Phase Brushless DC			
	HIP4011	Harris	
Motor Controller, 3-Phase Brushless with Back-EMF Sensing	A8901	Allegro Micro	125
	A8902	Allegro Micro	
Motor Controller, 3-Phase Brushless with Linear Current Control and Power DMOS Outputs			
	A8925	Allegro Micro	
Motor Driver, Bi-Directional			
	NJM2610	NJR	
	LB1838	Sanyo	
Motor Driver, Bi-Directional with Brake Function			
	M54543AL	Mitsubishi	130
	M54544AL	Mitsubishi	
Motor Driver, Bi-Directional with Brake Function and Low Power	M54545	Mitsubishi	
Motor Driver, Bidirectional DC (with brake function)			
	STK6865H	Sanyo	
Motor Driver, Bidirectional DC (with brake function and overcurrent protection)			
	STK6884H	Sanyo	
Motor Driver, Brushless DC			
	μPD16810	NEC	135
	TDA5040	Philips	
	TDA5141	Philips	
		(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line
Motor Driver, Brushless DC (Cont'd)	TDA5141AT	Philips	
	TDA5141T	Philips	
	TDA5142T	Philips	
Motor Driver DC-Motor	LA5527	Sanyo	
Motor Driver, Driver Amplifier for Servo Motor	STK6403	Sanyo	5
Motor Driver, Fan	LB1660	Sanyo	
	LB1693	Sanyo	
Motor Driver FDD	LB1676M	Sanyo	
Motor Driver for Disk Drive	LB1816	Sanyo	
Motor Driver for FDD	LB1810	Sanyo	10
Motor Driver, Full Bridge	UDN2953B	Allegro Micro	
	UDN2954W	Allegro Micro	
	M54542	Mitsubishi	
	TLE4205	**Siemens (3772)**	
Motor Driver, Full Bridge (dual PWM)	UDN2916	Allegro Micro	15
Motor Driver, Full Bridge, Dual	UDN2993B	Allegro Micro	
	UDN2998W	Allegro Micro	
Motor Driver, Half Bridge	SG1635	† Linfinity Micro	
	SG3635	Linfinity Micro	
	LAS8500	SemTech	20
	LAS8501	SemTech	
Motor Driver PPC/FAX	LB1870M	Sanyo	
Motor Driver, Stepper Motor Drive Circuit	TEA3718	SGS-Thomson	
Motor Driver, Voice Coil (controlled velocity head parking)	A8958	Allegro Micro	
Motor Driver, Voice Coil (4:1 digital transconductance gain switch)	A8932	Allegro Micro	25
Motor Driver with Speed Control	LB1860	Sanyo	
Motor Driver, Dual Bi-Directional with Brake Function	M54549L	Mitsubishi	
Motor Driver, Dual Channel Microstepper	**PBL3771**	**Ericsson (3609)**	
	PBL3772	**Ericsson (3609)**	
	PBL3773	**Ericsson (3609)**	30
	PBL3774	**Ericsson (3609)**	
	PBL3775	**Ericsson (3609)**	
	PBL3776	**Ericsson (3609)**	
Motor Driver, Dual (full-H)	L298	TI	
Motor Driver, Quad (half-H)	L293	TI	35
	L293D	TI	
	SN754410	TI	
	SN754411	TI	
Motor Driver, Three-Phase Brushless, 13 A, 400 V	CHHY008	Solitron	
Motor Driver, Three-Phase Brushless, 13 A, 500 V	CHHY004	Solitron	40
Motor Driver, Three-Phase Brushless, 15 A, 400 V	CHHY007	Solitron	
Motor Driver, Three-Phase Brushless, 15 A, 500 V	CHHY003	Solitron	
Motor Driver, Three-Phase Brushless, 30 A, 200 V	CHHY006	Solitron	
Motor Driver, Three-Phase Brushless, 30 A, 500 V	CHHY002	Solitron	
Motor Driver, Three-Phase Brushless, 40 A, 100 V	CHHY005	Solitron	45
Motor Driver, Three-Phase Brushless, 40 A, 500 V	CHHY001	Solitron	
Motor Driver, Four-Channel Push Pull	L293	Unitrode	
Motor Driver, Five-Phase Unipolar Stepping	STK6762	Sanyo	
Motor Driver, 2A	**TLE4202B**	**Siemens (3772)**	
Motor Driver, 3-Phase Brushless DC Motor Controller Drivers	UDN2936W	Allegro Micro	50
Motor Driver, 3-Phase Brushless dc Motors	UC3622	Unitrode	
Motor Driver, 3-Phase, 30 Vdc Brushless, 3A	UC3620	Unitrode	
Motor Driver, 3A	TLE4204	Siemens	
Motor Driver, 4-Phase Stepper Motor Driver (hybrid)	STK6822H	Sanyo	
	STK6982H	Sanyo	55
Motor Driver, 4A	**TLE4203**	**Siemens (3772)**	
Motor, Microstepping Control of Two-Phase Stepper Motors	IXMS150	IXYS	
Motor, PWM Dual Driver (load control and status monitoring)	UC3728	Unitrode	
Motor Sensor/Driver, Single-Phase Brushless	UDN3625	Allegro Micro	
Motor, Servo Controller	**SSI32H6220**	**SiliconSys (3779)**	60
Motor, Servo Demodulator	**SSI32H6210**	**SiliconSys (3779)**	
	SSI32H6215	**SiliconSys (3779)**	
Motor, Servo Motor Driver	**SSI32H569**	**SiliconSys (3779)**	
	SSI32H6230	**SiliconSys (3779)**	
	SSI32H6231	**SiliconSys (3779)**	65
Motor, Smart Power Switch (for current, power, or thermal overload)	UC195	† Unitrode	
	UC295	Unitrode	
	UC395	Unitrode	
Motor Speed Controller	MC213	AnalogSys	
	ZN411	GEC Plessey	70
Motor Speed Controller, Universal	ZN410D	GEC Plessey	
	ZN410E	GEC Plessey	
Motor Speed Regulator	TDA1085A	GEC Plessey	
	TDA2085A	GEC Plessey	
	TDA1085A	Motorola	75
	LM1014A	National	
	TDA1151	SGS-Thomson	
Motor Speed Regulator (for small dc motors). See also Linear—Consumer Circuits.	MC212	AnalogSys	
	SL440	GEC Plessey	
	SG1731	† Linfinity Micro	80
	SG2731	Linfinity Micro	
	SG3731	Linfinity Micro	
	LS7263	**LSI Comp (3682)**	
	LM1014-2	National	
	EF4443	SGS-Thomson	85
	TDA1041	SGS-Thomson	
	TDA1154	SGS-Thomson (Continued)	
Motor Speed Regulator (for small dc motors). See also Linear—Consumer Circuits. (Cont'd)	UC1637	† Unitrode	
	UC2637	Unitrode	
	UC3637	Unitrode	90
Motor Speed Regulator, PLL	TM4503	Toshiba	
Motor, Stepper Motor Controller	L297/1	SGS-Thomson	
Motor, Stepper Motor Driver	**PBL3717/2**	**Ericsson (3609)**	
	PBL3770A	**Ericsson (3609)**	
Motor, Stepping Motor Driver	TDA3717	GEC Plessey	95
	LM18293	National	
	TEA3717	SGS-Thomson	
	TM4503	SGS-Thomson	
	TL376C	TI	
Motor, Stepping Motor Driver and Floppy Disk Logic Circuit	CS279	Cherry Semi	100
Motor, Five Channel Programmable Current Switch	UC3722	Unitrode	
NTDS Driver/Receiver	VS610S	VTC	
Opto-Isolated MOFSET Driver	DIG11-06-030	Dionics	
Peripheral Driver Array (with open collector)	M751272	Mitsubishi	
	M751273	Mitsubishi	105
Peripheral Driver, Serial Output (16-bit)	TC9405C	TeledyneC	
	TC9405M/883	† TeledyneC	
Pin Driver, Hgh Speed	1120	TeledyneC	
Pin Driver, Monolithic (drives programmed voltages into difficult loads)	EL2021C	Elantec	
Pin Driver, Monolithic (for ATE systems)	EL1056AC	Elantec	110
	EL1056C	Elantec	
Pin Driver, Monolithic, Ultra High Speed	HFA5250	Harris	
Pin Driver with Inhibit Mode (for ATE, semiconductor test)	**AD1320K**	**AD (3537)**	
	AD1324K	**AD (3537)**	
Pin Driver, 250 MHz	RC7310	Raytheon	115
Pin Driver, 250 MHz (for ATE systems)	RC7311	Raytheon	
Pin Driver, 250 MHz, Three-State	RC7315	Raytheon	
	RC7316	Raytheon	
Pin Driver, 250 MHz, Three-State, Terminated 50 ohm	RC7315T	Raytheon	
Power Driver, Universal Latched	MIC5920	Micrel	120
Power Driver with Diagnostic Interface, Quad Inverting	**HIP0080A**	**Harris (3638)**	
	HIP0081A	**Harris (3638)**	
Power Driver with Fault Mode Diagnostic Flag Output, Quad-Gated, Inverting	**CA3292**	**Harris (3638)**	
Power Driver, Dual High Speed FET	UC1709	† Unitrode	
	UC1709/883B	† Unitrode	125
	UC3709	Unitrode	
Power Driver, Dual Non-Inverting	UC1708	† Unitrode	
	UC1708/883B	† Unitrode	
	UC3708	Unitrode	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line
Power Driver, 1.5 A Dual-Output	TC4426	TeledyneC	
	TC4427	TeledyneC	
	TC4428	TeledyneC	
Power Driver, 1.5A High Speed	MIC4403	Micrel	
	TC4403	TeledyneC	5
Power Driver, 1.5A (peak), CMOS, High-speed	TC4626	TeledyneC	
	TC4627	TeledyneC	
Power Driver, 1.5A Dual High Speed, True	MIC4605	† Micrel	
Power Driver, 1.5A Dual High Speed, Inverting	MIC4604	† Micrel	
Power Driver, 3 A Dual-Output	TC4423	TeledyneC	10
	TC4424	TeledyneC	
	TC4425	TeledyneC	
Power Driver, 3A Dual High Speed, Inverting	MIC4606	† Micrel	
Power Driver, 3A Dual High Speed, True	MIC4607	† Micrel	
Power Driver, 6 A Single-Output	TC4420	TeledyneC	15
	TC4429	TeledyneC	
Power Driver, 9A Dual High Speed, Inverting	MIC4608	† Micrel	
Power Driver, 9A Dual High Speed, True	MIC4609	† Micrel	
Power Driver, 12A Dual High Speed, Inverting	MIC4610	† Micrel	
Power Driver, 12A Dual High Speed, True	MIC4611	† Micrel	20
Power FET Pre-Driver	**MIC5010**	**Micrel (3688)**	
	MIC5011	Micrel	
Power H-Switch Driver, Dual	HIP4010M	† Harris	
Power Logic CMOS Quad Driver, 1.2A	**MIC4467**	**Micrel (3688)**	
	MIC4468	**Micrel (3688)**	25
	MIC4469	**Micrel (3688)**	
Power MOSFET Driver, Single	TC429C	TeledyneC	
Power MOSFET Driver, 1.4A, Opto-Isolated	TC4803	TeledyneC	
	TC4804	TeledyneC	
Print Head Driver, Thermal, 9 mA	S4630A	Seiko Instr	30
Print Head Driver, Thermal, 15 mA	S4601A	Seiko Instr	
Print Head Driver, Thermal, 30 mA	S4620A	Seiko Instr	
Print Head Driver, Thermal, 50 mA	S4610A	Seiko Instr	
	S4611A	Seiko Instr	
	S4612A	Seiko Instr	35
Printer Controller, for 5x7 Dot Matrix Printers	CY480	Cybernetic	
Printer/Scanner Interface Controller	CL-CD1190	Cirrus	
Printer Solenoid Driver	DS3654	National	
Printing Calculator Circuits	DS8654	National	
PWM Control Circuit	MB3785	Fujitsu	40
Relay and Lamp Driver, to 30 V, 0.3 A	TDE1607	SGS-Thomson	
Relay and Lamp Driver, to 45 V, 0.3 A	TDE1737	SGS-Thomson	
Relay and Lamp Driver, to 50 V, 0.3 A	TDE1787	SGS-Thomson	
Relay and Lamp Driver, to 50 V, 0.5 A	TDE1767	SGS-Thomson	
Relay and Lamp Driver, to 60 V, 0.3 A	TDE1787A	SGS-Thomson	45
Relay and Lamp Driver, to 60 V, 0.5 A	TDE1767A	SGS-Thomson	
Relay and Lamp Driver, Dual, to 32 V, 2/4 A	TDE1777	SGS-Thomson	
Relay Driver, for 48 V Telephone Relays	UDN2580A	Allegro Micro	
	UDN2585A	Allegro Micro	
	UDN2588A	Allegro Micro	50
Relay Driver, to 65 V, Sinks 300 mA, OR Input for 48 V Telephone Relays	DS1687	† National	
	DS3686	National	
	DS3687	National	
Relay Driver, to 57 Volts, 500 mA	LM1921	National	
Relay Driver, Quad Negative Voltage (to 60 V)	LS1098A	AT&T	55
Relay Driver, 7 Channel, to 100 V, 500 mA	75469	Rochester	
	SN75468	TI	
	SN75469	TI	
Relay Driver, 7 Channel, to 50 V, 500 mA	SN75465	TI	
	SN75466	TI	60
	SN75467	TI	
Sense FET Driver	TC4460	† TeledyneC	
	TC4461	† TeledyneC	
	TC4462	† TeledyneC	
	TC4463	TeledyneC	65
Serial to Parallel Converter, 64-Channel (for electrostatic printers)	HV4937	Supertex	
Serial to Parallel Converter, 64-Channel (printer driver for ink-jet applications)	HV3418	Supertex	
Servo and Motor Speed Drivers, 5V	**SSI32H6810**	**SiliconSys (3779)**	
	SSI32H6810A	**SiliconSys (3779)**	
	SSI32H6811	**SiliconSys (3779)**	70
Servo Controller/Speed Control for DC Micro Motor	M51970	Mitsubishi	
Sink Driver, 1.6 A	UCN5829	Allegro Micro	
Solenoid Driver, Injector	CS288	Cherry Semi	
Solenoid Driver, Octal Serial	**CA3282**	**Harris (3638)**	
Solenoid Driver, 2.4 Amp	MC3484S2-1	Motorola	75
Spindle Driver (for brushless DC motor applications)	L632A	SGS-Thomson	
Stepper Motor Circuit, Half-Bridge, 55V/3A	LMD18201	National	
Stepper Motor Control Circuit, 4-Phase, Constant Voltage	MB86520	Fujitsu	
	MB86521	Fujitsu	
Stepper Motor Driver	MC3479	Motorola	80
	UC3517	Unitrode	
	UC3717A	Unitrode	
(Continued)			
Stepper Motor Driver (Cont'd)	UC3770A	Unitrode	
	UC3770B	Unitrode	
Stepper Motor Driver (drives one phase winding of a bipolar stepper motor)	SG3718	Linfinity Micro	85
Stepper Motor Driver, Half-Bridge (up to 45 V)	CS3770	Cherry Semi	
Stepper Motor Driver, Two-Phase	TCA3727	Siemens	
	TCA4727	Siemens	
	TCA4728	Siemens	
Stepping Motor Driver, Four-Phase	STK6772	Sanyo	90
Stepping Motor Driver, Four-Phase (constant-current)	STK6982B	Sanyo	
Thermal Print Head Driver	S7180A	Seiko Instr	
	S7190A	Seiko Instr	
Video Shift Register, 250 MHz, Quad 10-bit or Penta 8-bit	BT424	Brooktree	
Voice Coil Motor Driver	A8936	Allegro Micro	95
	L6243	SGS-Thomson	
	L6243D	SGS-Thomson	
Voice Coil Motor Driver for 3.5″ Disk Drive. Vs ± 12 V (Contains Park Circuit and Over-Current Protection)	EL3038C	Elantec	
Voice Coil Motor Driver for 5.25″ Disk Drive. Vs ± 12 V (Contains Park Circuit and Over-Current Protection)	EL2037C	Elantec	
Dual AND Driver, HNIL, 250 mA, Open Collector	391A/C	TeledyneC	100
Dual CMOS or TTL Driver/Translator, up to 30 V	IH6201C	Harris	
	IH6201M	† Harris	
Dual Darlington Switch, to 80 V, 1.5 A	ULN2061	Allegro Micro	
	ULN2062	Allegro Micro	
Dual High-Speed MOSFET Driver	**MIC4426**	**Micrel (3688)**	105
	MIC4427	Micrel	
	MIC4428	Micrel	
Dual High-Speed MOSFET Driver, 1.2A	**MIC1426**	**Micrel (3688)**	
	MIC1427	Micrel	
	MIC1428	Micrel	110
Dual High-Speed MOSFET Driver, 3A	**MIC4423**	**Micrel (3688)**	
	MIC4424	Micrel	
	MIC4425	Micrel	
Dual Inverting/True 1.5A Power Device Driver.	IXLD4428	IXYS	
Dual Inverting/True 3A Power Device Driver.	IXLD4425	IXYS	115
Dual Inverting 1.5A Power Device Driver.	IXLD4426	IXYS	
Dual Inverting 3A Power Device Driver.	IXLD4423	IXYS	
Dual MOSFET Driver, Inverting	TC426C	TeledyneC	
Dual MOSFET Driver, Inverting/True	TC428C	TeledyneC	
Dual MOSFET Driver, True	TC427C	TeledyneC	120
Dual NAND Driver, HNIL, 250 mA, Open Collector	392A/C	TeledyneC	
Dual NOR Driver, HNIL, 250 mA, Open Collector	394A/C	TeledyneC	
Dual OR Driver, HNIL, 250 mA, Open Collector	393A/C	TeledyneC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line
Dual Peripheral AND Driver			
	SG55450B	† Linfinity Micro	
	SG55460	† Linfinity Micro	
	SG55461	† Linfinity Micro	
	SG75450B	Linfinity Micro	
	SG75451B	Linfinity Micro	5
	SG75460	Linfinity Micro	
	SG75461	Linfinity Micro	
	DS55451	† National	
	DS55461	† National	
	DS75450	National	10
	DS75451	National	
	DS75461	National	
	55450	Rochester	
	75450	Rochester	
	75471	Rochester	15
	SN55451B	† TI	
	SN55461	† TI	
	SN75450B	TI	
	SN75451B	TI	
	SN75461	TI	20
	SN75471	TI	
	SN75476	TI	
Dual Peripheral AND Driver, for CMOS			
	DS1631	† National	
	DS3631	National	
Dual Peripheral AND Driver, to 70 V 300 mA			
	75446	Rochester	25
	SN75446	TI	
Dual Peripheral AND Driver, to 80 V 600 mA			
	DS1611	† National	
Dual Peripheral Driver			
	SG55470	† Linfinity Micro	
Dual Peripheral NAND Driver			
	SG55462	† Linfinity Micro	
	SG75462	Linfinity Micro	30
	DS55452	† National	
	DS55462	† National	
	DS75452	National	
	DS75462	National	
	75472	Rochester	35
	SN55452B	† TI	
	SN55462	† TI	
	SN75447	TI	
	SN75452B	TI	
	SN75462	TI	40
	SN75472	° TI	
Dual Peripheral NAND Driver, for CMOS			
	DS1632	† National	
	DS3632	National	
Dual Peripheral NAND Driver, to 70 V, 300 mA			
	SN75477	TI	
Dual Peripheral NAND Driver, to 70 V, 300 mA			
	MC1472	Motorola	45
Dual Peripheral NOR Driver			
	SG55464	† Linfinity Micro	
	SG75464	Linfinity Micro	
	DS55454	† National	
	DS55464	† National	
	DS75454	National	50
	DS75464	National	
	SN55454B	† TI	
	SN55464	† TI	
	SN75407	TI	
	SN75449	TI	55
	SN75454B	TI	
Dual Peripheral NOR Driver, for CMOS			
	DS1634	† National	
	DS3634	National	
Dual Peripheral NOR Driver, to 30 V, 300 mA			
	SN75479	TI	
Dual Peripheral OR Driver			
	SG55463	† Linfinity Micro	60
	SG75463	Linfinity Micro	
	DS55453	† National	
		(Continued)	
Dual Peripheral OR Driver		(Cont'd)	
	DS55463	† National	
	DS75453	National	
	DS75463	National	65
	SN55453B	°† TI	
	SN55463	† TI	
	SN75408	TI	
	SN75448	TI	
	SN75453B	° TI	70
	SN75463	TI	
	SN75473	TI	
Dual Peripheral OR Driver, for CMOS			
	DS1633	† National	
	DS3633	National	
Dual Peripheral OR Driver, to 30 V, 300 mA			
	75478	Rochester	75
	SN75478	TI	
Dual Peripheral OR Driver, to 80 V, 600 mA			
	UDN5713M	Allegro Micro	
Dual Peripheral Positive AND Driver			
	SG55471	† Linfinity Micro	
	SG75471	Linfinity Micro	
	55471	Rochester	80
Dual Peripheral Positive NAND Driver			
	SG55452B	† Linfinity Micro	
	SG55472	† Linfinity Micro	
	SG75452B	Linfinity Micro	
	SG75472	Linfinity Micro	
	55472	Rochester	85
Dual Peripheral Positive NOR Driver			
	SG55454B	† Linfinity Micro	
	SG55474	† Linfinity Micro	
	SG75454B	Linfinity Micro	
	SG75474	Linfinity Micro	
	55474	Rochester	90
	75474	Rochester	
Dual Peripheral Positive OR Driver			
	SG55453B	† Linfinity Micro	
	SG55473	† Linfinity Micro	
	SG75453B	Linfinity Micro	
	SG75473	Linfinity Micro	95
	55473	Rochester	
	75473	Rochester	
Dual Peripheral Positive-AND Drivers			
	SG55451B	† Linfinity Micro	
Dual Power MOS Driver			
	TC426	TeledyneC	
Dual Power MOSFET Driver			
	ICL7667	**Harris (3638)**	100
	ICL7667C	**Harris (3638)**	
	ICL7667M	**† Harris (3638)**	
	ICL7667	† Maxim	
Dual Power MOSFET Driver, Inverting			
	MIC426	**Micrel (3688)**	
Dual Power MOSFET Driver, Mixed (inverting and non-inverting)			
	MIC428	Micrel	105
Dual Power MOSFET Driver, Non-Inverting			
	MIC427	Micrel	
Dual Schottky Diode Bridge (for bipolar stepper motor drivers)	CS299D	Cherry Semi	
Dual Solenoid/Motor Driver, ±4 A			
	UDN2962	Allegro Micro	
Dual Switchmode Solenoid Driver			
	L295	SGS-Thomson	
	L295	Unitrode	110
Dual True 1.5A Power Device Driver.			
	IXLD4427	IXYS	
Dual True 3A Power Device Driver			
	IXLD4424	IXYS	
Dual 4-Input AND Driver, HNIL 250 mA Open Collector			
	390A/C	TeledyneC	
Dual 4-Input NAND Driver, HNIL, 250 mA Open Collector	395A/C	TeledyneC	
Quad Bipolar Driver			
	L293E	SGS-Thomson	115
	L293D	Unitrode	
Quad Darlington Power Driver (to 50 V, 1.8 A)			
	UDN2544B	Allegro Micro	
Quad Darlington Switch			
	TEB1013	SGS-Thomson	
Quad Darlington Switch, to 50 V, 1.5 A			
	SN75064	TI	
	SN75066	TI	120
	SN75068	TI	
Quad Darlington Switch, to 50 V, 4 A			
	UDN2878W	Allegro Micro	
Quad Darlington Switch, to 80 V, 1.5 A			
	ULN2064	Allegro Micro	
	ULN2065	Allegro Micro	
	ULN2068	Allegro Micro	125
	ULN2069	Allegro Micro	
	SG2064	† Linfinity Micro	
	SG2065	† Linfinity Micro	
	SG2066	† Linfinity Micro	
	SG2067	† Linfinity Micro	130
	SG2068	† Linfinity Micro	
	SG2069	† Linfinity Micro	
	SG2070	† Linfinity Micro	
	SG2071	† Linfinity Micro	
	SG2074	† Linfinity Micro	135
	SG2075	† Linfinity Micro	
	SG2076	† Linfinity Micro	
	SG2077	† Linfinity Micro	
	ULN2047B	SGS-Thomson	
	ULN2064B	SGS-Thomson	140
	ULN2065B	SGS-Thomson	
	ULN2066B	SGS-Thomson	
	ULN2067B	SGS-Thomson	
	ULN2068B	SGS-Thomson	
	ULN2069B	SGS-Thomson	145
	ULN2070B	SGS-Thomson	
	ULN2071B	SGS-Thomson	
	ULN2075B	SGS-Thomson	
	ULN2076B	SGS-Thomson	
	ULN2077B	SGS-Thomson	150
	SN75065	TI	
	SN75067	TI	
	SN75069	TI	
	ULN2064	TI	
	ULN2065	TI	155
	ULN2066	TI	
	ULN2067	TI	
	ULN2068	TI	
	ULN2069	TI	
	ULN2074	TI	160
	ULN2075	TI	
Quad Darlington Switch, to 80 V, 4 A			
	UDN2879W	Allegro Micro	
Quad Driver for Automotive Applications			
	DS3656	National	
Quad Driver, to 60 V, –4 A			
	UDN2944W	Allegro Micro	
Quad Fault Protected Peripheral Driver			
	DS3668	National	165
Quad High Current Peripheral Driver			
	DS3658	National	
	DS3669	National	
	SN75436	TI	
	SN75437A	TI	
	SN75438	TI	170
	SN75440	TI	
Quad, High Side MOSFET Driver			
	MAX620	Maxim	
	MAX620C	Maxim	
	MAX620M	† Maxim	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line
Quad, High Side MOSFET Driver (Cont'd)	MAX621	Maxim	
	MAX621C	Maxim	
Quad High-Current, High-Voltage Source Driver (to 60 V, 4 A)	UDN2944W	Allegro Micro	
Quad NAND Gate Power Driver (for incandescent or inductive loads)	UDN2549B	Allegro Micro	
Quad NAND Power Driver (to 60V, sinks 1A)	UDN2543B	Allegro Micro	5
Quad Negative Voltage Relay Driver	DS3680	National	
	DS3680	TI	
Quad Peripheral Driver, Open Collector, to 35 V, Sinks 600 mA	SN75435	TI	
Quad Power Driver, Protected (600 mA, 60 V)	UDN2547	Allegro Micro	
Quad Power Peripheral Driver	VQ1000	Siliconix	10
	VQ1001	Siliconix	
	VQ1004	Siliconix	
	VQ1006	Siliconix	
	VQ2001	Siliconix	
	VQ2004	Siliconix	15
	VQ2006	Siliconix	
	VQ3001	Siliconix	
Quad Transistor Switch (Inverting) to 50 V, 1.5 A	L9222	SGS-Thomson	
Quad 1.2A (peak) Power Driver	TC4437	† TeledyneC	
	TC4438	† TeledyneC	20
	TC4439	† TeledyneC	
	TC4457	† TeledyneC	
	TC4459	† TeledyneC	
	TC4467	† TeledyneC	
	TC4468	† TeledyneC	25
	TC4469	† TeledyneC	
	TC4487	† TeledyneC	
Quad 2-Input AND Driver (to 70 V, sinks 600 mA)	UDN5706A	Allegro Micro	
Quad 2-Input OR Driver, to 70 V, Sinks 600 mA	UDN5703A	Allegro Micro	
Quad-Gated Inverting Power Driver	**CA3242**	**Harris (3638)**	30
Quad-Gated Inverting Power driver (switches up to 700 mA)	**CA3262**	**Harris (3638)**	
	CA3262A	**Harris (3638)**	
Quad-Gated Power Driver, Inverting	**CA3272**	**Harris (3638)**	
Quad-Gated True Power Driver (switches up to 600 mA)	CA3252	Harris	
Octal Latched Peripheral Driver	DP7310	National	35
	DP7311	National	
	DP8310	National	
	DP8311	National	
Octal Serial Peripheral Driver (with output status monitor)	TPIC2801	TI	
Eight Latch/Drivers	UCN5815A	Allegro Micro	40
4 Power MOS Driver	D469	Siliconix	
	D469A	Siliconix	
4-Input NAND High Voltage, High Current Drivers (40 V, 0.15 to 0.25 A)	DH0011A	† National	
8-Bit Latch, Source Driver, Serial Input	UCN5890A	Allegro Micro	
	UCN5891A	Allegro Micro	45
	UCN5895A	Allegro Micro	
	MIC5890	Micrel	
	MIC5891	Micrel	
8-Bit Latch/100 V Driver, Serial Input	UCN5843A	Allegro Micro	
8-Bit Latch/50 V Driver, Serial Input	UCN5841A	Allegro Micro	50
8-Bit Latch/80 V Driver, Serial Input	UCN5842A	Allegro Micro	
8-Channel Source Driver with Overcurrent Protection	UDN2987A	Allegro Micro	
12V, 1–2A 3 Phase Brushless, Current Drive Motor Driver	M54683FP	Mitsubishi	
24V, 1–0A 3 Phase Brushless, Current Drive Motor Driver	M54684fp	Mitsubishi	
32-Bit Latch/Driver, Serial Input	UCN5832	Allegro Micro	55
	UCN5833A	Allegro Micro	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Sense Amplifiers

Function	Device	Source	Line
Adaptive Sense Amplifier (for motor control)			
	LM1815	National	
Alternator Control Circuit			
	AD22181	AD	
Gear Tooth Sensor			
	A3056	Allegro Micro	
	UGN3056	Allegro Micro	
Gear Tooth Sensor, Hall Effect			
	TLE4920	Siemens	5
	TLE4921	**Siemens (3772)**	
	TLE4922	Siemens	
Hall Effect Latch			
	UGN3275	Allegro Micro	
Hall Effect Latch w/Power			
	UGN5275	Allegro Micro	
Hall Effect Sensor			
	AD22150	**AD (3513)**	10
Hall Effect Sensor/Driver			
	UGQ5140K	Allegro Micro	
Hall Effect Switch			
	UGN3113	Allegro Micro	
	UGN3130	Allegro Micro	
	UGS3130	† Allegro Micro	
Hall Effect Switch, Ultra-Sensitive Bipolar			
	UGN3132	Allegro Micro	15
Hall-Effect IC (analog output)			
	TLE4910	Siemens	
Hall-Effect Switch, Brushless DC Motor Commutation			
	UGN3235K	Allegro Micro	
Hall-Effect Switch (for alternating magnetic fields)			
	TLE4902	Siemens	
Hall-Effect Switch (for unipolar magnetic fields)			
	TLE4903	Siemens	
Hall-Effect Switch, Gear-tooth Type			
	UGN3059	Allegro Micro	20
	UGS3059	Allegro Micro	
Hall-Effect Switch, Multiplexed			
	UGN3055U	Allegro Micro	
Hall-Effect Switch, Ultra-Sensitive Bipolar			
	UGN3133	Allegro Micro	
HIT Pressure Sensor (medical instruments, air flow measurement, depth sensing, automotive, and vacuum measurement)			
	410	IC Sensors	
MOS Memory Sense Amplifier			
	SN75107A	TI	25
	SN75107B	TI	
	SN75108A	TI	
	SN75108B	TI	
Sense Amplifier, Magnetic Tape			
	MC3467L	Motorola	
Sensor Interface Amplifier (for automotive applications)			
	LM1964	National	30
Silicon Accelerometer (automotive suspension control, braking control and industrial vibration monitoring)			
	3031	IC Sensors	
Dual Core Memory Sense Amplifier, Complementary Output, Latch Capability			
	5520	Rochester	
Dual Core Memory Sense Amplifier, Separate Outputs			
	SG5524	† Linfinity Micro	
Dual Sense Amplifier			
	SG55234	† Linfinity Micro	
	SG55234A	† Linfinity Micro	35
	SG75234	Linfinity Micro	
	55234	Rochester	
	75234	Rochester	
Dual Sense Amplifier/Data Register			
	SG55236A	† Linfinity Micro	
Dual Sense Amplifier/Data Registers (for coincident-current core memories)			
	SG55236	† Linfinity Micro	40
	SG75236	Linfinity Micro	
Dual Sense Amplifier (detects low-level differential input from high-speed magnetic memories)			
	SG5534	† Linfinity Micro	
Dual Sense Amplifier (for MOS memory or line receiver)			
	SN75207	TI	
	DS75208	National	
	DS1603	† National	45
	DS3603	National	
Quad Sense Amplifer, Three-State			
	MC3430	Motorola	
	MC3431	Motorola	
	MC3432	Motorola	
	MC3433	Motorola	50
	DS1651	† National	
	DS3651	National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Transmitters-Receivers

Function	Max Serial Data Rate in kHZ	Supply Voltage, V	Device	Source	Line
	240	5	µPD71051	NEC	
(ACIA) Asynchronous Communications Interface Adapter (Links 8-Bit bidirectional data bus to serial asynchronous data communications, including to 6860)	50	5	MC6850	Motorola	
			EF6850	SGS-Thomson	
ARINC–429 Multichannel Receiver/Transmitter	100	5	TS68C429A	Thomson Comp	
ARINC–429 Receiver/Transmitter	100	5	HS3182	† Harris	5
			HS3282	† Harris	
			HS3282-5	Harris	
			HS3282-8	Harris	
			HI6010	Holt	
			EF4442	Thomson Comp	10
ARINC–429 Receiver/Transmitter with 8-Bit Microprocessor Interface and Label Recognition	100	5	HI-6010	Holt	
ARINC–429 Transceiver	100	5	HI-8282LM-02	† Holt	
			HI8282M	† Holt	
			HI8282M-01	† Holt	
			HI8282M-02	† Holt	15
			HI8282M-03	† Holt	
Asynchronous Addressable Receiver/Transmitter	4.8	3–18	MC14469	Motorola	
Asynchronous Communications Element	—	5	82C50A	° Harris	
			82C50A-Cell	Harris	
Asynchronous Communications Interface	1000	5	SCN2641	Philips	20
Asynchronous Communications Interface, Receiver	220 MB/s	5	AM79169	AMD	
Asynchronous Communications Interface, Transmitter	220 MB/s	5	AM79168	AMD	
Asynchronous/Synchronous Data Converter, 8/9/10/11-Bits, CCITT V.14, Modems from 600 to 19.2K	19.2	5	SPX6002	Seponix	
Backplane Transceiver, Quad			SN55ALS057	TI	
Baud Rate Generator (programmable divider)	19.2	12, ±5	HD4702	Harris	25
			MC14411	Motorola	
	1000	5	COM8046	SMC	
			COM8046T	SMC	
			COM8126	SMC	
			COM8126T	SMC	30
			COM8146	SMC	
			COM8146T	SMC	
Baud Rate Generator (programmable divider), Dual	1000	5	COM8116	SMC	
			COM8116T	SMC	
			COM8136	SMC	35
			COM8136T	SMC	
Bus Interface—Bus Controller, Remote Terminal and Monitor (MIL-STD–1553B) Interface		5	UT1553B BCRT	‡ UTMC	
			UT1553B BCRTM	‡ UTMC	
Bus Interface—Bus Controller, Remote Terminal-Multiprotocol (MIL-STD–1553A/B)		5	UT1553 BCRTMP	UTMC	
Bus Interface—Remote Terminal (MIL-STD–1553B) Interface		5	UT1553B RTI	‡ UTMC	40
Bus Interface—Remote Terminal (MIL-STD–1760A) Interface		5	UT1760ARTS	UTMC	
Bus Interface—Remote Terminal with RAM (MIL-STD–1553B)		5	UT1553B RTR	‡ UTMC	
Bus Interface—Single Transceiver (MIL-STD–1553A/B)		5	UT63M105XCVR	UTMC	
			UT63M107XCVR	UTMC	
			UT63M115XCVR	UTMC	45
			UT63M117XCVR	UTMC	
Bus Interface—Dual Transceiver (MIL-STD–1553A/B)		5	UT63M125XCVR	UTMC	
			UT63M127XCVR	UTMC	
			UT63M135XCVR	UTMC	
			UT63M137XCVR	UTMC	50
	1000	5	UT63M147	UTMC	
			UT63M149	UTMC	
			UT69151DX	**UTMC (3846)**	
		5,–12	**UT69151LX12**	**UTMC (3846)**	
		5,–15	**UT69151LX15**	**UTMC (3846)**	55
Combo I/O: UART, R.T.C., KBD Cont., IDE	56	5	VL82C106	VLSI Tech	
Command/Response Manchester II Converter (MIL-STD–1553B)	1000	5	BUS8937	† ILC-DDC	
Differential Bus Transceiver, Multipoint RS–485/422		5	DS75176B	National	
			DS75176BT	National	
Differential Bus Transceiver, RS–485/422, Bidirectional		5	µA96176	National	60
			DS16F95	† National	
			DS36F95	National	
			DS3695A	° National	
			DS96176	National	
DUART (Dual Universal Asynchronous Receiver and Transmitter). Two Channel UART, baud-rate generator, 16-Bit counter/timer, I/O ports.	1 MB/s	5	XR68C681	Exar	65
			XR88C681	Exar	
	1000	5	MC2681	Motorola	
			MC68681	Motorola	
			SCN2681	Philips	
			SCN68681	Philips	70
			2681	† Philips	
			2692	Philips	
			68681	† Philips	
DUART (Dual Universal Asynchronous Receiver-Transmitter) (complete serial to parallel and parallel to serial interface)	56	5	VL16C452	VLSI Tech	
EPCI (Enchanced Programmable Communications Interface) Serial/Parallel receiver/transmitter-Synchronous and asynchronous with baud rate generator.	62.5 Kb/s	5	SCN68661	Philips	75
	1Mb/s	5	SCN2661A	Philips	
			SCN2661B	Philips	
			SCN2661C	Philips	
E4 System Receiver	139264	±5	S3009	AMCC	
E4 System Transmitter	139264	±5	S3008	AMCC	80
Fiber Channel Interface Circuit Receiver	1062500	±5	S2031	AMCC	
			S2033	AMCC	
			S2040	AMCC	
Fiber Channel Interface Circuit Transmitter	1062500	±5	S2030	AMCC	
			S2032	AMCC	85
			S2039	AMCC	
Fiber Channel Interface Controller	265625	5	NCR85C266	NCR	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Transmitters-Receivers (Cont'd)

Function	Max Serial Data Rate in kHZ	Supply Voltage, V	Device	Source	Line
HPPI (High Performance Parallel Interface) Destination Interface Circuit	800 Mb/s	5	S2021	AMCC	
HPPI (High Performance Parallel Interface) Source Interface Circuit	800 Mb/s	5	S2020	AMCC	
IBM 3274/3276 Compatible COAX Receiver/Transmitter	2358	5	COM9064	SMC	
IBM 3274/3276 Compatible COAX Receiver/Transmitter	2358	5	SL32C64	Silicom	
Manchester Encoder-Decoder	1000	5	HD6408	Harris	5
			HD6408-9	Harris	
			HD6409	Harris	
			HD6409/883 †	Harris	
			HS15530RH °‡	Harris	
	1250	5	CT15530	GEC Plessey	10
			HD15530	Harris	
Master Digital-Loop Transceiver	80	5	MC145422	Motorola	
	160	5	MC145421	Motorola	
MIL-STD–1553 BC/RTU/MT/Multibus Interface Unit			BUS65508	ILC-DDC	
MIL-STD–1553 BC/RTU/MT/Unibus Interface Unit			BUS65505	ILC-DDC	15
MIL-STD–1553 Bus Controller/RTU/Bus Monitor			BUS65600	ILC-DDC	
MIL-STD–1553 Data Bus Transceiver		5	BUS63100 II	ILC-DDC	
MIL-STD–1553 Data Bus Dual Transceiver		5	BUS63147	ILC-DDC	
MIL-STD–1553 Dumb Remote Terminal Unit (hybrid)			BUS65101 II †	ILC-DDC	
	1 Mb/s	5, ± 15	BUS65102 II †	ILC-DDC	20
MIL-STD–1553 Manchester Encoder	2 Mb/s	5	BUS1556	ILC-DDC	
MIL-STD–1553 Manchester II Decoder	16 Mb/s	5	BUS1555	ILC-DDC	
MIL-STD–1553 Terminal Bit Processor			BUS64100	ILC-DDC	
MIL-STD–1553 to Microprocessor Interface Unit		5	BUS66300 II	ILC-DDC	
MIL-STD–1553 Transceiver	1 Mb/s	5, ± 15	BUS63104 II †	ILC-DDC	25
MIL-STD–1553 Dual Redundant Data Bus Transceiver	1 Mb/s	± 12/± 15	BUS63125 II †	ILC-DDC	
MIL-STD–1553 Dual Redundant Remote Terminal Hybrid		5	BUS65142	ILC-DDC	
			BUS65144	ILC-DDC	
MIL-STD–1553 Dual Redundant Remote Terminal Unit			BUS65112	ILC-DDC	
MIL-STD–1553B Bus Circuit			CT1775	GEC Plessey	30
MIL-STD–1553B Bus Controller/Remote Terminal/Monitor Transceiver Circuit			MA3690	GEC Plessey	
			MA3691	GEC Plessey	
MIL-STD–1553B Bus Interface Circuit			CT1800	GEC Plessey	
			CT1801	GEC Plessey	
			CT1820	GEC Plessey	35
MIL-STD–1553B Remote Terminal	1250	5	MA805	GEC Plessey	
MIL-STD–1553B Subsystem Interface Support Circuit			MA8055	GEC Plessey	
MIL-STD–1553B Dual Redundant Remote Terminal Unit (hybrid)			CT2512	GEC Plessey	
MPCC (multi-protocol communications controller) Bit and Byte Oriented	1.25 Mb/s	5	µPD7201A	NEC	
	2 Mb/s	5	SCN68652	Philips	40
Parallel to Serial Interface	—	5 V	CY232	Cybernetic	
	38.4	5	CY233	Cybernetic	
Parallel to Serial Transmitter, 5/8			MIC2259	Micrel	

Function	Max Serial Data Rate in kHZ	Supply Voltage, V	Device	Source	Line
Party Line Bus for Industrial and Data Communications			MC26S10	Motorola	
PCI (Programmable Communications Interface) Serial/parallel receiver/transmitter—synchronous and asynchronous with baud rate generator.	1000 b/s	5	SCN2651	Philips	45
			SCN2651C	Philips	
PCM Line Interface Circuit, with both transmit and receive circuitry	8.448 MB/s	5	XRT5683	Exar	
PCM Remote Control Transmitter	0.5	5	MC14497	Motorola	
PSART (Programmable Synchronous-Asynchronous Receiver-Transmitter) Serial to parallel and parallel to serial converter that can operate in Full Duplex Mode.	50	5	8251 °	Intel	
	64	5	µPD8251A	NEC	50
			µPD8251AF	NEC	
			MSM82C51A	OKI	
Receiver/Decoder (Bi-Phase)	3500	5	DP8343	National	
Receiver/Decoder (Bi-Phase, IBM 3270)	—	5	DP8341	National	
			SL32C41	Silicom	55
Receiver, 40-bit parallel from coax	200000	5	**GA9012-2**	**TriQuint (3840)**	
	400000	5	**GA9012-4**	**TriQuint (3840)**	
	500000	5	**GA9012-5**	**TriQuint (3840)**	
	800000	5	**GA9012-8**	**TriQuint (3840)**	
Remote Control Decoder, decodes first 5 bits as address and last 4 as data	5.0	5	MC145027	Motorola	60
Remote Control Decoder, 9-bit address	5.0	5	MC145028	Motorola	
Remote Control Encoder, encodes 9 bits of information and transmits serially	5.0	5	MC145026	Motorola	
Serial to Parallel Receiver, 5/8			MIC2257	Micrel	
			MIC2260	Micrel	
Slave Digital-Loop Transceiver	80	5	MC145426	Motorola	65
	160	5	MC145425	Motorola	
SONET/SDH Clock Synthesis and Recovery Unit	622.08 Mb/s	5	S3014	AMCC	
SONET/SDH OC–3 Receiver	155.52 Mb/s	5	S3012	AMCC	
SONET/SDH OC–3 Transmitter	155.52 Mb/s	5	S3011	AMCC	
SONET/SDH OC–3/12 Transmitter and Receiver	622.08 Mb/s	5	S3005	AMCC	70
			S3006	AMCC	
Transceiver, MIL-STD–1553			CT1487	GEC Plessey	
			CT1589	GEC Plessey	
			CT2077	GEC Plessey	
			CT3077	GEC Plessey	75
			CT3078	GEC Plessey	
			CT3231	GEC Plessey	
			CT3232	GEC Plessey	
Transceiver, MIL-STD–1553A/B	1000	± 15			
		± 12	BUS63105 II †	ILC-DDC	
		± 15,5	BUS8553 †	ILC-DDC	80
Transceiver, RS–232 with Power Supply Generator	—	5	LT1130C	LinearTech	
Transceiver, Serial T1		5	CS2180A-I	Crystal	
			CS2180B-I	Crystal	
	-	5	DS2180A	Dallas	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Transmitters-Receivers (Cont'd)

Function	Max Serial Data Rate in kHZ	Supply Voltage, V	Device	Source	Line
Transmitter/Decoder (Bi-Phase, IBM 3270)	—	5	DP8340	National	
			SL32C40	Silicom	
Transmitter/Encoder (Bi-Phase)	3500	5	DP8342	National	
Transmitter, 40-bit parallel to coax	200000	5	**GA9011-2**	**TriQuint (3840)**	
	400000	5	**GA9011-4**	**TriQuint (3840)**	5
	500000	5	**GA9011-5**	**TriQuint (3840)**	
	800000	5	**GA9011-8**	**TriQuint (3840)**	
UART & Centronics Printer Port	56	5	VL16C451B	VLSI Tech	
UART & Centronics Printer Port with FIFO	56	5	VL16C551	VLSI Tech	
UART (Universal Asynchronous Receiver-Transmitter)			TC8570P	Toshiba	10
			TC8570F	Toshiba	
			TC8570P	Toshiba	
UART (Universal Asynchronous Receiver-Transmitter) (complete serial to parallel and parallel to serial interface)	625	5	NS82C50	National	
UART (Universal Asynchronous Receiver-Transmitter) (complete serial to parallel and parallel to serial interface)	38.5	5	SCC2691	Philips	
	40	5	COM8017	SMC	15
	56	5	INS8250	National	
			VL16C450	VLSI Tech	
	100	5	CDP1854AC †	Harris	
			82C52 °†	Harris	
			82C52-Cell	Harris	20
	200	5	CDP6402	Harris	
			CDP6402E °	Harris	
			HD6402/883 °†	Harris	
	1000	5	CDP65C51-1 †	Harris	
	2000	5	CDP65C51-2 †	Harris	25
UART with FIFO	56	5	VL16C550	VLSI Tech	
Universal Asynchronous Receiver/Transmitter			SSI73M450	SiliconSys	
Universal Asynchronous Receiver/Transmitter (UART)	500	5	HD6402B °	Harris	
			HD6402R °	Harris	
Universal Data Bus Dumb Remote Terminal Unit (hybrid)			BUS65201 II †	ILC-DDC	30
Universal Data Bus Transceiver (hybrid)			BUS63102 II †	ILC-DDC	
USYNRT (universal synchronous receiver/transmitter) Multi-Protocol, Bit and Byte Oriented	1500	5,12	COM5025	SMC	
Variable Transceiver, MIL-STD–1553A/B	1000	±15,5	BUS8559 †	ILC-DDC	
Dual MIL-STD–1553B Transceiver			CT2520	GEC Plessey	
			CT2521	GEC Plessey	35
Dual MIL-STD–1553B Transceiver, Protocol, Subsystem			CT2525	GEC Plessey	
			CT2526	GEC Plessey	
			CT2527	GEC Plessey	
			CT2528	GEC Plessey	
			CT2529	GEC Plessey	40
Dual Redundant Remote Terminal Interface Unit, MIL-STD–1553B Data Bus			MCT83100	GEC Plessey	
Dual RS–232 Transmitter/Receiver		5	DS1228	Dallas	
			DS232	Dallas	
			ICL232	Harris	
Dual RS–232 Transmitter/Receiver and Power Supply		5	TC232	TeledyneC	45
Dual UART & Centronics Printer Port with FIFO	56	5	VL16C552	VLSI Tech	
Dual UART & Printer Port	56	5	VL16C452B	VLSI Tech	
Dual-Redundant Remote Terminal Interface Unit for MIL-STD–1553B	1000	5	MCT83000	GEC Plessey	
Triple RS–232 Transmitter/Receiver		5	DS1229	Dallas	
Octal Asynchronous Receiver/Transmitter	19.2	7	TCM78808	TI	50
Octal UART	38.4	5	**SCC2698B**	**Philips (3727)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

INTERFACE—Plug-In Cards

Function	Device	Source	Line
Fiber Channel Fiber-Optic Card, 200 Mbaud, 3 km	**FCC200FL**	**TriQuint (3840)**	
Fiber Channel Fiber-Optic Card, 265.625 Mbaud, 100 feet	**FCC265C**	**TriQuint (3840)**	
Fiber Channel Fiber-Optic Card, 265.625 Mbaud, 2 km	**FCC265FL**	**TriQuint (3840)**	
	FCC266FL	**TriQuint (3840)**	
Hot Rod Coax Interface Card, 250 to 1000 Mbaud, 10 to 30 meters	**HRCxxxC**	**TriQuint (3840)**	5
Hot Rod Fiber Optic Card--CD Laser, 250 to 1000 Mbaud, 2 km to 300 meters	**HRCxxxFS**	**TriQuint (3840)**	
Hot Rod Fiber Optic Card—1300 nm Laser, 1000 Mbaud, 10 km	**HRC800FLC**	**TriQuint (3840)**	
Interface card	MF112M-M1AAP	Mitsubishi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 700

GLOSSARY OF TERMS

Operational Amplifiers

Offset Voltage

The dc voltage that must be applied between the input terminals to force the quiescent dc output voltage to zero or other level, if specified.

Bias Current

The average of the currents into the two input terminals with the output at zero volts.

Offset Current

The difference between the currents into the two input terminals with the output at zero volts.

Voltage Drift

Rate of change of input offset voltage with temperature.

Bandwidth (Unity Gain)

The range of frequencies within which the open-loop voltage gain is greater than unity.

Slew Rate

The maximum rate of change of output voltage at rated current.

Voltage Gain

Ratio of the output signal voltage to the differential input signal voltage.

CMRR (Common Mode Rejection Ratio)

Ratio of the differential voltage gain of an amplifier to its common-mode voltage gain.

Compensation

The number of external components required for offset voltage adjustment.

INTRODUCTION TO LINEAR

The Linear Section includes parameters on over 1100 operational amplifiers. Since there are so many devices, separate lists are provided for those having special characteristics such as High Speed, High Voltage or Wide Bandwidth. If you have located an op amp in a specialized category, you can review its characteristics by finding it in the Part Number or Product Indexes and looking it up in the Operational Amplifier Characteristics Section.

After the special lists, the "Operational Amplifier Characteristics" listings categorize amplifiers by input parameters. They are arranged in order of increasing offset voltage, bias current, offset current and then voltage drift. The column labeled "Comp" indicates the number of external components normally used for compensation; for example "0" means no compensation is required.

Consumer circuits such as audio amplifiers, AM, FM, and TV circuits as well as some digital devices (watches, calculators, etc.) are covered by model number in the Consumer Circuit Section. Linear devices that do not fit in conventional categories are listed under the heading "Other Linear Devices".

Category

- Amplifiers, Special Purpose 702
- Arrays
  - Transistors 705
  - Special 706
- Comparators 708
  - Single 708
  - Dual 710
  - Quad 713
- Consumer Circuits 716
  - Audio 716
  - Automotive 720
  - Calculator 720
  - Camera 720
  - CB Radio 721
  - Clock/Watch 721
  - Music 721
  - Radio Circuits, AM 721
  - Radio Circuits, AM/FM 721
  - Radio Circuits, FM 722
  - Remote Control 723
  - Speech 724
  - Tape Recorder Circuits, Audio 725
  - Tape Recorder Circuits, Video 725
  - Television 725
  - Video 728
  - Miscellaneous 730
- Followers 732
- Instrumentation Amplifiers 733
- Operational Amplifiers
  - Selected Characteristics
  - High Output Current 736
  - High Speed 736
  - High Voltage 737
  - Low Bias Current 737
  - Low Drift 737
  - Low Power 738
  - Wideband 738
  - Complete Characteristics 739
  - Single Units 739
  - Dual Units 773
  - Triple Units 786
  - Quad Units 786
- Optoelectronic Devices 796
- Phase Locked Loop Circuits 801
- Power Supply Circuits
  - Voltage Regulators
  - Fixed 804
  - Adjustable 812
  - Switching 815
  - DC-DC Converters 817
  - Miscellaneous 825
- Telecommunication Circuits
  - Active Filters 836
  - Codecs 836
  - Compandors 837
  - Crosspoint Switches 837
  - Data Communications 838
  - Dialers 839
  - DTMF Generators/Receivers 840
  - Line Interface Circuits 841
  - Modem Circuits 843
  - Modulators 846
  - Miscellaneous 846
- Timers 850
- Other Devices 851

LINEAR—Amplifiers, Special Purpose

Function	Device	Source	Line
AF Power Amplifier, Two Channels (10 W)			
	LA4280	Sanyo	
AF Power Amplifier (3.5 W)			
	LA4265	Sanyo	
AGC Amplifier, Low Distortion (adjustable attack, release time and threshold voltage)			
	LC403	Gennum	
	LD403	† Gennum	
AGC Generator, for SSB Receivers			
	SL621C	GEC Plessey	5
AGC Generator (voice operated gain adjusting device)			
	SL620C	GEC Plessey	
	SL6270	GEC Plessey	
Amplifier Array, Operational Transconductance			
	CA3060	Harris	
Amplifier, Half-Bridge (3 A output)			
	UC3176	Unitrode	
Amplifier, Loudspeaker			
	TEA7031	SGS-Thomson	10
Amplifier, Microphone			
	SL792	GEC Plessey	
	SL793	GEC Plessey	
Amplifier, Microphone (for telephone circuits)			
	ZN470AE	GEC Plessey	
	ZN472E	GEC Plessey	
	ZN475E	GEC Plessey	15
	ZN476E	GEC Plessey	
	ZN477E	GEC Plessey	
	ZN478E	GEC Plessey	
Amplifier, Software Programmable Gain			
	AD526A	**AD** **(3520)**	
	AD526B	**AD** **(3520)**	20
	AD526C	**AD** **(3520)**	
	AD526J	**AD** **(3520)**	
	AD526S	**AD** **(3520)**	
Analog Multiplier, Two Quadrant			
	HA2546	**Harris** **(3637)**	
	HA2546-5	**Harris** **(3637)**	25
	HA2546-9	**Harris** **(3637)**	
	HA2547-5	**Harris** **(3637)**	
	HA2547-9	**Harris** **(3637)**	
Analog Multiplier, Four Quadrant			
	HA2556-5	**Harris** **(3637)**	
	HA2556-9	**Harris** **(3637)**	30
	HA2557-5	**Harris** **(3637)**	
	HA2557-9	**Harris** **(3637)**	
	ICL8013AC	Harris	
	ICL8013AM	† Harris	
	ICL8013BC	Harris	35
	ICL8013BM	† Harris	
	ICL8013CC	Harris	
	ICL8013CM	† Harris	
Audio Amplifier with Three NPN Transistors			
	LM389	National	
Automatic Sync Processor			
	M52001SP	Mitsubishi	40
	M52036SP	Mitsubishi	
Bipolar Logarithmic Amplifier (bw ± 10 MHz)			
	AH2910	OEI	
Bipolar Logarithmic Amplifier (bw ± 20 MHz)			
	2920	OEI	
Bipolar Logarithmic Amplifier (bw ± 3 MHz)			
	2531A	OEI	
Buffer Amplifer, Closed-Loop, Low Distortion (750 MHz)			
	AD9630A	**AD** **(3530)**	45
Buffer Amplifer, Ultralow Distortion, 600 MHz			
	AD9620A	**AD** **(3530)**	
	AD9620S	**AD** **(3530)**	
Buffer Amplifier			
	CLM4121	Calogic	
	CLM4221	Calogic	
	CLM4321	Calogic	
	LM6121	Calogic	50
		(Continued)	

Function	Device	Source	Line
Buffer Amplifier		(Cont'd)	
	LM6221	Calogic	
	LM6321	Calogic	
	LM6121	† National	
	LM6125	† National	55
	LM6221	National	
	LM6225	National	
	LM6321	National	
	LM6325	National	
Buffer Amplifier, Closed-Loop (750 MHz)			
	AD9630	**AD** **(3530)**	60
Buffer Amplifier, Fast FET			
	LH4010C	National	
Buffer Amplifier, FET-Input			
	LH4033C	National	
	LH4063C	National	
Buffer Amplifier, High-Speed, 250 mA			
	BUF634	**Burr-Brown** **(3459)**	
Buffer Amplifier, Industrial Process Control (1500V Isolation)	**ISO102**	**Burr-Brown** **(3463)**	65
Buffer Amplifier, Industrial Process Control (3500V Isolation)	**ISO106**	**Burr-Brown** **(3463)**	
Buffer Amplifier, Low Power, 70 MHz			
	EL2001A	Elantec	
	EL2001AC	Elantec	
Buffer Amplifier, Low Power, 180 MHz			
	EL2002A	Elantec	
	EL2002AC	Elantec	70
Buffer Amplifier, Precision RF Closed Loop			
	LH4003C	National	
	LH4006C	National	
Buffer Amplifier, Unity Gain, Wideband			
	LH4001	Calogic	
	LH4001	National	
Buffer Amplifier, Wideband			
	LH4002	Calogic	75
	LH4002	† National	
	LH4002C	National	
Buffer Amplifier, Wideband FET-Input			
	LH4004	† National	
	LH4004C	National	
Buffer Amplifier, Wideband, High Slew Rate			
	HA5002-2	† Harris	80
	HA5002-5	Harris	
	HA5033-2	† Harris	
	HA5033-5	Harris	
Buffer Amplifier, 320 MHz			
	BUF600	**Burr-Brown** **(3459)**	
	BUF601	**Burr-Brown** **(3459)**	85
Buffer Amplifier (500 MHz, slew rate 5000 V/µs)			
	EL2031C	Elantec	
Buffer Amplifier, 600 MHz			
	AD9620	**AD** **(3530)**	
Buffer Amplifier, 730 MHz (800 v/µs slew rate)			
	EL2072C	Elantec	
Buffer, Wideband (275 MHz bandwidth)			
	Si581	Siliconix	
Class A Amplifier (with 2 dc coupled gain blocks and schottky limiting diode)			
	GK509	Gennum	90
Class A Amplifier (with 2 independent gain blocks)			
	GP509	Gennum	
Class A Amplifier with 3 Independent Gain Blocks			
	GC509	Gennum	
Class A Amplifier (with 3 independent gain blocks and schottky diodes)			
	LS509	Gennum	

Function	Device	Source	Line
Compression Amplifier			
	LD512	Gennum	
CRT Amplifier with DC Restore and Gain Control. Used for DC coupling high-voltage stage to cathode.			
	EL5003C	Elantec	95
CRT Amplifier, 65 MHz, 50 Vpp			
	LM2419	National	
Current Amplifier (unity gain, 100 mA output)			
	LH0002	† Calogic	
	LH0002C	† Calogic	
	ELH0002	† Elantec	
	LH0002	† National	100
	LH0002C	† National	
Current Amplifier (unity gain, 200 mA output)			
	3553	**† Burr-Brown** **(3459)**	
Current Amplifier (unity gain, 100 mA output)			
	HA5033	† Harris	
Current Amplifier (unity gain, 150 mA output)			
	LT1010C	LinearTech	
	LT1010M	† LinearTech	105
Current Amplifier (unity gain, 200 mA output)			
	BB3553	† Maxim	
Current Amplifier (unity gain, 500 mA output)			
	9911	OEI	
Current Feedback Amplifier, 100 MHz			
	LM6181	Calogic	
	HA5004-5	Harris	
	HA5004-9	Harris	110
	HA5004/883	† Harris	
	LM6181	National	
Current Feedback Amplifier, 100 MHz, Dual			
	LT1259C	LinearTech	
Current Feedback Amplifier, 100 MHz, Triple			
	LT1260C	LinearTech	
DAS Amplifier, Programmable Gain (with track and hold)			
	AD365	AD	115
Difference Amplifer, High Speed Video			
	AD830A	**AD** **(3530)**	
	AD830J	**AD** **(3530)**	
	AD830S/883B	**† AD** **(3530)**	
Differential Amplifier (Gain is Fixed, A = 10)			
	INA106B	**Burr-Brown** **(3461)**	
	INA106K	**Burr-Brown** **(3461)**	120
Differential Amplifier, High Accuracy, High Gain			
	3627	**Burr-Brown** **(3461)**	
Differential Amplifier (Instrumentation Amp. Building Block)	**INA105A**	**Burr-Brown** **(3461)**	
	INA105B	**Burr-Brown** **(3461)**	
	INA105K	**Burr-Brown** **(3461)**	
	INA105U	**Burr-Brown** **(3461)**	125
Differential Amplifier, Unity Gain			
	AMP03	**AD** **(3520)**	
	AMP03B	AD	
	AMP03F	AD	
	INA117	**Burr-Brown** **(3461)**	
Differential/Cascode Amplifier			
	CA3028AM	Harris	130
	CA3028BM	Harris	
	CA3053M	Harris	
Differential/Cascode Amplifier (dc to rf)			
	CA3028A	† Harris	
	CA3028B	† Harris	
	CA3053	† Harris	135

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Amplifiers, Special Purpose (Cont'd)

Function	Device	Source	Line
Differential/Video Amplifier	CLC103AM	† Comlinear	
Differential Video Amplifier, 120 MHz Bandwidth, Adjustable Gain	μA592C	National	
	μA592M	† National	
Fast Buffer	LH4008C	National	
	LH4009C	National	5
Fast Open Loop Buffer	LH4011C	National	
FDDI Transimpedance amplifier, Low-Power	SA5222	Philips	
Floppy Disk Read Amplifier System	XR3470A	Exar	
	XR3470B	Exar	
	MC3470	Motorola	10
	MC3470A	Motorola	
	MC3470	TI	
Floppy Disk Read-Chain Data	TL712	TI	
Floppy Disk Read-Chain Data Comparator with MECL III and MECL 1000	TL721	TI	
Floppy Disk Write Amplifier	XR2247	Exar	15
High Frequency Amplifier, Wideband	NE5204A	Philips	
	NE5205A	Philips	
	SA5204A	Philips	
	SA5205A	Philips	
	SE5205A	Philips	20
	5205	† Philips	
Instrumentation, (differential input, independent gain adjustment)	AMP05	† AD	
	LH0038C	National	
	LM363A	† National	
Instrumentation, Digitally Programmable Gain	LH0084C	National	25
	LH0086C	National	
Isolation Amplifier	**AD202**	**AD (3521)**	
	AD202J	**AD (3521)**	
	AD202K	**AD (3521)**	
	AD204	**AD (3521)**	30
	AD204J	**AD (3521)**	
	AD204K	**AD (3521)**	
	290A	AD	
	292A	AD	
	MP227	Analogic	35
Isolation Amplifier (medical uses)	284J	AD	
	286J	AD	
Isolation Amplifier, Optically Coupled	**ISO100AP**	**Burr-Brown (3463)**	
	3650HG	**Burr-Brown (3463)**	
	3652HG	**Burr-Brown (3463)**	40
Isolation Amplifier, Transformer Coupled	AD295	AD	
	3656AG	**Burr-Brown (3463)**	
Isolation Amplifier, Wide Bandwidth (2000V peak isolation)	**AD203**	**AD (3521)**	
Isolation Amplifier (wideband)	289	AD	
	289J	AD	45
	289K	AD	
	289L	AD	

Function	Device	Source	Line
Isolation Amplifier, Two-Port Isolated	**ISO212J**	**Burr-Brown (3463)**	
	ISO212K	**Burr-Brown (3463)**	
Isolation Amplifier, Three-Port (Nonlinearity to 0.012% maximum)	**AD208J**	**AD (3521)**	50
	AD210	**AD (3521)**	
	AD210A	**AD (3521)**	
	AD210B	**AD (3521)**	
Isolation Amplifier, 10KHz Bandwidth	**AD203SN**	**† AD (3521)**	
Isolation Amplifier (1000 Vdc)	SCM100A	Datel	55
	SCM101	Datel	
Isolation Amplifier (1500V)	**ISO120B**	**Burr-Brown (3463)**	
Isolation Amplifier (2400V)	**ISO122**	**Burr-Brown (3463)**	
	ISO122P	**Burr-Brown (3463)**	
Isolation Amplifier (2500V)	**ISO100**	**Burr-Brown (3463)**	60
Isolation Amplifier (3400V)	**ISO103**	**Burr-Brown (3464)**	
	ISO103B	**Burr-Brown (3464)**	
	ISO113	**Burr-Brown (3464)**	
	ISO113B	**Burr-Brown (3464)**	
Isolation Amplifier (3500V)	**ISO121B**	**Burr-Brown (3463)**	65
Isolation Amplifier (3535V)	**ISO120**	**Burr-Brown (3463)**	
Isolation Amplifier (5600V)	**ISO107**	**Burr-Brown (3464)**	
	ISO121	**Burr-Brown (3463)**	
Isolation Amplifier (750V isolation)	52046	† Micropac	
Linear, AGC Amplifier	GC4130A	Gennum	70
Linear Amplifier (DC to 1.1 GHz)	CLC104	Comlinear	
Linear, IF/AGC, 30–500 MHz	**TQ9113**	**TriQuint (3843)**	
	TQ9114	**TriQuint (3843)**	
Log Amplifier, Wideband.	2930	OEI	
Log/Antilog Amplifier, (antilog)	SSM2100	AD	75
	ICL8049	Harris	
	ICL8049BC	Harris	
	ICL8049CC	Harris	
Log/Antilog Amplifier, (log)	**4127**	**Burr-Brown (3465)**	
	ICL8048	Harris	80
	ICL8048BC	Harris	
	ICL8048CC	Harris	
Log/Antilog Amplifier, 6 Decade	757	AD	
Log/Log Ratio Amplifier	**LOG100**	**Burr-Brown (3465)**	

Function	Device	Source	Line
Logarithmic Amplifier (dc to 120 MHz bandwidth)	**AD640**	**AD (3541)**	85
Logarithmic Amplifier (4–30 dB stages)	TL441AM	† TI	
Low Noise Amplifier, Gallium Arsenide	OTL1318	Optotek	
Low Voltage, Class A, <1.6V, peak clipping	LR505	Gennum	
	LS505	Gennum	
	LT505	Gennum	90
Low Voltage, Class A, <3V	LC505	Gennum	
	LC506	Gennum	
	LC507	Gennum	
	LD505	Gennum	
	LE507	Gennum	95
	LV506	Gennum	
Low Voltage, Class A, <3V, compression	LD501	Gennum	
	LD502	Gennum	
	LD511	Gennum	
Low Voltage, Class A, 1 to 10V	LC508	Gennum	100
	LP508	Gennum	
Low Voltage, Class B, <3V	LC549	Gennum	
	LC550	Gennum	
	LC551	Gennum	
	LC552	Gennum	105
	LD549	Gennum	
	LV549	Gennum	
Low-Noise Amplifier and Mixer, 1 GHz	HFA3600	Harris	
	NE600	**Philips (3731)**	
	SA600	**Philips (3731)**	110
Microphone Amplifier, Buffer Amplifier for Electret Microphones	ZN482Z	GEC Plessey	
Microphone/Headphone Amplifier	SL6310	GEC Plessey	
Microphone Preamplifier	**SSM2015**	**AD (3512, 3529)**	
	SSM2016	**AD (3529)**	
Microwave, 7 dB, 1–8 GHz	**TQ9111**	**TriQuint (3843)**	115
Norton Amplifier, Dual, High-Speed, Programmable	LM359	National	
Operational Amplifier/Voltage Comparator, Dual	LM2924	National	
	LM392	National	
Operational Amplifier, Dual with Dual Voltage Comparator	MC3405	Motorola	
	MC3505	† Motorola	120
Operational Transconductance Amplifier (for video, communications and high-speed data acquisition)	**OPA660A**	**Burr-Brown (3459)**	
Power Amplifier, AF (28W)	μPC1318AV	NEC	
Preamplifier, for IR Remote Control	TDA2320	SGS-Thomson	
Preamplifier, for Ultrasonic Remote Control	TDA3047	Philips	
Preamplifier, Low Noise (30 dB gain, 1 MHz bandwidth)	**MN2310**	**MicroNet (3692)**	125
	MN2310H	**† MicroNet (3692)**	
Preamplifier, Low Noise (35 dB gain, 100 MHz bandwidth)	AH0013CA	OEI	
	AH0013CB	OEI	
	AH0013MA	† OEI	
Preamplifier, Low Noise (40 dB gain, 1 MHz bandwidth)	**MN2311**	**MicroNet (3692)**	130
	MN2311H	**† MicroNet (3692)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Amplifiers, Special Purpose (Cont'd)

Function	Device	Source	Line
Preamplifier, Low Noise (40 dB gain, 1 MHz bandwidth) (Cont'd)	**MN2320**	**MicroNet (3692)**	
	MN2320H	† **MicroNet (3692)**	
Preamplifier, Low Noise (50 dB gain, 1 MHz bandwidth)	**MN2312**	**MicroNet (3692)**	
	MN2312H	† **MicroNet (3692)**	
	MN2321	**MicroNet (3692)**	5
	MN2321H	† **MicroNet (3692)**	
Preamplifier, Low Noise (60 dB gain, 1 MHz bandwidth)	**MN2322**	**MicroNet (3692)**	
	MN2322H	† **MicroNet (3692)**	
Preamplifier, Precision (to precede operational amplifiers)	LM121	† National	
	LM121A	† National	10
	LM221	National	
	LM221A	National	
	LM321	National	
	LM321A	National	
Preamplifier with Output Limiting (46 dB of adjustable gain)	GL504	Gennum	15
Programmable Channel Op Amp (one of 4 input stages can be connected to single output)	HA2400	† Harris	
	HA2404	Harris	
	HA2405	Harris	
	HA2406-5	Harris	
Programmable Curve Fitting Amplifier (six programmable gain slopes)	51934	† Micropac	20
Programmable Gain Amplifier, Digitally Controlled Amplifier Array	MX009	MX-COM	
	MX019	MX-COM	
	MX029	MX-COM	
Programmable Gain Amplifier (digitally controlled gain)	**3606**	**Burr-Brown (3462)**	
	MN2020	**MicroNet (3693)**	25
	MN2020H	† **MicroNet (3693)**	
	HS2020	Sipex	
Programmable Gain Amplifier, 8-Channel	PGA100	Maxim	
Read Amplifier/Preamplifier (for magnetic tape memory systems)	MC3467	Motorola	
RF Amplifier, Gated	MC1545	† Motorola	30
RF Amplifier, Wideband	LH4118	National	
	LH4118A	National	
	LH4118C	National	
RF Amplifier, 1 GHz	TK16201	Toko	
RF Amplifier, 250 MHz	TK16202	Toko	35
RF Amplifier, 500 MHz	TK16203	Toko	
RF Amplifiers, Hybrids for Cellular Radio	MHW720A	Motorola	
Sampling Amplifier, 125 MSPS	**AD9101**	**AD (3532)**	
Telephone audio	MC34119	Motorola	
Thermocouple Amplifier with Cold Junction Compensation	**AD594A**	**AD (3533)**	40
	AD594C	**AD (3533)**	
	AD595A	**AD (3533)**	
	AD595C	**AD (3533)**	
Transimpedance Amplifier	5212	† Philips	
	CXA1547	Sony	45
Transimpedance Amplifier, 50 MHz	SL9901	GEC Plessey	
Variable Gain Amplifier	NE5219	Philips	
	SA5219	Philips	
Variable Gain Amplifier, Wideband	5209	† Philips	
Video Amplifier, Single (drives 50 ohm loads with 3dB bandwidth of 80 MHz)	MAX404	† Maxim	50
Video Amplifier, Dual	MC14576A	Motorola	
	MC14577A	Motorola	
Video Amplifier, Dual (drives 75 ohm loads with 3dB bandwidth of 70 MHz)	MAX457C	Maxim	
Video Amplifier, Dual (drives 75 ohm loads with 3dB bandwidth of 70 MHz)	MAX457M	† Maxim	
Video Amplifier, 3-Channel (100 MHz)	M52013AP	Mitsubishi	55
Video Buffer	LH2003	National	
	LH2033	National	
Video, Differential with AGC	MC1445	TI	
	TL026C	TI	
	TL027C	TI	60
	TL027M	† TI	
Video Gain Control/Fader/Multiplexer, 65 MHz	EL4095C	Elantec	
Video Gain Control/Fader, 65 MHz	EL4094C	Elantec	
Video, IF and RF Ampliers	μA733	† Philips	
Video, IF and RF Amplifiers	CLC100	Comlinear	65
	CLC102	Comlinear	
	CLC104AI	Comlinear	
	CLC104AM	† Comlinear	
	CLC200AM	Comlinear	
	CLC220AM	† Comlinear	70
	SL1550	GEC Plessey	
	SL541	GEC Plessey	
	SL550	GEC Plessey	
	SL560	GEC Plessey	
	SL610C	GEC Plessey	75
	SL611C	GEC Plessey	
	SL612C	GEC Plessey	
	CA3011	† Harris	
	CA3020A	Harris	
	SG1401	† Linfinity Micro	80
	SG2401	Linfinity Micro	
	SG3401	Linfinity Micro	
	μA733C	National	
	μA733M	† National	
	LM733C	‡ National	85
	μPC1651	NEC	
	μPC1652	NEC	
	μPC1658	NEC	
	NE5205	Philips	
	NE5592	Philips	90
	NE592	Philips	
	SA5205	Philips	
	SA592	Philips	
	SE5205	† Philips	
	SE592	† Philips	95
	μA733C	TI	
	μA733M	† TI	
	NE592	TI	
	NE592A	TI	
	SE592	TI	100
	TL592	TI	
	TL592A	TI	
	TL592B	TI	
Video Line Driver	EL2033C	Elantec	
Video Multiplexer/ Amplifier, High Speed	MAX440C	Maxim	105
	MAX440E	Maxim	
	MAX441C	Maxim	
	MAX441E	Maxim	
Video Multiplexer/ Amplifier, 140 MHz, 2 Channel	MAX442C	Maxim	
	MAX442E	Maxim	110
Video, 2-Channel Multiplexed	TL040C	TI	
Voltage Controlled Amplifier	**SSM2013**	**AD (3512)**	
	SSM2014	AD	
Voltage Controlled Amplifier, Wideband	**VCA610**	**Burr-Brown (3457, 3460)**	
Wideband Amplifier, Logarithmic	SL1613	GEC Plessey	115
Wideband Amplifier, Logarithmic Limiting (4 to 500 MHz)	SL1531	GEC Plessey	
	SL1532	GEC Plessey	
	SL531C	GEC Plessey	
	SL532C	GEC Plessey	
Wideband Amplifier/Multiplier (four-quadrant multipliers for use as a variable gain amplifier)	SG1402	† Linfinity Micro	120
	SG2402	Linfinity Micro	
	SG3402	Linfinity Micro	
Wideband Amplifier (up to 1 GHz)	SL565C	GEC Plessey	
Wideband Amplifier with Low Level Video Detection (7 to 200 MHz for log IF amplifiers)	SL1521	† GEC Plessey	
	SL1522	GEC Plessey	125
	SL1523	GEC Plessey	
	SL1524	GEC Plessey	
	SL1525	GEC Plessey	
	SL521	GEC Plessey	
	SL523	GEC Plessey	130
Wideband Buffer	LH4012C	National	
Quad Current Controlled Amplifier	**SSM2024**	**AD (3512)**	
Quad Inverting Amplifiers (45 dB open loop gain)	LX509	Gennum	
Two Wire Transmitter (Sends current signal over same two lines from which it is powered.)	**IXR100**	**Burr-Brown (3462, 3465)**	
	XTR101	**Burr-Brown (3462)**	135

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Arrays

Transistor Arrays

Function	Device	Source	Line
Complementary Half-Bridge TMOS FETs	MMDF2C05E	Motorola	
Darlington Array, Four Pair	TPP4000	Allegro Micro	
Darlington Pair and Two Matched NPN Transistors	CA3018	† Harris	
	CA3018A	† Harris	
Darlington Transistor Array, Five-Unit	IR3403	Sharp	5
Darlington Transistor Array, Six-Unit (400 mA)	IR2415	Sharp	
	IR2419	Sharp	
Darlington Transistor Array, Seven-Unit (400 mA)	IR2422	Sharp	
Darlington Transistors	IR2403	Sharp	
	IR2410	Sharp	10
	IR2411	Sharp	
Differential Pair and Three NPN Transistors	SL3045	† GEC Plessey	
	SL3046	GEC Plessey	
	SL3145	† GEC Plessey	
	CA3045	† Harris	15
	CA3046	**† Harris (3637)**	
	CA3086	† Harris	
	CA3146	Harris	
	CA3146A	Harris	
	SG3045	Linfinity Micro	20
	SG3046	Linfinity Micro	
	SG3086	† Linfinity Micro	
	SG3821	Linfinity Micro	
	MC3346	† Motorola	
	LM3045	† National	25
	LM3046	National	
	LM3086	National	
	LM3146	National	
	CA3046	† SGS-Thomson	
	LM3045	† SGS-Thomson	30
	LM3046	SGS-Thomson	
High Voltage Array, General Purpose	CA3146	Motorola	
NPN Quad Array, to 350 MHz	EN2016C	Elantec	
PNP Matched Pair, Dual Low-Noise	**MAT03**	**AD (3542)**	
	MAT03A	**AD (3542)**	35
	MAT03A/883	**† AD (3542)**	
	MAT03E	**AD (3542)**	
	MAT03F	**AD (3542)**	
PNP Quad Array, to 350 MHz	EP2015C	Elantec	
Thirty-Two Circuit High-Voltage MOS, Built-In Logic, 250 V	LZ1032AM	Sharp	40
	LZ1134R	Sharp	
	LZ1232M	Sharp	
Transistor Array	IR2C17	Sharp	
	IR2C19	Sharp	
	IR2C30	Sharp	45
	IR2C32	Sharp	
	IR2C33	Sharp	
Transistor Array, Quad (400 mA)	IR2C26	Sharp	
Transistor Array, Four-Unit 1.5 A Darlington with Clamp Diode	M54532	Mitsubishi	
Transistor Array, Four-Unit 1.5A Darlington with Clamp Diode	M54567	Mitsubishi	50
Transistor Array, Five-Unit NPN	**HFA3046**	**Harris (3637)**	
Transistor Array, Six-Unit 320 mA with Clamp Diode and Stroke	M54533	Mitsubishi	
	M54534	Mitsubishi	
Transistor Array, Six-Unit 700 mA wtih Clamp Diode	M54539	Mitsubishi	
Transistor Array, Seven-Unit 50 mA	M54514A	Mitsubishi	55
Transistor Array, Seven-Unit (60 mA)	IR2C32A	Sharp	
Transistor Array, Seven-Unit (150 mA)	IR2416	Sharp	
Transistor Array, Seven-Unit 150 mA Darlington	M54580	Mitsubishi	
Transistor Array, Seven-Unit 150 mA with Clamp Diode and Stroke	M54536	Mitsubishi	
Transistor Array, Seven-Unit 300 mA Darlington	M54561	Mitsubishi	60
Transistor Array, Seven-Unit 350 mA	M54537	Mitsubishi	
Transistor Array, Seven-Unit 350 mA and Motor Driver	M54538	Mitsubishi	
Transistor Array, Seven-Unit 400 mA Darlington	M54566	Mitsubishi	
Transistor Array, Seven-Unit 500 mA Darlington with Clamp Diode	M54523	Mitsubishi	
	M54524	Mitsubishi	65
Transistor Array, Eight-Unit 30 mA PNP	M54569	Mitsubishi	
Transistor Array, Eight-Unit 50 mA	M54513	Mitsubishi	
Transistor Array, Eight-Unit 400 mA Darlington with Clamp Diode	M54522	Mitsubishi	
Transistor Array, Eight-Unit 500 mA Darlington with Clamp Diode	M54562	Mitsubishi	
	M54563	Mitsubishi	70
	M54581	Mitsubishi	
	M54585	Mitsubishi	
	M54590	Mitsubishi	
	M54598	Mitsubishi	
	M54660	Mitsubishi	75
Dual Audio Matched NPN Transistor Pair.	**SSM2210**	**AD (3542)**	
Dual Audio Matched PNP Transistor Pair.	**SSM2220**	**AD (3542)**	
Dual Darlington (NPN-PNP quasi complementary)	TDA1410	AEG Corp	
Dual Differential Amplifiers (NPN), to 120 MHz	CA3026	Harris	
	CA3054	Harris	80
	CA3054	Motorola	
Dual Differential Amplifiers (NPN), to 500 MHz	**CA3049**	**† Harris (3637)**	
	CA3102	† Harris	
Dual TMOS FETs	MMDF2N02E	Motorola	
Dual Transistors (f_t>5 GHz)	SL2363C	GEC Plessey	85
	SL2364C	GEC Plessey	
Dual Transistors, Monolithic NPN, Logarithmic Conformance	**MAT01A**	**‡ AD (3542)**	
	MAT01G	**† AD (3542)**	
Dual Transistors, Monolithic NPN, Tightly Matched, Low Noise	**MAT02A**	**† AD (3542)**	
	MAT02B	**† AD (3542)**	90
	MAT02B/883	**† AD (3542)**	
	MAT02E	**AD (3542)**	
	MAT02F	**AD (3542)**	
Dual Transistors, Monolithic NPN Tightly Matched	SL301L	GEC Plessey	
	SL360	GEC Plessey	95
	SL362	GEC Plessey	
(Continued)			
Dual Transistors, Monolithic NPN Tightly Matched (Cont'd)	LM194	† National	
	LM394	National	
	LM394B	National	
	LM394C	National	100
Quad Darlington Switch	ULN2064	Allegro Micro	
	ULN2065	Allegro Micro	
	ULN2068	Allegro Micro	
	ULN2069	Allegro Micro	
	SG2064	† Linfinity Micro	105
	SG2065	† Linfinity Micro	
	SG2066	† Linfinity Micro	
	SG2067	† Linfinity Micro	
	SG2068	† Linfinity Micro	
	SG2069	† Linfinity Micro	110
	SG2070	† Linfinity Micro	
	SG2074	† Linfinity Micro	
	SG2075	† Linfinity Micro	
	SG2076	† Linfinity Micro	
	SG2077	† Linfinity Micro	115
	ULN2068	Motorola	
	ULN2074	Motorola	
	L702	SGS-Thomson	
Quad Schottky Array	UC1611	† Unitrode	
	UC2611	Unitrode	120
	UC3611	Unitrode	
Two General Purpose PNP, Two General Purpose NPN	TPQ6002	Allegro Micro	
	TPQ6502	Allegro Micro	
	TPQ6700	Allegro Micro	
Two NPN and One PNP Transistor	LM195	† Unitrode	125
	LM395	Unitrode	
Two NPN Monolithic Transistors	MP310	† MicroPwr	
	MP311	† MicroPwr	
	MP312A	† MicroPwr	
Two PNP Monolithic Transistors	MP350	† MicroPwr	130
	MP351	† MicroPwr	
	MP352A	† MicroPwr	
Three NPN and Two PNP Transistors	CA3096	† Harris	
	CA3096A	† Harris	
	CA3096C	† Harris	135
Four General Purpose NPN	TPQA06	Allegro Micro	
	TPQ2222A	Allegro Micro	
	TPQ3904	Allegro Micro	
	TPQ6427	Allegro Micro	
	NJD6506	NJR	140
	NJD6507	NJR	
Four General Purpose PNP	TPQA55	Allegro Micro	
	TPQA56	Allegro Micro	
	TPQ2907A	Allegro Micro	
	TPQ3906	Allegro Micro	145
	TPQ5401	Allegro Micro	
Four NPN Transistor Array, General Purpose High-Current	CA3083	Harris	
Four NPN Transistors	IR2C34	Sharp	
Five High Current NPN Transistors	CA3183	† Harris	
	CA3183A	Harris	150
	SG3083	† Linfinity Micro	
	SG3183	† Linfinity Micro	
	SG3183A	† Linfinity Micro	
Five High Frequency NPN Transistors, (f_t>5 GHz)	SL3127	GEC Plessey	
	CA3127	**Harris (3637)**	155
(Continued)			

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Arrays (Cont'd)

Transistor Arrays (Cont'd)

Function	Device	Source	Line
Five High Frequency NPN Transistors, (f_t>5 GHz) (Cont'd)			
	CA3227	Harris	
	CA3246	Harris	
Five High Voltage, High Current NPN Darlington Amplifiers	LB1287	Sanyo	
	LB1288	Sanyo	
Five Low-Noise NPN Transistors			
	LS159	SGS-Thomson	5
Five-Unit NPN	**HFA3127**	**Harris (3637)**	
Five-Unit PNP	**HFA3128**	**Harris (3637)**	
Five-Unit (three NPN, two PNP)			
	HFA3096	Harris	
Six Inverted Darlingtons			
	IR2C05	Sharp	
	IR2C06	Sharp	10
Six NPN Darlingtons			
	LB1272	Sanyo	
Six NPN Transistors			
	IR2C23	Sharp	
	IR2C24	Sharp	
Seven High Current, High Voltage Darlington Drivers			
	DS2001	National	
	DS2002	National	15
	DS2002M	† National	
	DS2003	National	
	DS2003M	† National	
	DS2004	National	
	DS2004M	† National	20
Seven High Current, High Voltage, NPN Darlington Amplifiers, Open Collector, to 150 V, 600 mA			
	ULN2001	Allegro Micro	
	ULN2003	Allegro Micro	
	ULN2004	Allegro Micro	
	ULN2013A	Allegro Micro	
	ULN2023	Allegro Micro	25
	ULN2024	Allegro Micro	
	ULN7003A	Allegro Micro	
	XR2001C	Exar	
	XR2002C	Exar	
	XR2003C	Exar	30
	XR2004C	Exar	
	XR2011C	Exar	
	XR2012C	Exar	
	XR2013C	Exar	
	XR2014C	Exar	35
	XR2201	Exar	
	XR2201M	† Exar	
	XR2202	Exar	
	XR2202M	† Exar	
	XR2203	Exar	40
	XR2203M	† Exar	
	XR2204	Exar	
	XR2204M	† Exar	
	SG2001	† Linfinity Micro	
	SG2002	† Linfinity Micro	45
	SG2003	† Linfinity Micro	
	MC1411	Motorola	
	MC1412	Motorola	
	MC1413	Motorola	
	MC1416	Motorola	50
	µA9665C	National	
	µA9666C	National	
	µA9666M	† National	
	µA9667C	National	
	µA9667M	† National	55
	µA9668C	National	
	µA9668M	† National	
Seven High Voltage NPN Darlington			
	NJD6511	NJR	
	NJD6512	NJR	
	NJD6513	NJR	60
	NJD6514	NJR	

Function	Device	Source	Line
Seven NPN Darlingtons			
	IR2C03	Sharp	
Seven NPN Transistors			
	IR2C36	Sharp	
Eight High Current, High Voltage NPN Darlington Amplifiers, Current Source			
	UDN2981A	Allegro Micro	
	UDN2982A	Allegro Micro	65
	UDN2983A	Allegro Micro	
	UDN2984A	Allegro Micro	
	ULN2801	Allegro Micro	
	ULN2803	Allegro Micro	
	ULN2804	Allegro Micro	70
	ULN2823	Allegro Micro	
	L601	SGS-Thomson	
	L602	SGS-Thomson	
	L603	SGS-Thomson	
	L604	SGS-Thomson	75
Eight High Current, High Voltage NPN Darlington Transistors, 500 mA			
	M2580	Mitsubishi	
Eight High Voltage, Medium Current NPN Darlington Amplifiers	SG2801	† Linfinity Micro	
	SG2802	† Linfinity Micro	
	SG2803	† Linfinity Micro	
	SG2804	† Linfinity Micro	80
	SG2805	† Linfinity Micro	
	SG2811	† Linfinity Micro	
	SG2812	† Linfinity Micro	
	SG2813	† Linfinity Micro	
	SG2814	† Linfinity Micro	85
	SG2815	† Linfinity Micro	
	SG2821	† Linfinity Micro	
	SG2822	† Linfinity Micro	
	SG2823	† Linfinity Micro	
	SG2824	† Linfinity Micro	90
8-unit 400 mA Darlington			
	M54583P	Mitsubishi	
8-Unit 500 mA Darlington with Clamp Diode			
	M54585P	Mitsubishi	
	M54587P	Mitsubishi	

Special Arrays

Function	Device	Source	Line
Complementary Enhancement-Mode Vertical DMOS Power FET Quad Array			
	TC0604	Supertex	
	VC0106	Supertex	95
Diode Array, Thirty-two Circuit Anode Common High Voltage	LZ1030M	Sharp	
Diode Array, Dual Sixteen (common cathode/ common anode)	SG6496	† Linfinity Micro	
	SG6496A	† Linfinity Micro	
Diode Array, Dual Eight High-Voltage (common anode/common cathode)			
	SG5774	† Linfinity Micro	
	SG5774A	† Linfinity Micro	100
Diode Array, Sixteen Element, Common Anode			
	TND942	Allegro Micro	
Diode Array, Sixteen Element, Common Cathode			
	TND905	Allegro Micro	
Diode Array, Sixteen High-Voltage (common anode)			
	SG25770	† Linfinity Micro	
Diode Array, Sixteen High-Voltage (common anode/common cathode)			
	SG5772	† Linfinity Micro	
	SG5772A	† Linfinity Micro	105
Diode Array, Sixteen High-Voltage (common cathode)			
	SG25768	† Linfinity Micro	
Diode Array, Eight Element, Common Anode			
	TND938	Allegro Micro	
	TND939	Allegro Micro	
Diode Array, Eight Element, Common Cathode			
	TND933	Allegro Micro	
	TND940	Allegro Micro	110
Diode Array, Eight High-Voltage (common-anode)			
	SG5768A	† Linfinity Micro	
Diode Array, Eight High-Voltage (common-cathode)			
	SG5768	† Linfinity Micro	
Diode Array, Eight Single			
	TND903	Allegro Micro	
	TND907	Allegro Micro	
	TND908	Allegro Micro	115
	TND918	Allegro Micro	
	TND921	Allegro Micro	
Diode Array (6 element)			
	CA3039	Harris	
Diode Array (10 element)			
	CA3141	Harris	
MOS Array (32 circuit high voltage)			
	LZ1032AD	Sharp	120
	LZ1132BD	Sharp	
N- and P-Channel Quad Power MOSFET Array, 20V			
	VQ7254	Supertex	
N- and P-Channel Quad Power MOSFET Array, 40V			
	TQ3001	Supertex	
	VQ3001	Supertex	
N-Channel Enhancement-Mode Vertical DMOS Power FET Quad Array, 40V			
	TN0604	Supertex	125
	TN0606	Supertex	
	VN0104	Supertex	
	VN0106	Supertex	
	VN0109	Supertex	
	VN2106	Supertex	130
	VN2110	Supertex	
	VQ1000	Supertex	
	VQ1001	Supertex	
	VQ1004	Supertex	
P-Channel Enhancement-Mode Vertical DMOS Power FET Quad Array, 40V			
	TP0604	Supertex	135
	TP0606	Supertex	
	VP0104	Supertex	
	VP0106	Supertex	
	VP0204	Supertex	
	VP0206	Supertex	140
	VQ2001	Supertex	
	VQ2006	Supertex	
Dual Diode Bridge Circuit, 1A/Diode			
	SG3212	Linfinity Micro	
Dual High-Speed MOSFET Driver			
	SG1626	† Linfinity Micro	
	SG2626	Linfinity Micro	145
	SG3626	Linfinity Micro	
Dual Schottky Diode Bridge			
	L6210	SGS-Thomson	
Quad PIN Diode Driver			
	SG5792	† Linfinity Micro	
	SG5793	† Linfinity Micro	
Octal High Voltage N-Channel MOSFET Array			
	AN0132N	AT&T	150
Octal High-Voltage P-Channel MOSFET Array			
	AN0130N	AT&T	
Seven 100 mA Diodes, Straight Through Configuration			
	SG6100	† Linfinity Micro	
Eight Common Anode Diode Array			
	SG5770	† Linfinity Micro	
	SG5770A	† Linfinity Micro	
Eight 100 mA Diodes, Straight Through Configuration			
	SG6101	† Linfinity Micro	155
8-Channel Logic to High-Voltage Level Translator, for P-Channel MOSFET Arrays			
	HT0130	Supertex	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Arrays (Cont'd)

Special Arrays (Cont'd)

Function	Device	Source	Line
8-Channel Power MOSFET Array, N-Channel Enhancement-Mode, 160V			
	AN0116	Supertex	
	AN0120	Supertex	
	AN0130	Supertex	
	AN0132	Supertex	
	AN0140	Supertex	5
8-Channel Power MOSFET Array, P-Channel Enhancement-Mode, 160V			
	AP0116	Supertex	
	AP0120	Supertex	
	AP0130	Supertex	
	AP0132	Supertex	
	AP0140	Supertex	10

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators

Comparators-Single

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
0.25	1.2 µA	80 nA	35	3	15		–3 to –16 and 3 to 5	RC4805E	Raytheon	
								RM4805A	† Raytheon	
	3.5 µA	0.15 µA	45	± 15			± 15	**AD790B**	**AD** (3539)	
								AD790K	**AD** (3539)	
0.3	4 µA	.2 µA	2.7	6			7, –7	µA6685	National	5
0.5	25 nA	3 nA	250	36	200	5	± 18	LT1011AC	TI	
0.6	1.8 µA	150 nA	35	3	10		–3 to –16 and 3 to 5	RC4805	Raytheon	
							–3 to 16 and 3 to 5	RM4805	† Raytheon	
	10 µA	1 µA	2	± 5			± 7	AD9686B	AD	
	1200 nA	80 nA	35 *		8		5 to ± 18	**CMP05B**	† **AD** (3539)	10
								CMP05F	**AD** (3539)	
0.75	35 nA	3 nA	250	36	200	10	3 to 36, ± 2 to ± 18	LT1011A	† LinearTech	
0.8	50 nA	3 nA	270	11	200		5, ± 5 to ± 18	**CMP02E**	**AD** (3539)	
	600	25	180	± 15	200	15	5, ± 5- ± 15	**CMP01**	**AD** (3539)	
	600 nA	25 nA	180	11	200		5, ± 5 to ± 18	**CMP01E**	**AD** (3539)	15
1	1.8 µA	150 nA	55	± 5	5	7	± 5	**CMP05G**	**AD** (3539)	
	5 µA	0.25 µA	45	± 15			± 15	**AD790A**	**AD** (3539)	
								AD790J	**AD** (3539)	
								AD790S	**AD** (3539)	
	10 µA	1 µA	3.5	12		6	2 to 12, ± 1 to ± 6	MAX905	Maxim	20
	100 nA	5 nA	250	30	200	10	5 to 30, ± 5 to ± 15	LT111A	† LinearTech	
		10 nA	250	30	200	10	5 to 30, ± 5 to ± 15	LT311A	LinearTech	
	1800 nA	150 nA	35 *		7		5 to ± 18	**CMP05C**	† **AD** (3539)	
1.5	50 nA	4 nA	250	36	200	5	± 18	LT1011C	TI	
1.9	9 µA	1 µA	3.5	6		5	–5.2 and 6	LM6685	National	25
2	0.3 nA		100 µs	16			2.8 to 16	LTC1042	† LinearTech	
	5 µA	500 nA	10	5			± 5	VLC931	ThirdDomain	
	10	1	3.5	5.5		6	–5.2/5	**AD96685**	**AD** (3537, 3539)	
	10 µA	1 µA	2	± 5			± 7	AD9686T	† AD	
			6.5	6		6	2 to 6, ± 1 to ± 5	LT685	LinearTech	30
	10µA	1µA	6.5	6			–5.2, 6	µA685	National	
	20 µA	3 µA	40 *	5	1.25	1	–6 and + 12	KA710I	Samsung	
							–6 and 12	µA710	National	
								LM710	† National	
			40	5	40 *	2	± 3 to ± 15	LM106	† National	35
						10	–3 to –12,12	LM206	National	
			40 *	5	1250	1	–6,12	SFC2710	† SGS-Thomson	
	20µA	3µA	40	± 5	1250		7to14	µA710m	TI	
	45 µA	3 µA	40	5	40	10	–3 to –12,12	LM106	Rochester	
	45µA	3µA	40	7	40000		15	LM206	TI	40
	55 µA	1 µA	7	5.4		4	+ 5, ± 5	**AD9696**	**AD** (3537, 3539)	
							5, ± 5	**AD9698**	**AD** (3537, 3539)	
	65 nA	4 nA	250	36	200	10	3 to 36, ± 2 to ± 18	LT1011	† LinearTech	
	10000	1000	2	± 5	1400		± 5,5	LT1016M	† Maxim	
2.5	13 µA	1.3 µA	9.5	± 16	800		–6/6.5	CMP08F	AD	45
	500 nA	50 nA	80	± 5	100			PM119	AD	
2.8	100 nA	15 nA	270	11	100		5, ± 5 to ± 18	**CMP02C**	‡ **AD** (3539)	
	900 nA	80 nA	180	11	100		5, ± 5 to ± 18	**CMP01C**	‡ **AD** (3539)	
3	6 µA	400 nA	10	6			2 to 12, ± 1 to ± 6	MAX910	Maxim	
								MAX911	Maxim	50
	8 µA	0.2 µA	2.4	5.5	3.1	6	–18/8	HFA0003-5	Harris	
								HFA0003-9	Harris	
			2.6	5.5	3.1	6	–18/8	HFA0003L-5	Harris	
	8 u)A	0.2 µA	2.6	5.5	3.1	6	–18/8	HFA0003L-9	Harris	
	10 µA	1 nA	12	5	1.4	4	5, ± 5	LT1016	† LinearTech	55
	16 µA	1.6 µA	12	± 16	800		–16 to 6.5	CMP08B	† AD	
	20 µA	2 µA	14	15	3	4	5, ± 5	LT1116	LinearTech	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators (Cont'd)

Comparators-Single (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
3	20 µA								(Cont'd)	
		3 µA	20	5	3 *	2	± 6 to ± 15	LM161	† National	
								LM261	National	
	25 nA	5 nA	9	6			± 5	MAX9686	† Maxim	
	50	5 nA	180	± 30	200	10	± 15	**PM211**	**AD (3539)**	
	50 nA	5 nA	180	30	200 *	10	± 15	**PM111**	**† AD (3539)**	5
	100 nA	10 nA	165 *	30	40	10	5 to 18, ± 5 to ± 18	LM111	† TI	
								LM211	TI	
			200 *	30	40		4 to 36, ± 2 to ± 18	LM111	† Raytheon	
							4 to 36, ± 2 to 18	LM111	† Rochester	
						2	5 to 36, ± 2.5 to ± 15	LM111	National	10
								LM211	National	
						10	5, ± 5 to ± 15	LM111	† SGS-Thomson	
								LM211	SGS-Thomson	
							5 to 30, ± 5 to ± 15	LM111	† LinearTech	
							5 to 30, 0 to ± 15	LM111	† Motorola	15
								LM211	Motorola	
					200 *	5	4 to 36, ± 2 to ± 15	LM111	† Philips	
								LM211	Philips	
			600	30	200 *	10	5 to 30, ± 5 to ± 15	SG111	† Linfinity Micro	
								SG211	Linfinity Micro	20
	300 nA	150 nA	20	18	92 dB	10	± 5 to ± 18	EL2018	† Elantec	
	10000	1000	2	± 5	1400		± 5,5	LT1016C	Maxim	
	20000	2000	2	± 15	1400		± 5,5	LT1116C	Maxim	
3.5	20 µA	5 µA	80	5	33		–7 to 14	TL510	Rochester	
4	10 µA	500 nA	10	10		2	5 to 10, ± 2.5 to ± 5	MAX903	† Maxim	25
	50 pA	25 pA	200 *	30	40	2	5 to 36, ± 2.5 to ± 15	LF111	† National	
							5 to 36, ± 2.5 to ± 18	LF211	National	
5	5 µA	5 µA	6					VC7696J	VTC	
			8					VC7698J	VTC	
	10 µA *	1µA *	50 *	7	0.6		–6 to 12	MB4001	Fujitsu	30
	10 µA	5 µA	1.4	5			5,–5.2	VC7695J	VTC	
			2.2	5			–5.2/5	AD9685	AD	
			2.7	5			–5.2/5	AD9687	AD	
	10 nA	5 nA	1.4	5			–5.2, 5	MAX9685	† Maxim	
			1.8	5			± 5	MAX9690	† Maxim	35
	20 µA	3 µA	14 *	5	3 *	4	± 5	LM260	National	
			25	5		4	± 8	NJM360	NJR	
					3 *	6	± 5	LM160	† National	
								LM360	National	
		5 µA	1.4	3.5			± 6	VC7690J	VTC	40
			3	3.5		6	–5.2 and 5	SP9685	GEC Plessey	
	25 µA	5 µA	40 *	5	1	1	–6 and 12	µA710C	National	
								LM710C	National	
			40	5	40 *	2	± 3 to ± 15	LM306	National	
						50	–3 to ± 15	LM306	TI	45
	30 µA	5 µA	20	5	3 *	2	± 6 to ± 15	LM361	National	
	40 µA	5 µA	25 *	7	0.8		–6 to 12	MB4002	Fujitsu	
	100 nA	25 nA	300K	36	200		2 to 36	TL331I	TI	
	150 nA	50 nA	1300 *	36	200 *		2 to 36	TL331C	TI	
	250	50	1.3 *	± 36	200		± 18	TA75S393F	Toshiba	50
	300 nA	150 nA	20	18	103 dB	10	± 5 to ± 18	EL2019	† Elantec	
6	40 µA	10 µA	4	3.5		6	–5.2 and 5	SP9680	GEC Plessey	
	60 µA	7.5 µA	25	5	5 *	2	± 4.5 to ± 6.5	µA760	National	
					5	2	± 4.5 to ± 6.5	µA760C	National	
			30	5		2	± –4.5 to – ± 6.5	LM760	† National	55
								LM760C	National	
	75	10µA	40	5	75			TL710M	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Comparators-Single (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
7	250 #A	50 #A	1.5 *	7	200 *	1	5	NJM2406	NJR	
7.5	100 nA	25 nA	1200	30	40	5	3 to 18, ± 1.5 to ± 15	LP111	TI	
								LP211	TI	
							3 to 36, ± 2 to ± 15	LP311	National	
					100	2	± 18 to ± 36	LP311	TI	5
	250 nA	50 nA	165 *	30	40	10	5 to 18, ± 5 to ± 18	LM311	TI	
			200 *	30	40	1	5 to 36, ± 5 to ± 15	KA311	Samsung	
						2	5 to 36, ± 2.5 to ± 18	LM311	National	
						10	5, ± 5 to ± 15	LM311	SGS-Thomson	
							5 to 30, ± 5 to ± 15	LM311	LinearTech	10
							5 to 30, 0 to ± 15	LM311	Motorola	
					200 *	5	4 to 36, ± 2 to ± 15	LM311	Philips	
						10	4 to 36, ± 2 to ± 18	NJM311	NJR	
			600	30	200 *	10	5 to 30, ± 5 to ± 15	SG311	Linfinity Micro	
10	3μA			11	1	100	6.5 to 18	MB4205	Fujitsu	15
	4 μA	1 μA	16	5		5	± 5 to ± 15	NE527	Philips	
	50 μA	15 μA	12	5	5000 *	5	± 5 to ± 15	NE529	Philips	
	150 pA	75 pA	200 *	30	200 *	2	5 to 36, ± 2.5 to ± 15	LF311	National	
	33000		2.5	9			15.2	**AD1317K**	**AD (3537, 3539)**	
20	30 μA	60 μA	14	5	1	4	5	LT1015	LinearTech	20
50	10 μA	10 μA		14		5	3.5 to 14	MC14578	Motorola	
75			12	5		3	5	TL714C	TI	
100			18 *	25		3	-5.2	TL721	TI	
			25 *	25		3	5	TL712	TI	

Comparators-Dual

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
0.5 *	15 μA *	2 μA *	2.5	6			-7/7	AM6687C	AMD	25
			2.5 ns *	6			-7/7	AM6687M	† AMD	
0.5	500 nA	40 nA	80 *	5	20	5	5 to 30, ± 5 to ± 15	LT119A	† LinearTech	
								LT319A	LinearTech	
1	15 nA	2 nA		40	100	6	1.1 to 40	LT1017	† LinearTech	
	75 nA	8 nA		40	100	6	1.1 to 40	LT1018	† LinearTech	30
	500 nA	40 nA	80 *	5	20	2	5 to 36, ± 2.5 to ± 15	LM319A	National	
1.5	10 μA	1 μA	3.5	12		6	2 to 12, ± 1 to ± 6	MAX906	† Maxim	
1.9	9 μA	1 μA	3.5	6		5	± 7	LM6687I	National	
2	0.2 nA	0.2 nA	650	10	50	12	+ 5, ± 5	ALD2301A	† AdvLinear	
	10	1	3.5	5.5		5	-5.2/5	**AD96687**	**AD (3537, 3539)**	35
	10 μA	1 μA	3.5	5.5			-5.2/5	AD9668T	AD	
								AD96687T	**AD (3537, 3539)**	
			8	6			-5.2/5	AM687AM	† AMD	
							-5.2, 5	μA687A	† National	
			10	6			-5.2/5	AM687M	† AMD	40
							-5.2, 5	μA687	† National	
	15μA	3μA	80	± 7	12500		-7to14	TL820M	TI	
	20 μA	3 μA	30 *	5	1250	1	-6,12	LM1514	† National	
			40 *	5	1.25	2	-5 to 7/10 to 14	MC1514	† Motorola	
	100 nA	25 nA	1300 *	36	50	2	2 to 36, ± 1 to ± 18	LM193A	† SGS-Thomson	45
								LM293A	SGS-Thomson	
								LM393A	SGS-Thomson	
						3	2 to 36, ± 1 to ± 18	LM193A	† National	
						4	2 to 36, ± 1 to ± 18	LM193A	Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators (Cont'd)

Comparators-Dual (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
2									(Cont'd)	
	250 nA	50 nA	1300 *	36	50		2 to 36	GL393A	GoldStar	
							2 to 36, ± 1 to ± 18	LM293A	National	
						1	2 to 36, ± 1 to ± 18	LM293A	TI	
								LM393A	TI	
						3	2 to 36, ± 1 to ± 18	LM393A	National	5
						4	2 to 36, ± 1 to ± 18	LM393A	Motorola	
			1300	36	200		2 to 36	LM295A	TI	
			1400 *	36	50	2	5 to 36, ± 5 to ± 18	KA393A	Samsung	
2.5	500	50	80		1000		5	PM219	AD	
3	0.3 nA	15 nA	100 µs	16			2.8 to 16, ± 2.8 to ± 8	LTC1040	† LinearTech	10
	1 µA	200 nA	80 *	15	8		5 to 36, ± 2.5 to ± 18	NJM319	NJR	
	10 µA	1 µA	8	6			–5.2/5	AM687AL	AMD	
			10	6			–5.2/5	AM687L	AMD	
	25 nA	4 nA	1500 *	36	50	2	4 to 36, ± 2 to ± 18	LM612A	† National	
					500 *	2 Op/2Comp	4 to 36	LM613A	† National	15
		5 nA	9	6			–5, 5	MAX9698	† Maxim	
	100 nA	10 nA	200 *	30	40	4 to 36, ± 2 to ± 18	5, 0 to ± 15	LH2111	Raytheon	
			200	30	200	2	5 to 30, ± 2.5 to ± 15	LH2111	† National	
			200 *	30	200 *	5	5 to 30, ± 2.5 to ± 15	LH2211	National	
	300 nA	50 nA	50	5			5	MAX907	Maxim	20
3.5	9 µA	1.2 µA	1	3.8	20 dB *	6	–5.2 and 5	SP93802	GEC Plessey	
	20 µA	5 µA	3	3.5		6	–5.2 and 5	SP9687	GEC Plessey	
	75 µA	10 µA	40 *	5	750	1	–6, 12	µA711M	† National	
4	10µA	500 nA	10	10		2	5 to 10, ± 2.5 to ± 5	MAX902	† Maxim	
	300 nA	100 nA	1300 *	36	200 *	2	2 to 36, ± 1 to ± 18	LM193A	† Philips	25
	400 nA	150 nA	1300 *	36	200 *	2	2 to 36, ± 1 to ± 18	LM293A	Philips	
								LM393A	Philips	
								BA10393	ROHM	
	500 nA	75 nA	80 *	5	10	2	5 to 36, ± 2.5 to ± 15	LM119	† National	
								LM219	National	30
						5	5, ± 5 to ± 15	LM119	† SGS-Thomson	
							5 to 30, ± 5 to ± 15	LM119	† LinearTech	
						45	5, ± 5 to ± 15	LM219	SGS-Thomson	
5	0.005		2.5	12		2	–5,10	RC7341	Raytheon	
								RC7342	Raytheon	35
	0.005 nA	0.001 nA	200 *	18		2	2 to 18	TLC372	† TI	
					200	4	1.4 to 18	TLC352	† TI	
	0.005 nA *	0.001 nA *	2500 *	18		4	4 to 16	TLC3702	† TI	
								TLC393	† TI	
				36	50		–0.3 to 18	TLC193M	† TI	40
	0.2 nA	0.2 nA	650	10	50	12	+ 5, ± 5	ALD2301B	† AdvLinear	
	5		2.2	12		2	–5,10	RC73687	Raytheon	
	10 µA	5 µA	1.8	5			5,–5.2	VC7697J	VTC	
	10 nA	5 nA	1.9	5			–5.2, 5	MAX9687	† Maxim	
	20 µA	5 µA	1.8	6	38 dB	10	–8/ + 10	BT687	Brooktree	45
	25 µA	5 µA	30 *	5	1	2	–6 and 12	LM1414	National	
			40 *	5	1	2	–5 to 7/10 to 14	MC1414	Motorola	
	35	4	1500 *	36	50		4 to 36	LM612I	National	
	35 nA	4 nA	1500 *	36	50	2	4 to 36, ± 2 to ± 18	LM612	† National	
					500 *	2 Op/2 Comp	4 to 36	LM613	† National	50
									(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators (Cont'd)

Comparators-Dual (Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
5	100 µA	15 µA	40 *	5	700	1	−6,12	µA711C SFC2711	National SGS-Thomson	
	100 nA	25 nA	1300 *	36	50	1	2 to 36, ±1 to ±18	LM193	† TI	
						3	2 to 36, ±1 to ±18	LM193	† National	
						4	2 to 36, ±1 to ±18	LM193	Motorola	5
	250 nA	50	1300 *	36	200 *		2–36/±1–±18	LA6393	Sanyo	
		50 nA	2 µs	36	200	8	2 to 36, ±1 to 18	MB47393	Fujitsu	
			1300 *	36	25	2	2 to 36, ±1 to ±18	LM193 LM293	† SGS-Thomson SGS-Thomson	
					50		2 to 36	LM393	SGS-Thomson	10
						1	2 to 36, ±1 to ±18	LM293 LM393	TI TI	
						3	2 to 36, ±1 to ±18	LM293 LM393	National National	
						4	2 to 36, ±1 to ±18	LM293 LM293A LM393	Motorola Motorola Motorola	15
			1400 *	36	50	2	5 to 36, ±5 to ±18	KA393	Samsung	
	500 nA	50 nA	350 *	36	50	2 Op/2 Comp	2 to 36, ±1 to ±18	MC3505	† Motorola	
6	12 µA	1000	7	36	4	3	±15	EL2252	Elantec	20
7	1 µA	100 nA	80 *	5	40 *	2	5, ±5 to ±15	LM119 LM219 LM119	† Philips Philips † Rochester	
	250 nA	50 nA	1300 *	36	25	1	2 to 36, ±1 to ±18	LM2903	TI	
						2	2 to 36, ±1 to ±18	LM2903	SGS-Thomson	25
					100 *	2	2 to 36, ±1 to ±18	AU2903	Philips	
			1500 *	36	25	3	2 to 36, ±1 to 18	LM2903	National	
							5 to 36, ±2.5 to ±18	KA2903	Samsung	
						4	2 to 36, ±1 to ±18	LM2903	Motorola	
	500 nA	50 nA	1500 *	36	200 *	1	3 to 36, ±1.5 to ±18	NJM2903	NJR	30
7.5	250 nA	50 nA	200	30	200	2	5 to 30, ±2.5 to ±15	LH2311	National	
8	1 µA	200 nA	80 *	5	8	5	5, ±5 to ±15	LM319	SGS-Thomson	
							5 to 30, ±5 to ±15	LM319	LinearTech	
	250 nA	25 nA	600 *	40	—	1	4.5 to 40	SG3524A	SGS-Thomson	
	1000 nA	200 nA	80 *	5	8	2	5 to 36, ±2.5 to ±15	LM319	National	35
						5	5 to 36, ±2.5 to ±18	KA319	Samsung	
9	300 nA	100 nA	1300 *	36	200 *	2	2 to 36, ±1 to ±18	LM193	† Philips	
	400 nA	150 nA	1300 *	36	200 *	2	2 to 36, ±1 to ±18	LM293 LM393	Philips Philips	
10	0.2 nA	0.2 nA	650	10	50	12	+5, ±5	ALD2301	† AdvLinear	40
	1 pA	1 pA		±18			18	NJU7102	NJR	
	1.2 µA	300 µA	80 *	5	40 *	2	4 to 36, ±2 to ±15	LM319	Philips	
	5 uA	12 uA	2.8	16	40 dB	10	−8/+10	BT688	Brooktree	
	40 µA	12 µA	8 *	6		12	±5	SE521	Philips	
	40 pA	25 pA	200	36	25	2	4 to 36, ±2 to ±18	CA3290A	ℓ Harris	45

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators (Cont'd)

Comparators-Dual (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
10									(Cont'd)	
	500 nA	50 nA	350 *	36	20	2 Op/2 Comp	2 to 36, ± 1 to ± 18	MC3405	Motorola	
		100 nA	1500 *	36	200 *	4	3 to 36, ± 1.5 to ± 18	NJM2403	NJR	
15	40 μA	12 μA	8 *	6		12	± 5	NE521	Philips	
			10	6		12	± 5	NE522	Philips	
	500 nA	200 nA	1300 *	36	100 *	2	2 to 36, ± 1 to ± 18	LM2903	Philips	5
20			5	25			–5.2/5	CMP100A	Burr-Brown	
	0.4 nA	0.4 nA	650	10	50	12	+ 5, ± 5	ALD2301C	† AdvLinear	
	50 pA	30 pA	200	36	25	2	4 to 36, ± 2 to ± 18	CA3290	ℓ Harris	
	500 nA	100 nA	1300 *	28	2	4	2 to 28	LM3302	ℓ TI	
25	1 nA	200 pA	1000	13	96 dB *	2 Op/2 Comp	3 to 15, ± 1.5 to ± 7.5	HI8575	† Holt	10
	15 uA		3	16		10	–8/ + 10	BT681	Brooktree	
30	50 pA	100 pA	240	13	20	1	± 1.5 to ± 7.5	TL14575	TLSI	
			250	13	10	1	3 to 15, ± 1.5 to ± 7.5	MC14575	Motorola	
	150 nA	10 nA	600	30	200 *	10	5 to 30, ± 5 to ± 15	SG2111	† Linfinity Micro	
140	40	40	15	± 5	50k		5 *	AH9915	OEI	15

Comparators-Quad

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
	300		120				5 to 15	MAX516M	† Maxim	
0.25 *	300 nA	250 nA *	50 *	15		1	5 to 15	MAX516	† Maxim	
1	6 μA	250 nA	10	10		2	5 to 10, ± 2.5 to , ± 5	MAX900A	† Maxim	
							5 to 10, ± 2.5 to ± 5	MAX901A	† Maxim	
	50 nA	10 nA	3500	36	50	2	2–36/ ± 1– ± 18	CMP404A	† AD	20
								CMP404E	AD	
	100 nA	10 nA	1300	36	80	2	2–36/ ± 1– ± 18	**CMP04B**	**† AD (3539)**	
								CMP04F	**AD (3539)**	
2 *	40 μA	1 μA *	55	5	1.2 *	3	± 5	MC3430	Motorola	
								MC3431	Motorola	25
			65	5	1.2 *	10	± 5	MC3432	Motorola	
								MC3433	Motorola	
2	100 nA	25 nA	1300 *	36	50	2	2 to 36, ± 1 to – ± 18	LM239A	SGS-Thomson	
								LM339A	SGS-Thomson	
							2 to 36, ± 1 to ± 18	LM139A	† Motorola	30
								LM139	† Raytheon	
			1300	36	50	2	2 to 36, ± 1 to ± 18	LM139A	† Raytheon	
			1300 *	36	50	2	2 to 36, ± 1 to ± 18	LM139A	† SGS-Thomson	
								LM139A	TI	
							2–36/ ± 1– ± 18	**PM139A**	**† AD (3539)**	35
								CA139A	† Harris	
								LM139A	† National	
			3500	36	50	2	2–36/ ± 1– ± 18	CMP404B	† AD	
								CMP404F	AD	
	250 nA	50 nA	1300 *	36	50	2	2 to 36, ± 1 to ± 18	LM239A	Motorola	40
								LM339A	Motorola	
								LM339	Raytheon	
			1300	36	50	2	2 to 36, ± 1 to ± 18	LM339A	Raytheon	
			1300 *	36	50	2	2 to 36, ± 1 to ± 18	LM239A	TI	
								LM339A	TI	45
							2–36/ ± 1– ± 18	LM239A	National	
								LM339A	National	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Comparators (Cont'd)

Comparators-Quad (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
2	250 nA	50 nA	1300 *	36	50				(Cont'd)	
						3	2 to 36, ± 1 to ± 18	CA239A	Harris	
							2 to 36/ ± 1 to ± 18	CA339A	Harris	
							2 to 36, ± 1 to ± 18	LM339A	Harris	
			1400 *	36	50	3	2–36, ± 1– ± 18	KA339A	Samsung	
3	25 nA	4 nA	1500 *	36	50	2	4 to 36, ± 2 to ± 18	LM615A	† National	5
	50 nA	20 nA	4000 *	36	50	1	4 to 36, ± 2 to ± 18	LP365A	National	
							4 to 36, , ± 2 to ± 18	LP165	† Raytheon	
							4 to 36, ± 2 to ± 18	LP365A	Raytheon	
	75 nA	25 nA	200	± 15	400 *	1	2 to 30, ± 1 to ± 15	HA4900-2	† Harris	
3.5	9 μA	1.2 μA	1	3.8	20 dB	6	–5.2 and 5	SP93804	GEC Plessey	10
								SP93808	GEC Plessey	
4	10 μA	500 nA	10	10		2	5 to 10, ± 2.5 to ± 5	MAX900B	† Maxim	
			15	± 5			5	MAX900BC	Maxim	
				10		2	5 to 10, ± 2.5 to ± 5	MAX901B	† Maxim	
	300 nA	100 nA	1300 *	36	200 *	2	2 to 36, ± 1 to ± 18	LM139A	† Philips	15
	400 nA	150 nA	1300 *	36	200 *	2	2 to 36, ± 1 to ± 18	LM239A	Philips	
								LM339A	Philips	
5	0.005 nA	0.001 nA	200 *	18		2	2 to 18	TLC374	† TI	
						4	3 to 16	TLC371	† TI	
	0.005 nA *	0.001 nA *	200 *	18	200	4	1.4 to 18, ± 1.4 to ± 18	TLC354	† TI	20
			2500 *	18		4	4 to 16	TLC139	† TI	
								TLC339	† TI	
								TLC3704	† TI	
	0.2 μA	0.2 μA	250	10	30	12	+ 5, ± 5	ALD4302A	† AdvLinear	
	25 nA	5 nA	8000 *	36	500 *	2	2 to 36, ± 1.5 to ± 18	LP339	National	25
						3	2 to 36, ± 1 to ± 18	LP239	TI	
								LP2901	ℓ TI	
								LP339	TI	
	35 nA	4 nA	1500 *	36	50	2	4 to 36, ± 2 to ± 18	LM615	† National	
	100 nA	25 nA	1300 *	36	50	2	2–36/ ± 1– ± 18	LM139	† National	30
					200 *	2	2 to 36, ± 1 to ± 18	LM139	† Motorola	
								LM139	† TI	
							2–36/ ± 1– ± 18	**PM139**	**† AD (3539)**	
								PM239	**† AD (3514, 3538)**	
						3	2 to 36, ± 1 to ± 18	CA139	† Harris	35
	150 nA	35 nA	200	± 15	400 *	1	2 to 30, ± 1 to ± 15	HA4902-2	† Harris	
	250 nA	50 nA	1300 *	Vcc	2	2	2 to 36, ± 1 to ± 18	MC3302	SGS-Thomson	
				15	200 *	1	3–15	MM54C909	† National	
								MM74C909	National	
				36	25	2	2 to 36, ± 1 to – ± 18	LM239	SGS-Thomson	40
								LM2901	SGS-Thomson	
								LM339	SGS-Thomson	
							2 to 36, ± 1 to ± 18	LM139	† SGS-Thomson	
								LM339Y	TI	
					50	2	2 to 36, ± 1 to ± 18	LM239	TI	45
								LM339	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators (Cont'd)

Comparators-Quad (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
									(Cont'd)	
5	250 nA	50 nA	1300 *	36	50	2	2–36/±1–±18	LM239	National	
								LM339	National	
					200 *		2–36/±1–±18	LA6339	Sanyo	
					200	2	2 to 18	MB4204	Fujitsu	
					200 *	2	2 to 36, ±1 to ±18	LM239	Motorola	5
								LM339	Motorola	
						3	2 to 36, ±1 to ±18	CA239	Harris	
							2 to 36/±1 to ±18	CA339	Harris	
							2 to 36, ±1 to ±18	LM339	Harris	
	500 nA	50 nA	1400 *	36	50	3	2 to 36, ±1 to ±18	LM239	Samsung	10
							2–36, ±1–±18	KA339	Samsung	
6	75	25	4000 *	36	25	1	4 to 36, ±2 to ±18	LP265	National	
								LP365	National	
	75 nA	25 nA	4000 *	36	25	1	4 to 36, ±2 to ±18	LP365	Raytheon	
7	250 nA	50 nA	1300 *	36	25	2	2 to 36, ±1 to ±18	LM2901	Motorola	15
								LM2901	TI	
							2–36/±1–±18	LM2901	National	
					100 *	2	±18	AU2901	Philips	
					200 *	3	3 to 36, ±1.5 to ±18	NJM2901	NJR	
			1400 *	36	25	3	2 to 36, ±1 to ±18	KA2901	Samsung	20
7.5	150 nA	50 nA	200	±15	400 *	1	2 to 30, ±1 to ±18	HA4905-5	Harris	
9	300 nA	100 nA	1300 *	36	200 *	2	2 to 36, ±1 to ±18	LM139	Philips	
	400 nA	150 nA	1300 *	36	200 *	2	2 to 36, ±1 to ±18	LM239	Philips	
								LM339	Philips	
10	0.005 nA	0.001 nA	200	18	270			TLC374C	TI	25
	0.2 μA	0.2 μA	250	12	50	30	3–12V	ALD4302B	† AdvLinear	
	1 pA	1 pA		±18			18	NJU7104	NJR	
	15 uA		4.5	11		7	–8/+10	BT684	Brooktree	
	400 nA	150 nA	1300 *	36	200 *	2	3 to 36, ±1.5 to ±18	BA10339	ROHM	
15	0.2 μA	0.2 μA	250	10	30	12	+5, ±5	ALD4302	† AdvLinear	30
	500 nA	200 nA	1300 *	36	100 *	2	2 to 36, ±1 to ±18	LM2901	Philips	
20	250 nA	100 nA	1400 *	28	2	3	2 to 28, ±1 to ±14	KA3302	Samsung	
	500 nA	3 nA *	2000 *	Vcc	2	1	2 to 28	TDF3302	SGS-Thomson	
				30	2	1	2 to 30, ±1 to ±15	MC3302	Motorola	
		100 nA	1300 *	28	2	2	2–28/±1–±14	LM3302	National	35
25	1 nA	200 pA	1000	13	96 dB	4	3 to 15, ±1.5 to ±7.5	HI8574	† Holt	
30	50 pA	100 pA	250	13	1	1	3 to 15, ±1.5 to ±7.5	MC14574	Motorola	
40	1 μA	300 nA	1300 *	36	100 *	2	2 to 36, ±1 to ±18	MC3302	Philips	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Consumer Circuits

Audio Circuits

Function	Device	Source	Line
A/D Controller (16-Bit) for DAT and other Digital Audio Equipment	HD49219	Hitachi	
Active Element for Post Filtering (for compact disc players, digital audio)	TDA1542	Philips	
ADPCM Data Reply LSI for CD-I Format	LC8955	Sanyo	
AESIC Transceiver (implements AES/EBU interface standard)	CA16C440	Newbridge	
AF Power Amp (2-channel, 25W)	STK4142II	Sanyo	5
AF Power Amp (2-channel, 50W)	STK4192II	Sanyo	
AF Power Amplifier, Dual (12W)	LA4700	Sanyo	
Amplifier, Hearing Aid	LC505	Gennum	
	LC506	Gennum	
	LC507	Gennum	10
	LC508	Gennum	
	LC549	Gennum	
	LC550	Gennum	
	LD502	Gennum	
	LD505	Gennum	15
	LD511	Gennum	
	LD548	Gennum	
	LD549	Gennum	
	LE507	Gennum	
	LP508	Gennum	20
	LR505	Gennum	
	LS505	Gennum	
	LT505	Gennum	
	LV506	Gennum	
	LV549	Gennum	25
Amplifier, Microphone	LA7293	Sanyo	
Amplifier, Microphone, Stereo	LA7470	Sanyo	
Amplifier, Wideband with AGC	MC1490	Motorola	
Amplifier, with AGC, for Recorders	TDA7137	Toshiba	
	TDA7137-ST	Toshiba	30
ATIP Decoder for CD-ROM	LC89582	Sanyo	
Attenuator, Digital (logarithimic D/A converter)	**AD7111B**	**AD** (3518)	
Attenuator, Digital (logarithmic D/A converter)	**AD7111K**	**AD** (3518)	
	AD7111L	**AD** (3518)	
	AD7111T	† **AD** (3518)	35
	AD7111T/883B	† **AD** (3518)	
	AD7111U	† **AD** (3518)	
	AD7118T	† AD	
	AD7118U	† AD	
Attenuator, Digital (with loudness compensation switch), 0 to 88.5 dB Attenuation in 1.5 dB Steps	AD7110K	AD	40
	AD7118B	AD	
	AD7118C	AD	
	AD7118K	AD	
	AD7118L	AD	
Attenuator, Dual	µPC1406	NEC	45
	LC7500	Sanyo	
Audi ± uwer Amp (<10W)	TDA2613	Philips	
Audio Amplifier	TBA800	AEG Corp	
	TBA810AS	AEG Corp	
	TBA810AT	AEG Corp	50
		(Continued)	
Audio Amplifier (Cont'd)	TBA810S	AEG Corp	
	TBA810T	AEG Corp	
	U412B	AEG Corp	
	U420B	AEG Corp	
	U820B	AEG Corp	55
	U821B	AEG Corp	
Audio Amplifier (2 W mono)	TDA7233	SGS-Thomson	
Audio Analog Switch, Dual Input/Single Output	TK15210	Toko	
Audio Analog Switch, Dual Two-Input/Single Output	TK15021	ℓ Toko	
	TK15022	ℓ Toko	60
	TK15023	ℓ Toko	
	TK15025	ℓ Toko	
	TK15026	ℓ Toko	
	TK15027	ℓ Toko	
	TK15030	ℓ Toko	65
	TK15052	ℓ Toko	
Audio D/A Converter, 16 Bit	µPD6376	NEC	
Audio Digital Input Circuit	SAA7274	Philips	
Audio Digital Resistor	DS1666	Dallas	
	DS1666S	Dallas	70
Audio Filter (for radio equipment)	MB87079A	Fujitsu	
	MB87080A	Fujitsu	
Audio Function Switches (Digitally Controlled)	µPD6360	NEC	
	µPD6361	NEC	
	µPD6362	NEC	75
	µPD6363	NEC	
Audio Ground Isolator	TA8181	Toshiba	
Audio Level Detection System, Linear and Logarithmic Outputs	SSM2110	AD	
Audio Level Sensor	LA2000	Sanyo	
Audio Matrix, Bus-Controlled	TEA6420	SGS-Thomson	80
Audio Muting Circuit	TA8194	Toshiba	
Audio Power Amp (>10W)	TDA1520	Philips	
Audio Power Amp (<5W)	**TDA7056**	**Philips** (3755)	
	TDA7057	**Philips** (3755)	
Audio Power Amp (two 6W amps)	TDA1517	Philips	85
Audio Power Amp (two 7W amps)	TDA1515	Philips	
Audio Power Amplifier, Voltage Regulator, Battery Check Circuit	TK10468	Toko	
Audio Power Amplifier, Dual (440 mW)	LM831	National	
Audio Power Amplifier, 1 Watt, With DC Volume Control	**TDA7052A**	**Philips** (3753)	
	TDA7052AT	**Philips** (3753)	90
Audio Power Amplifier (1W)	**TDA7052**	**Philips** (3753)	
Audio Power Amplifier (2x11W or 22W BTL)	TDA1519A	Philips	
Audio Power Amplifier (2x11W or 22W BTL)	TDA1516	Philips	
	TDA1518	Philips	
	TDA1519	Philips	95
Audio Power Amplifier (2x12W)	TDA1521	Philips	
	TDA1521A	Philips	
Audio Power Amplifier, 3 Watt	**TDA7056A**	**Philips** (3754)	
Audio Power Amplifier (4w with DC volume control)	TDA1013	Philips	
	TDA1013B	Philips	100
Audio Power Amplifier (40W)	TDA1514A	Philips	
Audio Power Amplifier (40W hi-fi)	TDA1514	Philips	
Audio Power Amplifier (2x1W stereo)	**TDA7053**	**Philips** (3753)	
Audio Processing Array For Cellular Telephones	MX346	MX-COM	
Audio Processor	LA7282	Sanyo	105
	LA7454W	Sanyo	
Audio Processor (companding, VOX, and amplifier)	**SA5752**	**Philips** (3742)	
Audio Processor, Hi-fi Stereo, I^2C-bus	TDA8425	Philips	
Audio Processor, Karaoke	**YSS205**	**Yamaha** (3866)	
	YSS216	**Yamaha** (3866)	110
	YSS222	**Yamaha** (3866)	
Audio Processor, Sound Effects	**YSS225**	**Yamaha** (3864)	
Audio Processor, VCR	LA7451	Sanyo	
Audio Processor-Amplifier and Compandor Section	**NE5750**	**Philips** (3729)	
	SA5750	**Philips** (3729)	115
Audio Processor-Filter and Control Section	**NE5751**	**Philips** (3729)	
	SA5751	**Philips** (3729)	
Audio/Subaudio Filter Array	MX336	MX-COM	
Balanced Line Driver (for audio mix consoles)	**SSM2142**	**AD** (3520)	
Bitstream Conversion ADC for Digital Audio Systems	SAA7360	Philips	120
	SAA7366T	Philips	
Bitstream Digital Filter, High Performance	TDA1307	Philips	
Car Audio System Power Supply Circuit	MB3774	Fujitsu	
Car Radio 5Wx2 Amplifier	LA4485	Sanyo	
Car Radio 15Wx2 Amplifier	LA4705	Sanyo	125
CD Analog Signal Processor	LA9200NM	Sanyo	
	LA9201M	Sanyo	
	LA9210M	Sanyo	
CD/CDV Digital Audio Processor	YM7402	Yamaha	
CD Digital Signal Processor	CXD2500	Sony	130
CD Player Signal Processor and Controller	**GDR101**	**Yamaha** (3867)	
	YDC103	**Yamaha** (3867)	
CD Player Signal Processor and Controller (plus RAM)	**YM7121**	**Yamaha** (3867)	
CD Player Two Channel BTL-Use Driver	LA6530	Sanyo	
	LA6531	Sanyo	135
	LA6534	Sanyo	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line
Audio Circuits (Cont'd)			
CD Player Four Channel Bridge Driver	LA6525	Sanyo	
	LA6535	Sanyo	
	LA6536	Sanyo	
CD Player Four Channel BTL-Use Driver	LA6532	Sanyo	
CD Player Four Channel Driver, Two Channel BTL-Use	LA6533	Sanyo	5
CD ROM Decoder	CXD1186	Sony	
	YVZ152	**Yamaha (3866)**	
Cellular Radio Analog Processor (DTMF generator, D/A, filter, electronic volume controller	MB87084	Fujitsu	
Cellular Radio Audio Processor (filter, electronic volume control, limiter)	MB87085	Fujitsu	
Codec, Audio, Stereo	CS4215	Crystal	10
	CS4216	Crystal	
Codec Interface, CS4215 to PC-ISA Bus	CS4131	Crystal	
Compandor, Low Voltage	NE575	Philips	
Comparator Circuit (2/1 compression, 1/2 expansion by Logarithm)	MB3120	Fujitsu	
Compounder, Low Voltage (2.1–7V)	MC33110	Motorola	15
Controls, Stereo, DC Operated	LM1035	National	
	TDA1524A	Philips	
D/A Converter for Digital Audio (107 dB dynamic range)	CS4303	Crystal	
D/A Converter (for sound generator applications)	**YAC513**	**Yamaha (3864)**	
DAC for Volume Control	M50601	Mitsubishi	20
	M50602	Mitsubishi	
DAC, Serial Input, 16 bit	**YM3014**	**Yamaha (3864)**	
DAC, Dual 16-Bit Audio	**AD1866**	**AD (3512, 3518)**	
	SM5864A	Seponix	
	SM5872A	**Seponix (3702)**	25
	SM5874A	**Seponix (3702)**	
	YAC502	**Yamaha (3867)**	
	YAC512	**Yamaha (3864)**	
DAC, Dual 16-Bit Audio, Normal & Double-Speed	SM5872B	Seponix	
DAC, Dual 16-Bit Audio, 3 sampling frequencies	**SM5871A**	**Seponix (3702)**	30
DAC, 6-Bit Audio with Filter	LC78855	Sanyo	
DAC, 16-Bit Audio	LC78815	Sanyo	
DAC, 18-Bit Audio with Filter	LC78835	Sanyo	
Decimation Digital Filter (audio delta sigma)	**CXD2555Q**	**Sony (3795)**	
	CXD2570Q	**Sony (3795)**	35
Digital Audio Input/Output Circuit (DAIO)	TDA1315	Philips	
Digital Audio Interface Receiver	**YM3436**	**Yamaha (3867)**	
	YM3623	Yamaha	
	YM3623B	**Yamaha (3867)**	
	YM7136	Yamaha	40

Function	Device	Source	Line
Digital Audio Interface Transmitter	**YM3437**	**Yamaha (3867)**	
	YM3613	Yamaha	
	YSD221	**Yamaha (3867)**	
Digital Audio Signal Processing Circuit	CXD1160A	Sony	
Digital Equalizer (for digital filters)	**YM3608**	**Yamaha (3867)**	45
Digital Filter for CD Player	**SM5841A**	**Seponix (3702)**	
	SM5841B	**Seponix (3702)**	
	SM5841C	**Seponix (3702)**	
	SM5841D	**Seponix (3702)**	
	CXD1244	Sony	50
Digital Filter for CD Player, Two-channel	**SM5842A**	**Seponix (3702)**	
	SM5843A	**Seponix (3702)**	
Digital Filter with DA Converter	LC7883K	Sanyo	
Digital Filter X 4, Programmable	**SM5831**	**Seponix (3702)**	
Digital Filter, Two Channel	**SM5803A**	**Seponix (3702)**	55
	SM5813A	**Seponix (3702)**	
	SM5881	**Seponix (3702)**	
Digital Filter, Two-channel, 1/4 Decimation	**SM5815**	**Seponix (3702)**	
Digital Noise Source	MM5437	National	
Digital Oversampling Filter	LC78840	Sanyo	60
Digital Signal Processor (bass boost and sound compression)	**SM5852A**	**Seponix (3702)**	
Digital Signal Processor (bass boost, sound compression and D/A)	**SM5853A**	**Seponix (3702)**	
Digital Signal Processor (filters, reverb)	LC83010	Sanyo	
Digital Signal Processor (filters, reverb, Dolby)	LC83012	Sanyo	
Digital Signal Processor (filters, reverb, Dolby, RAM, ROM)	LC83016	Sanyo	65
Digital Signal Processor (filters, reverb, Karaoke, RAM, ROM)	LC83015	Sanyo	
Digital Signal Processor, General Purpose, 24-bit	DSP56L002	Motorola	
	DSP56004	Motorola	
Digital Sound Control	TDA4390	Siemens	
Distortion Suppressor	AH201-1	Analogic	70
	MP201A	Analogic	
Distortion Suppressor, Dual	AH201-2	Analogic	
Dolby Pro Logic Decoder	LA2780N	Sanyo	
Dolby Surround Passive Decoder	LV1000	Sanyo	
Dolby-B/C Noise Reduction Processor	NJM2065A	NJR	75
	NJM2075A	NJR	
Dolby-B Noise Reduction Processor	NJM2063A	NJR	
Dynamic Range Processor with Dual VCAs	**SSM2120**	**AD (3512)**	
	SSM2122	**AD (3512)**	
EDC/ECC Encoder for CD-ROM/CD-I Format	LC89581	Sanyo	80
Electronic Audio Attenuator	MC3340	Motorola	

Function	Device	Source	Line
Electronic Graphic Equalizer, Serial Control	TC9170	Toshiba	
Electronic Graphic Equalizer, Up/Down	TC9169	Toshiba	
Electronic Volume Control System	LC7535	Sanyo	
Encoder for CD Format Optical Disk	LC89583	Sanyo	85
Equalizer Amplifier	GL5529	GoldStar	
Error Correction LSI (with SRAM, FIFO) for CD-ROM Decode	LC89510	Sanyo	
EVR for Graphic Equalizer (electrical variable resistor)	NJU7305	NJR	
Filter, Hearing Aid, High-pass.	LF580	Gennum	
FM Front End	TDA7359	SGS-Thomson	90
	TDA7361	SGS-Thomson	
Gong Circuit, Single/Dual/Triple-Tone, Programmable	SAE800	Siemens	
Graphic Equalizer, Digitally Controlled	LMC835	National	
Graphic Equalizer, Three-Band	TK10581	Toko	
Graphic Equalizer, Five-Band	TK10585	Toko	95
	TK10586	Toko	
	TK10590	ℓ Toko	
Graphic Equalizer, 5-Band	LA3600	Sanyo	
Graphic Equalizer, 7-Band	LA3605	Sanyo	
Graphics Decoder (for laser/compact disc applications)	YVZ153	Yamaha	100
Harmonic Melody Generator	HM5821	Hualon Micro	
Head Phone Driver, Dual	NJM2066	NJR	
Headphone Amplifier (for stereo audio)	LA4571	ℓ Sanyo	
Interface Controller, Multimedia Audio and Game	**YMZ263**	**Yamaha (3864)**	
Line Receiver, –6dB Differential	**SSM2143**	**AD (3520)**	105
Matrix Surround-Sound Processor	μPC1891	NEC	
Motor Speed Controller for Direct Drive Turntables	TC9142	Toshiba	
MPEG Audio Source Decoder	SAA2500	Philips	
Multiplex Audio Signal Restorer	TK10840	ℓ Toko	
	TK10850	ℓ Toko	110
Music Processor, Programmable	CS8905	Crystal	
Music Synthesizer, MIDI Compatible	CDBGMX1	Crystal	
	CDBGM32	Crystal	
Music Synthesizer with Effects, MIDI Compatible	CDBGMR32	Crystal	
Music Synthesizer, 32 Notes, 4 Outputs	CS9203	Crystal	115
Music Voicing System	SSM2045	AD	
Music Voicing System with Three VCAs	SSM2047	AD	
Music, Voltage Controlled Filter, Four Stage	SSM2044	AD	
Muting Circuit	TC7324	Toshiba	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Consumer Circuits (Cont'd)

Audio Circuits (Cont'd)

Function	Device	Source	Line
Muting Circuit, Two-Channel			
	TK15120	Toko	
	TK15125	Toko	
NMT Audio Filter Array			
	MX316	MX-COM	
Noise Reduction, DNR			
	LM832	National	
Noise Reduction, Dolby			
	LM1131A	National	5
	LM1131B	National	
	LM1131C	National	
	LM1894	National	
	NE645	Philips	
Noise Shaping Filter-DAC			
	TDA1306T	Philips	10
Oversampling Digital Filter (2-channel, 8 times)			
	YM3414	**Yamaha (3867)**	
	YM3433	**Yamaha (3867)**	
	YM3434	Yamaha	
	YSF210	**Yamaha (3867)**	
Oversampling Digital Filter (2-channel, 4 times)			
	YM3404	**Yamaha (3867)**	15
Parametic Equalizer System			
	LV3100	Sanyo	
PLL Stereo Decoder			
	TEA5581	Philips	
Power Amplifier Driver			
	LM391	National	
Power Amplifier Driver (30—50 W)			
	µPC1270	NEC	
Power Amplifier Driver (50—80 W)			
	µPC1298	NEC	20
Power Amplifier (gain = 10)			
	NJM387	NJR	
Power Amplifier (gain = 20)			
	NJM386	**NJR (3704)**	
	NJM386B	NJR	
Power Amplifier, Single, >10 Watts			
	TDA2030	AEG Corp	
	TDA1512A	Philips	25
	TDA1520A	Philips	
	LA4461	Sanyo	
	STK4392	Sanyo	
	TDA2008	SGS-Thomson	
	TDA2009	SGS-Thomson	
	TDA2030	SGS-Thomson	30
	TDA2030A	SGS-Thomson	
	TDA2040	SGS-Thomson	
Power Amplifier, Single, >20 Watts			
	LM1875	National	
Power Amplifier, Single, <5 Watts			
	U413B	AEG Corp	35
	GL386	† GoldStar	
	GL386	GoldStar	
	CA3020	† Harris	
	CA3094	† Harris	
	MC13060	Motorola	40
	LM380	National	
	LM386	National	
	LM388	National	
	LM389	National	
	LM390	National	45
	TDA1011	Philips	
	TDA1015	Philips	
	TDA1015T	Philips	
	LA4138	Sanyo	
	LA4180	Sanyo	50
	LA4182	Sanyo	
	TBA820M	SGS-Thomson	
	TDA1904	SGS-Thomson	
Power Amplifier, Single, 2–6 Watts (with preamplifier)			
	TDA1011A	Philips	
Power Amplifier, Single, 5–10 Watts			
	LM384	National	55
	TDA1010A	Philips	
	KA386	Samsung	
	L149	SGS-Thomson	
	TDA1905	SGS-Thomson	
	TDA2006	SGS-Thomson	60
	ULN2002A	SGS-Thomson	
Power Amplifier, Single, 5–10 Watts			
	TDA2006	AEG Corp	
	LM383	National	
	LM383A	National	
	TDA2002	National	65
	TDA2002A	National	
	µPC2002	NEC	
	TDA1010	Philips	
	TDA1020	Philips	
	TDA2611	Philips	70
	TDA2611A	Philips	
	LA4140	Sanyo	
	LA4440	Sanyo	
	STK4362	Sanyo	
	TBA810	SGS-Thomson	75
	TCA940	SGS-Thomson	
	TDA1908	SGS-Thomson	
	TDA1908A	SGS-Thomson	
	TDA1910	SGS-Thomson	
	TDA2002	SGS-Thomson	80
	TDA2003	SGS-Thomson	
Power Amplifier, Single (17W)			
	TA8201	Toshiba	
Power Amplifier, Single, (22W) Watts			
	TDA1516CQ	Philips	
Power Amplifier, Single (30W)			
	STK4028II	Sanyo	
	STK4028V	Sanyo	85
	STK4028X	Sanyo	
Power Amplifier, Single (35W)			
	STK4065	Sanyo	
Power Amplifier, Single, 40 Watts			
	LM3875	National	
Power Amplifier, Single (40W)			
	STK4032II	Sanyo	
Power Amplifier, Single (40W), for Car Radio Applications	TDA1560Q	Philips	90
Power Amplifier, Single, 45 Watts			
	µPC2500	NEC	
Power Amplifier, Single (45W)			
	TA8225	Toshiba	
Power Amplifier, Single (50W)			
	STK4036II	Sanyo	
	STK4036V	Sanyo	
	STK4036X	Sanyo	95
	STK4036XI	Sanyo	
Power Amplifier, Single (70W)			
	STK4040II	Sanyo	
	STK4040V	Sanyo	
	STK4040X	Sanyo	
	STK4040XI	Sanyo	100
Power Amplifier, Single (100W)			
	STK4044II	Sanyo	
	STK4044V	Sanyo	
	STK4044X	Sanyo	
Power Amplifier, Single (150W)			
	STK4048II	Sanyo	
	STK4048V	Sanyo	105
	STK4048X	Sanyo	
Power Amplifier, Single (200W)			
	STK4050V	Sanyo	
Power Amplifier, Single, 5 Watts			
	NJM2070	NJR	
Power Amplifier, Dual			
	TDA2822	SGS-Thomson	
	TDA2822M	SGS-Thomson	110
Power Amplifier, Dual, <4 Watts			
	LM2877	National	
Power Amplifier, Dual, <5 Watts			
	LM1877	National	
	LM1896	National	
	LM2896	National	
	TDA7050	**Philips (3752)**	115
	TDA7053A	**Philips (3753)**	
	TDA7053AT	**Philips (3753)**	
	TDA7057AQ	**Philips (3755)**	
	LA4510	Sanyo	
	LA4533	Sanyo	120
	LA4534	Sanyo	
	LA4550	Sanyo	
	LA4555	Sanyo	
	LA4558	Sanyo	
	TEA2025	SGS-Thomson	125
	TA8229	Toshiba	
Power Amplifier, Dual (for portable radio, cassette)			
	NJM2073	**NJR (3704)**	
Power Amplifier, Dual (for small radio, headphones)			
	NJM2076	NJR	
	NJM2096	NJR	
Power Amplifier, Dual, Low Voltage			
	U2433B	AEG Corp	130
	U2822B	AEG Corp	
	U2823B	AEG Corp	
Power Amplifier, Dual, 5–10 Watts			
	LM2878	National	
	LM2879	National	
	LA4270	Sanyo	135
	LA4445	Sanyo	
	LA4446	Sanyo	
	LA4500	Sanyo	
	LA4505	Sanyo	
	LA4508	Sanyo	140
	LA4597	Sanyo	
Power Amplifier, Dual, 5–10 Watts			
	TDA1510	Philips	
	TDA1515A	Philips	
	TDA2004	SGS-Thomson	
	TDA2005	SGS-Thomson	145
	TEA2021	SGS-Thomson	
	TEA2024	SGS-Thomson	
Power Amplifier, Dual 10W			
	STK4112II	Sanyo	
Power Amplifier, Dual (12W)			
	TDA2616	Philips	
	TDA2616Q	Philips	150
Power Amplifier, Dual 15W			
	STK401-020	Sanyo	
Power Amplifier, Dual (17W)			
	LA4620	Sanyo	
Power Amplifier, Dual (18W)			
	TA8205	Toshiba	
Power Amplifier, Dual 20W			
	STK4132II	Sanyo	
	STK4412	Sanyo	155
Power Amplifier, Dual (22W)			
	TA8210	Toshiba	
Power Amplifier, Dual 25W			
	STK400-040	Sanyo	
	STK4432	Sanyo	
Power Amplifier, Dual 30W			
	STK401-050	Sanyo	
	STK4151V	Sanyo	160
	TA8220	Toshiba	
	TA8221	Toshiba	
Power Amplifier, Dual 40W			
	STK4171II	Sanyo	
	STK4171V	Sanyo	
Power Amplifier, Dual (42W)			
	TA8231	Toshiba	165

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Audio Circuits (Cont'd)

Function	Device	Source	Line
Power Amplifier, Dual 50W	STK401-090	Sanyo	
	STK4191V	Sanyo	
Power Amplifier, Dual 70W	STK4211V	Sanyo	
Power Amplifier, Dual 100W	STK4231II	Sanyo	
Power Amplifier, Dual (17W)	HA13127	Hitachi	5
Power Amplifier, Dual (22W)	HA13128	Hitachi	
	HA13135	Hitachi	
Power Amplifier, Triple (6W)	TA8218	Toshiba	
Power Amplifier, Triple 30W	STK400-050	Sanyo	
Power Circuit, 9V/12V (for radio cassette recorders)	LA4630	Sanyo	10
Power Driver/Amplifier	TDA7072A	Philips	
	TDA7072AT	Philips	
Power Op Amp	LA6500	Sanyo	
	LA6520	Sanyo	
Preamplifier	**SSM2017**	**AD (3512, 3529)**	15
	MA106	AnalogSys	
	MA459	AnalogSys	
	SL561B	GEC Plessey	
	SL561C	GEC Plessey	
	ZN459	† GEC Plessey	20
	ZN459C	GEC Plessey	
	ZN459CP	GEC Plessey	
	ZN460	† GEC Plessey	
	ZN460C	GEC Plessey	
	ZN460CP	GEC Plessey	25
	LM3080	National	
	LM3080A	National	
	LM1837	SGS-Thomson	
	TDA3410	SGS-Thomson	
	TDA3420	SGS-Thomson	30
Preamplifier Circuit for Compact Cassette Recorder	LA3242	Sanyo	
Preamplifier, Microphone	**SSM2015**	**AD (3512, 3529)**	
	SSM2016	**AD (3529)**	
Preamplifier, Dual	XR4739	Exar	
	XR4739M	† Exar	35
	LM381	National	
	LM382	National	
	LM387	National	
	LA3160	Sanyo	
	LA3161	Sanyo	40
	L387A	SGS-Thomson	
	TDA2320A	SGS-Thomson	
Preamplifier, Dual, Low Noise	µPC1228	NEC	
Preamplifier, Dual (with ALC)	µPC1313HA	NEC	
Preamplifier, Dual with Auto-Reverse	**NJM2067**	**NJR (3704)**	45
Preamplifier, Quad	XR4212	Exar	
Processor, Masking Threshold (for MPEG Layer 1 audio compression applications)	SAA2521	Philips	
Programmable Tone/Noise Generator	SN76494	TI	
	SN76494A	TI	
	SN76496	TI	50
	SN76496A	TI	

Function	Device	Source	Line
RDS Decoder	LA2230	Sanyo	
Real Time Error Correction for CD-ROM Decode	LC8951	Sanyo	
Receiver System	TDA2220	SGS-Thomson	
	TDA7220	SGS-Thomson	55
Record/Playback Audio Head Switch	µPC1330HA	NEC	
Serial Interface/Transmission Encoder	**SBX1601**	**Sony (3795)**	
	SBX1602	**Sony (3795)**	
Signal Delay	MN3001	Panasonic	
	MN3010	Panasonic	60
	MN3204	Panasonic	
	MN3207	Panasonic	
Signal Processor/Controller for Compact Disc Player	YDC101	Yamaha	
Sound Analysis Processor	YSD224	Yamaha	
	YSF224	**Yamaha (3867)**	65
Sound Fader Control Circuit	TEA6320T	Philips	
Sound Generator Controller for Microprocessor-Based Systems	DP8496	National	
	NCR8496	NCR	
Sound Generator, FM/AM	**YMU251**	**Yamaha (3864)**	
	YM3812	**Yamaha (3864)**	70
Sound Generator, FM/AM, Dual Channel, Timers	**YMF262**	**Yamaha (3864)**	
Sound Generator, FM/PCM, MIDI compatible	**YMF278**	**Yamaha (3864)**	
Sound Generator, Percussion	YM7140	Yamaha	
Sound Generator, Voice Analysis and Synthesis	**YM6616**	**Yamaha (3864)**	
Sound Generator, 8-Channel	**YMZ280**	**Yamaha (3864)**	75
Sound Recoder System	LC8500E	Sanyo	
Sound Recording and Playback LSI Chip	LR3990	Sharp	
Sound ROM, Aria Basic	SC18050	Sierra	
Sound ROM, Aria Synthesis, 0.5 Meg	SC18051	Sierra	
Sound ROM, Aria Synthesis, 1 Meg	SC18052	Sierra	80
Sound ROM, Speech Recognition, 0.5 Meg	SC18053	Sierra	
Sound ROM, Speech Recognition, 1 Meg	SC18054	Sierra	
Sound Signal Processor, Digital Compressor	**YM3412**	**Yamaha (3867)**	
Stereo A/D Converter, 18-Bit (for digital audio)	CS5389	Crystal	
Stereo Audio Processor, Digitally Controlled	TDA7300	SGS-Thomson	85
	TDA7302	SGS-Thomson	
	TDA7306	SGS-Thomson	
	TDA7318	SGS-Thomson	
Stereo CMOS Bitstream DAC for Digital Audio Systems	SAA7322	Philips	
	SAA7323	Philips	90
Stereo Continuous Calibration DAC	TDA1545A	Philips	
Stereo Continuous Calibration DAC (CC-DAC)	TDA1310	Philips	
	TDA1310T	Philips	
	TDA1311A	Philips	
		(Continued)	

Function	Device	Source	Line
Stereo Continuous Calibration DAC (CC-DAC) (Cont'd)	TDA1311AT	Philips	95
	TDA1312	Philips	
	TDA1312T	Philips	
Stereo Digital Volume Control	CS3310	Crystal	
Stereo Equalizer Circuit, 5-Band	TEA6360	Philips	
Stereo Filter and Codec for MPEG Layer 1 Audio Applications	SAA2520	Philips	100
Stereo Headphone Driver, Class AB	TDA1308T	Philips	
Stereo Headphone Preamplifier and Power Amplifier	LA4589	ℓ Sanyo	
Stereo Modulator	NJM2035	NJR	
Stereo Multimedia Parallel Interface	CS4231	Crystal	
	CS4248	Crystal	105
Stereo Preamplifier (for compact double cassette playback)	LA3246	Sanyo	
Stereo 1 FS Data Input Unsampling Filter with Bitstream Continuous Calibration DAC	TDA1305T	Philips	
Stereo 20-Bit D/A Converter (with 3rd order noise shaper)	SAA7350	Philips	
Surround Sound Processor	µPC1891A	NEC	
	µPC1892	NEC	110
	YM3411	**Yamaha (3866)**	
	YM3428	**Yamaha (3866)**	
	YM7128	**Yamaha (3866)**	
	YSS220	**Yamaha (3866)**	
Surround Sound Processor w/ Dolby	**YM7306**	**Yamaha (3866)**	115
	YSS215	**Yamaha (3866)**	
Tone Control, Serial	TC9156	Toshiba	
Tone Control, Up and Down	TC9155	Toshiba	
Tone Controller w/ Source Inputs, Active, I^{2}C	TEA6300	Philips	
Voice Scrambler	LC8931	Sanyo	120
Voice Synthesizer	LC8200	Sanyo	
Voltage Controlled Amplifier (188 dB dynamic range)	**SSM2018**	**AD (3512)**	
Volume Balance Tone Control, Dual	GL3230	GoldStar	
Volume Control, Serial	TC9154	Toshiba	
Volume Control, Up and Down	TC9153	Toshiba	125
Volume Controller, Two Channel (selection of volume, balance, loudness)	MB37032	Fujitsu	
Volume Controller, 6-Bit/4 Channel (gain controlled from 0 to 32 dB in 0.5 dB steps)	MB87077	Fujitsu	
	MB87078	Fujitsu	
Wideband Variable Gain Amplifier, Low Noise, Dual	**AD600J**	**AD (3541)**	
	AD602J	**AD (3541)**	130
Dual Channel Voltage/Tone Control Circuit	TC8184	Toshiba	
Dual DC Operated Tone/Volume/Balance Circuit	LM1036	National	

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Audio Circuits (Cont'd)

Function	Device	Source
Dual DC Operated Tone/Volume/Balance Circuit with Stereo Enhancement	LM1040	National
Dual 18-Bit Monolithic Audio Digital-to-Analog Converter	**PCM67P**	**Burr-Brown (3468)**
	PCM67PJ	**Burr-Brown (3468)**
	PCM67PK	**Burr-Brown (3468)**
	PCM67U	**Burr-Brown (3468)**
	PCM67UJ	**Burr-Brown (3468)**
	PCM67UK	**Burr-Brown (3468)**
Quad Amp	LA4640	Sanyo
7W Power Amplifier	μPC1310	NEC
16-Bit/18-Bit, 16xFs, PCM Audio DAC	**AD1851**	**AD (3512, 3518)**
	AD1861	**AD (3512, 3518)**
	AD1865	**AD (3512, 3518)**
19W, Dual BTL Power Amplifier	μPC2502	NEC
20-Bit Monolithic Audio Digital-to Analog Converter	**PCM63PK**	**Burr-Brown (3468)**
20-Bit Monolithic Audio Digital-to-Analog Converter	**PCM63P**	**Burr-Brown (3468)**
	PCM63PJ	**Burr-Brown (3468)**
20W Dual Power Amplifier	μPC1335	NEC
50 to 110W Power Amplifier Driver	μPC1342	NEC
11 Band EVR for Graphic Equalizer	NJU7306	NJR
	NJU7307	NJR

Automotive Circuits

Function	Device	Source
Accelerometer with Signal Conditioning	ADXL02	AD
	ADXL50	**AD (3513, 3541)**
Alternator Voltage Regulator	L485	SGS-Thomson
ARI System (for car radios)	LA2220	Sanyo
Audio Prcoessor, Digital Controlled, Car Stereo	U4260B	AEG Corp
Auto Knock-Sensor Interface Circuit, Dual Input	**AD22030**	**AD (3513)**
Autocorrelating Signal Processor	MX102	MX-COM
Automotive Clock, LCD, Programmable	SCL5616	Allegro Micro
Automotive Lamp Monitor	ULN2454	Allegro Micro
	ULN2455A	Allegro Micro
Car Signal Indicator/Flasher	U2043B	AEG Corp
	U243B	AEG Corp
	U6043B	AEG Corp
	U643B	AEG Corp
Clock	μPD6529	NEC
Comparator for Auto Lamp Monitoring (continuous status checks for five bulbs)	**AD22001**	**AD (3513)**
	AD22002	**AD (3513)**
Dimmer/Brightness (PWM) Controller	U6080B	AEG Corp
	U6081B	AEG Corp
	U6082B	AEG Corp
	U6083B	AEG Corp
	U6084B	AEG Corp
Electronic Ignition Circuit	T2229B	AEG Corp
	U2229B	AEG Corp
	NCM6001Z	NCM
Electronic Ignition Control, Magnetic	L482	SGS-Thomson
	L484	SGS-Thomson
	L497	SGS-Thomson
Electronic Spark Timing	ULQ2460	Allegro Micro
FM-IF Limiter Amplifier and Detector for Car Radios	TDA4210	AEG Corp
High Energy Ignition Circuit	MC3334	Motorola
High Energy Ignition Circuit (Flip-Chip)	MCCF3334	Motorola
High Side Driver (high stress applications)	**CA3273**	**Harris (3638)**
Ignition Predriver, 2/3/4 Channels	**SSI67F6612**	**SiliconSys (3781)**
Ignition Timing and Fuel Injection Control	**SSI67F687**	**SiliconSys (3781)**
Injector Drive Controller	LM1949	National
Injector Driver Controller	L583	SGS-Thomson
Lamp Monitor	U2479B	AEG Corp
	U2480B	AEG Corp
	U479B	AEG Corp
	U4790B	AEG Corp
	U4791B	AEG Corp
Multiplex Communications (8-bit programmable counter)	CDP1863	Harris
Multiplex Syestm, Local	U6050B	AEG Corp
	U6051B	AEG Corp
	U6052B	AEG Corp
Multiplex System, Local Microcomputer Controlled	U6055B	AEG Corp
	U6056B	AEG Corp
Power Switch w/Current Limiter Sense Flag	**CA3274**	**Harris (3638)**
Preamplifier, Dual, for Autoreverse Car Stereo	U2705B	AEG Corp
Relay Control Timer Circuit	U6040B	AEG Corp
	U639B	AEG Corp
	U640B	AEG Corp
Sealed Lead-Acid Battery Charger	UC2906	Unitrode
Sound Fader Control Circuit for Car Radios	TEA6330T	Philips
Speed Control	CA3228	Harris
Stereo Demodulator for Car Radios	TCA4511	AEG Corp
Switch, Liquid Level	U670B	AEG Corp
	U7672B	AEG Corp
Timer Circuit, Long Period	U6046B	AEG Corp
	U6047B	AEG Corp
	U6048B	AEG Corp
	U6049B	AEG Corp
Timer, Interior Light	U6037B	AEG Corp
Vehicle Speed Sensor Buffer	HIP9020A	Harris
VHF Front End for Car Radios	U4062B	AEG Corp
Voltage Regulator	MC3325	Motorola
	TEA7034	SGS-Thomson
Windshield Wiper Circuit, Rear, with Intermittent Wipe/Wash Control	U690B	AEG Corp
Windshield Wiper Circuit with Intermittent/Wiper-Wash Controls	U6042B	AEG Corp
	U641B	AEG Corp
	U642B	AEG Corp
Dual H-Driver (for instrumentation)	**CA3275**	**Harris (3638)**
Quad Driver, See also Interface—Memory and Peripheral Drivers	DS3656	National
Quad-Gated Power Driver (interfaces low-level logic to high-current loads)	**CA3272**	**Harris (3638)**

Calculator Circuits

Function	Device	Source
8 Digit Calculator Circuit	HM3401A/B	Hualon Micro
10/12 Digit Calculator Circuit	HM3403	Hualon Micro

Camera Circuits

Function	Device	Source
Camera Signal Processing Circuit	CXA1072	Sony
CCD Camera Matrix	CXA1338	Sony
CCD Camera Processor	CXA1339	Sony
CCD Camera Scanning System Timing Signal Generator	CXD1035BQ-Z	Sony
	CXD1149	Sony
CCD Color Camera Encoder	CXA1392	Sony
	CXA1592	Sony
CDS (correlated double sampling) CCD Camera Circuit	CXA1439	Sony
Exposure Control	CS102	Cherry Semi
NTSC 1H Delay Line Charge Coupled Device	LC8991	Sanyo
Processing Circuit (for CCD monochrome camera)	CXA1310	Sony
Processing Circuit (for CCD video cameras)	CXA1337	Sony
Processing Circuit for Complementary Color Mosaic CCD Camera	CXA1391	Sony
Sample and Hold/AGC Circuit (for CCD cameras)	CXA1390	Sony
Strobe Light Controller	U2000B	AEG Corp
Sync Signal Generator for Camera	CXD1030	Sony
	CXD1030M	Sony
	CXD1159Q	Sony
Sync Signal Generator for Video Camera	CXD1158BM	Sony
	CXD1217M	Sony
Synchronizing Signal Generator for Video Camera (for NTSC, PALM, PAL and SECAM)	CXD1217	Sony

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Camera Circuits (Cont'd)

Function	Device	Source	Line
Timing Generator for Blemish Compensation	CXD1251	Sony	
Timing Setting for Electronic Shutter (CCD Imager)	CXD1141	Sony	
Timing Signal Generator for CCD Camera Scanner	CXD1255	Sony	
Titler Camera Circuit	CXA1393	Sony	

CB Radio Circuits

Function	Device	Source	Line
Channel Selector/Display Driver	LC7181	Sanyo	5
	LC7191	Sanyo	
Synthesizer Set, 40 Channel, BCD Channel Setting	LC7131	Sanyo	

Clock/Watch Circuits

Function	Device	Source	Line
Analog Alarm Clock Circuit	HM3203A-1/2	ℓ Hualon Micro	
Analog Alarm Clock Circuit (with multiple alarm drivers)	HM3214	Hualon Micro	
Analog Clock Circuit	HM3200H-1/2	ℓ Hualon Micro	10
Analog Clock (drives a stepping motor)	NJU6301	NJR	
	NJU6302	NJR	
	NJU6303	NJR	
Analog Clock with Snooze Function (soft start alarm sound)	NJU6304	NJR	
Analog LCD Watch Circuit, 3 Hand	HM3221	ℓ Hualon Micro	15
CCD Clock Driver, Dual	M66700	Mitsubishi	
CCD Clock Driver, Quad	M66705	Mitsubishi	
Clock Circuits (See Also: Digital—CMOS Oscillators/Dividers. Linear—Other Linear Devices—Oscillator)	MM53110	National	
Digital Tuner	MM58142	National	
LCD Alarm Clock Circuit, 3 1/2 Digit	HM3212	ℓ Hualon Micro	20
LCD Alarm Clock Circuit, 3 1/2 Digit (with snooze)	HM3202H	Hualon Micro	
LCD Display Digital Clock LSI (3 1/2 digit hour/minute display)	NJU6351	NJR	
LCD Display DigitalClock LSI (3 1/2 digit hour/minute display)	NJU6354	NJR	
LCD Watch Circuit, 5 Function, 3 1/2 Digit	HM3201	ℓ Hualon Micro	
LCD Watch Circuit, 6 Digit with 6 Function	HM3260	ℓ Hualon Micro	25
Melody Circuit, for Clocks	2009Z	NCM	
Talking Clock, Watch Synthesizer	ES4116	ℓ ESS	

Music

Function	Device	Source	Line
Accompaniment Generator for Chords, Arpeggi, Keyboard or Pedalboard Bass	M151	SGS-Thomson	
Digital-to-Audio Converter	**PCM53**	**Burr-Brown (3468)**	
	PCM54	**Burr-Brown (3468)**	30
	PCM55	**Burr-Brown (3468)**	

(Continued)

Function	Device	Source	Line
Digital-to-Audio Converter (Cont'd)	**PCM56**	**Burr-Brown (3468)**	
	PCM56P	**Burr-Brown (3468)**	
	PCM56U	**Burr-Brown (3468)**	
	PCM58	**Burr-Brown (3468)**	35
Dolby B-Type Noise Reduction Processor	LM1112A	National	
	LM1112B	National	
	LM1112C	National	
Dolby Surround Sound	LA2770	Sanyo	
Electret Preamplifier (for electret microphones)	LB1027A	AT&T	40
Electronic Attenuator	XR13600	Exar	
Electronical Musical Instrument Circuit, 25 Key	HM5625	ℓ Hualon Micro	
Frequency Divider, 7-Stage	M740	SGS-Thomson	
	M741	SGS-Thomson	
	M747	SGS-Thomson	45
Graphic Equalizer, 5-Band	M5226	Mitsubishi	
High Fidelity Music Synthesizer, 25 Voices, Digital Filters	ICS1399	IntCirSys	
Melody Circuit, Single-Tone	NJU501	NJR	
	NJU505	NJR	
Melody Circuit, Single-Tone with LED Blinking Function	NJU502	NJR	50
Melody Circuit (255 note capacity, mask-programmable ROM)	LS3404	LSI Comp	
Melody Generator	HM66T	Hualon Micro	
Melody Generator (automatic)	LR34611	Sharp	
Melody Generator (by piezo-electric buzzer)	LR34621	Sharp	
Melody Generator, 64 Notes	HM5801	ℓ Hualon Micro	55
	HM5811A	ℓ Hualon Micro	
Melody Generator, 128 Notes	HM5802	ℓ Hualon Micro	
Melody Generator, 512 Notes	HM4801A	ℓ Hualon Micro	
Monophonic Synthesizer	M110	SGS-Thomson	
Piano Circuit	HM5601RH	ℓ Hualon Micro	60
Polyphonic Sound Generator	M112	SGS-Thomson	
Random Music Selector, 5-Program	IR3R20A	Sharp	
Random Music Selector, 9-Program	IR3R24	Sharp	
Sound and Piano Synthesizer, 15 Key	HM2515	ℓ Hualon Micro	
Sound Effect Circuit	HM5905	ℓ Hualon Micro	65
Sound Effect Circuit with 5 LED Flash Driver	HM5903	ℓ Hualon Micro	
Sound Effect Generator	HM5901A	ℓ Hualon Micro	
Sound Effect Generator (with library)	HM5981	Hualon Micro	
Sound Generator, Stereo, for Music and Sound Effects	SAA1099	Philips	
Voice and Piano Synthesizer	HM2516	ℓ Hualon Micro	70

Radio Circuits, AM

Function	Device	Source	Line
AM IF and Detector, Double Conversion	SL6700A	GEC Plessey	
	SL6700C	GEC Plessey	
AM Receiver Circuit	TDA1072	AEG Corp	
	TDA1072A	AEG Corp	
AM Receiver with up Conversion	TEA6200	Philips	75
AM Stereo Front End and Tuner Stabilizer	MC13023	Motorola	
AM Tuner System (for car radios, home stereos)	LA1135	Sanyo	
CQUAM AM Stereo Decoder	MC13020	Motorola	
Frequency Synthesizer	DS8910	National	
High-Level Mixer	SL6440C	GEC Plessey	80
Radio Circuit, AM Noise Blanker	ULN3845	Allegro Micro	
	ULN3846	Allegro Micro	
Receiver System	ZN415E	GEC Plessey	
	ZN416E	GEC Plessey	
	CA3088	† Harris	85
Receiver System (AM radio circuit)	ULN3841	Allegro Micro	
RF, IF, Detector, AGC	ZN414Z	GEC Plessey	
RF Dual Gain-Stage	**NE5200**	**Philips (3739)**	
	SA5200	**Philips (3739)**	
SSB Detector	SL623C	GEC Plessey	90
Stereo Decoder	MC13022	Motorola	
Tuner System	LA1240	Sanyo	
	LA1245	Sanyo	
Dual-Conversion AM Receiver	ULN3847	Allegro Micro	

Radio Circuits, AM/FM

Function	Device	Source	Line
AF Pre Amp	LA3550M	Sanyo	95
AM/FM Analog Mixer	12502	† Motorola	
AM/FM Digital Tuning Synthesizer	TSA6057	Philips	
	TSA6057T	Philips	
AM/FM HF Amplifier	LA1265	Sanyo	
AM/FM IF Amplifier	TDA1220B	AEG Corp	100
AM/FM IF Detector	TK10930	Toko	
AM/FM IF/MPX Tuner System (for radio-cassette recorders, music centers)	LA1805	Sanyo	
AM/FM Radio Receiver Circuit	TEA5594	Philips	
	TEA5710	Philips	
	TEA5710T	Philips	105
AM/FM Tuner (for car radio and home stereo equipment)	LA1883	Sanyo	
AM/FM Tuner System (electronic tuning type)	LA1266	Sanyo	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Radio Circuits, AM/FM (Cont'd)

Function	Device	Source	Line
AM/FM Tuner System (for radio-cassette recorders, music centers)	LA1260	Sanyo	
AM/FM with Stereo Decoder for DTS Radio Circuit	TEA5712	Philips	
	TEA5712T	Philips	
AM/FM with Stereo Decoder Radio Circuit	TEA5711	Philips	
	TEA5711T	Philips	5
AM/FM Single-Chip Radio	LA1800	Sanyo	
AM Tuner and FM Front End	LA1815	Sanyo	
Antenna Diversity Circuit	LA1061M	Sanyo	
Audio Power Amplifier	TDA2040	AEG Corp	
Auto Program Search Chip	IR3R32	Sharp	10
Bandswitch Operational Amplifier	CA3263	Harris	
Baseband Processor (Mobile telephone or wireless communications)	LMX2410	National	
	LMX2411	National	
Broadband Demodulator System (Configurable for AM or FM Based Signals)	LM1211	National	
Car-use AF Preamp	LA3161	Sanyo	15
Car-use FM Mixer IF, AGC	LA1177	Sanyo	
Car-use Stereo Demodulator	LA3430	Sanyo	
Car-use One-chip Tuner for	LA1886M	Sanyo	
Display Driver for Receiving Frequency Digital Display	TD6301A	Toshiba	
Dolby Surround Pro-logic	LA2770	Sanyo	20
Dolby Surround Pro-logic Noise Sequencer	LA2775	Sanyo	
Double-Balanced Mixer and Oscillator (VHF/HF)	**602**	**† Philips (3732)**	
Downconverter, MMIC, 500 to 1800 MHz	**TQ9201**	**TriQuint (3843)**	
Downconverter, MMIC, 700 to 1000 MHz	**TQ9203**	**TriQuint (3843)**	
Downconverter, Multifunction 150 to 2500 MHz	**TQ9202**	**TriQuint (3843)**	25
DTS Tuner Circuit	LA1851	Sanyo	
Electronic Tuning System	LA1875M	Sanyo	
FM IF System	SA614A	ℓ Philips	
FM IF System, Low Power	NE614A	Philips	
FM IF Turner System	LA1145	Sanyo	30
FM MPX Demodulator	LA3860	Sanyo	
Frequency Counter; for 3 1/2 Digit VF Displays	MSM5525	OKI	
Frequency Counter, Up to 130 MHz	SDA5680	Siemens	
Graphic Equalizer, Seven Band	LA3607	Sanyo	
IF Amplifier	LM1868	National	35
IF Amplifier, AM/FM	U2416B	AEG Corp	
	U2417B	AEG Corp	
	U416B	AEG Corp	
	U417B	AEG Corp	
	U418B	AEG Corp	40
IF Amplifier and Demodulator Circuit	TDA1596	Philips	
IF Amplifier/Detector	TBA120U	AEG Corp	
IF Amplifier, Dual	TDA1220L	ℓ AEG Corp	
IF, Narrowband (FM/FSK)	MC3367	Motorola	
IF Receiver	LMX2240	National	45
Mixer/Oscillator	**TBB204**	**Siemens (3769)**	
Mixer, 2.5 GHz	**PMB2330**	**Siemens (3770)**	
Mixer, 150–2500MHz RF/30–500 MHz IF	**TQ9172**	**TriQuint (3843)**	
Modulator, Quadrature	**PMB2210**	**Siemens (3770)**	
PLL Frequency Synthesizer with 3-Line Bus	**TBB206**	**Siemens (3769)**	50
PLL Tuning Circuit (TV tuning system, prescaler)	MC44802	Motorola	
Radio Data System Data Decoder (decodes European RDS data and makes error correction)	µPD17102	NEC	
Radio Data System Demodulator (RDS)	SAA6579T	Philips	
Radio Frequency Amplifier/Mixer	LMX2216B	National	
Radio Frequency Display Driver and Clock	T1400	Toshiba	55
Radio Tuning PLL Frequency Synthesizer	TEA6057	Philips	
Receiver System	TDA1083	AEG Corp	
	MC3361	Philips	
	NE605	**Philips (3734)**	
	NE615	**Philips (3734)**	60
	TEA5570	Philips	
	TDA1220B	SGS-Thomson	
	TDA1220L	SGS-Thomson	
	PMB2403S	**Siemens (3770)**	
	PMB2420S	**Siemens (3770)**	65
Stereo/Bridge AF Amplifier (class B)	TDA4935	Siemens	
Stereo Decoder	TCA4511	AEG Corp	
	ULN3827A	Allegro Micro	
Transceiver, MMIC, 2.4 to 2.6 GHz	**TQ9205**	**TriQuint (3843)**	
	TQ9206	**TriQuint (3843)**	70
Transmitter	**PMB2200**	**Siemens (3769)**	
	PMB2205	**Siemens (3770)**	
	PMB2206	**Siemens (3770)**	
Transmitter, DECT	**PMB2220**	**Siemens (3770)**	
Transmitter, FM/FSK	MC2831A	Motorola	75
	MC2833	Motorola	
Transmitter, FM/QPSK	**PMB2230S**	**Siemens (3770)**	
Tuner (car radios and home receivers)	TUA1574	Siemens	
Tuner, PLL	SDA2121	Siemens	
Tuning Synthesizer	SAA1057	Philips	80
UHF Driver/Ramp, 19 dB	MRFIC2004	Motorola	
UHF LNA/Mixer, 20 dB	MRFIC2001	Motorola	
UHF Power Amplifier, 17 dB	MHW922	Motorola	
	MHW922A	Motorola	
UHF Power Amplifier, 19 dB	MRFIC2006	Motorola	85
UHF Power Amplifier, 20 dB	MHW909	Motorola	
	MHW953	Motorola	
UHF Power Amplifier, 21 dB	MHW915	Motorola	
UHF Power Amplifier, 25 dB	MHW9002	Motorola	
	MHW932	Motorola	90
UHF Power Amplifier, 30 dB	MHW954	Motorola	
UHF Power Amplifier, 35 dB	MHW903	Motorola	
UHF Power Amplifier, 41 dB	MHW912	Motorola	
	MHW914	Motorola	
UHF Transmit Mixer	MRFIC2002	Motorola	95
Single-chip AM/FM MPX Tuner System (for headphone stereos, radio-cassette recorders)	LA1816	Sanyo	
One Chip IF, Noise Canceller and Multiplexer	LA1861	Sanyo	
One Chip Tuner, Car Radio	LA1886	Sanyo	

Radio Circuits, FM

Function	Device	Source	Line
Digitally-Controlled Stereo Tone/Volume Circuit w/4-Channel Input Selector	LMC1992	National	
FM Antenna Diversity Circuit	TEA6101	Philips	100
	TEA6101T	Philips	
FM Circuit (IF, NC, MPX)	µPC1348GH-2A5	NEC	
FM Detector, LD Audio	**YM7110**	**Yamaha (3866)**	
FM Detector, LD Video	**YM3558**	**Yamaha (3866)**	
FM Front End	LA1185	Sanyo	105
	LA1192	Sanyo	
FM Front End (for car radio, home stereo applications)	LA1175	Sanyo	
FM IF Amplifier	CXA1183	Sony	
	CXA1184	Sony	
	TK10483	Toko	110
FM IF Amplifier (for cordless telephones)	CXA1493A	Sony	
FM IF Amplifier (for pagers)	CXA1474	Sony	
	CXA1484	Sony	
FM IF Amplifier, Low Power	CXA1002	Sony	
	CXA1003	Sony	115
	CXA1293	Sony	
	CXA1343	Sony	
	CXA1402	Sony	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Radio Circuits, FM (Cont'd)

Function	Device	Source	Line
FM IF Amplifier, Narrow Band	TK10445	ℓ Toko	
	TK10485	Toko	
	TK10486	Toko	
	TK10487	Toko	
	TK10489	Toko	5
FM IF Amplifier, Dual Conversion	TK10420	Toko	
	TK10491	Toko	
	TK10492	Toko	
	TK14501	Toko	
FM IF and PLL Detector with RF Mixer	SL6691C	GEC Plessey	10
FM IF and Quadrature Detector with RSSI (received signal strength indicator)	SL6652C	GEC Plessey	
	SL6653C	GEC Plessey	
FM IF (includes oscillator, mixer, limiting amp., quadrature discriminator, active filter, squelch, scan control, and mute switch)	MC3361B	Motorola	
FM IF, Low Power Narrowband (osc., mixer, squelch, meter drive)	MC3371	Motorola	
	MC3372	Motorola	15
	LA8608	Sanyo	
FM IF System	**NE616**	**ℓ Philips (3741)**	
	NE617	ℓ Philips	
	SA616	**ℓ Philips (3741)**	
	SA617	ℓ Philips	20
FM IF System, Low Power	604A	† Philips	
	605	**† Philips (3734)**	
FM IF System (mixer/oscillator, limiting IF amp, quadrature detector, muting, logarithmic received signal strength indicator, voltage regulator)	**SA615**	**Philips (3734)**	
FM IF System with High-Speed Received Signal Strength Indicator (RSSI)	NE624	Philips	
	NE627	Philips	25
	SA624	Philips	
	SA627	Philips	
FM IF System with High-Speed RSSI	**NE625**	**Philips (3735)**	
	SA625	**Philips (3735)**	
FM IF Quadrature Detector (with RSSI)	MC13155	Motorola	30
	NE604A	Philips	
	NE605	**Philips (3734)**	
	SA604A	Philips	
FM Mixer/IF Amplifier, Narrow Band	TK10447	Toko	
FM Mixer IF System (with high speed RSSI)	**SA626**	**Philips (3736)**	35
FM Tuner Module (88 to 108 MHz band)	1801DUC	AEG Corp	
FMX Decoder	LA3440	Sanyo	
Front End	TDA1574	Philips	
Front End, Low Voltage	TDA7211	SGS-Thomson	
	TDA7212	SGS-Thomson	40
	TDA7215	SGS-Thomson	
Front-End, VHF	U4062B	AEG Corp	
IF/AF PLL Circuit (for narrowband FM)	NJM2206	NJR	
IF/Amp Detector	MC3361	Philips	
IF Amplifier	CA3012	† Harris	45
	CA3028	† Harris	

(Continued)

Function	Device	Source	Line
IF Amplifier (Cont'd)	MC1350	Motorola	
	TDA1576	Philips	
	TDA1576T	Philips	
	KA3361	Samsung	50
	TK10421	Toko	
	TK10440	Toko	
IF Amplifier/Detector	TBA120S	AEG Corp	
	TDA4210	AEG Corp	
	TBA750	GEC Plessey	55
	CA2111A	† Harris	
	CA3013	Harris	
	CA3014	† Harris	
	CA3065	Harris	
	CA3089	† Harris	60
	CA3189	Harris	
	LM1865	National	
	LM3089	National	
	LM3189	National	
	LM3361	National	65
	LA1140	Sanyo	
	LA1150	Sanyo	
	LA1231N	Sanyo	
	LA8610M	Sanyo	
	LA8615	Sanyo	70
	TCA3089	SGS-Thomson	
	TBA129-2	Siemens	
	TBA229-2	Siemens	
	TDA4210-3	Siemens	
IF Amplifier, Narrow Band	ULN3859A	Allegro Micro	75
	MC3359	Motorola	
	MC3361	Motorola	
	IR3N06	Sharp	
IF Amplifier, PLL, Squelch, Narrow Band	SL6640	GEC Plessey	
	SL6690	GEC Plessey	80
	SL6691	GEC Plessey	
IF Circuit (for narrowband FM)	NJM3357	NJR	
	NJM3359	NJR	
IF System	LA1235	Sanyo	
	TCA3189	SGS-Thomson	85
IF System, Low Voltage/Power	LM3361A	National	
LED Tuning Indicator	RC1450	Rochester	
	LB1450	Sanyo	
Log Amplifier, 6-Stage	NJM2204B	NJR	
Mixer, Double Balanced, 2 GHz	**PMB2330**	**Siemens (3770)**	90
Mixer FM IF System	**SA605**	**Philips (3734)**	
Mixer FM IF System (for portable cellular radio)	**NE606**	**Philips (3741)**	
	NE607	Philips	
	SA606	**† Philips (3741)**	
	SA607	† Philips	95
Mixer, Full Balanced	NJM2203	NJR	
Mixer (up to 500 MHz)	**NE602**	**Philips (3732)**	
Modulator Circuit (quadrature), 0 to 400 MHz	PMB2305	Siemens	
Modulator/Demodulator (Double balanced)	NJM1496	NJR	
Noise Canceller	LA2110	Sanyo	100
PLL FM MPX Demodulator, Pilot Cancel-Provided (for car stereos)	LA3376	Sanyo	

Function	Device	Source	Line
PLL FM MPX Stereo Demodulator	LA3450	Sanyo	
PLL FM MPX Stereo Demodulator, VCO Non-Adjusting	LA3401	Sanyo	
PLL FM MPX Stereo Demodulator with Pilot Cancel	LA3433	Sanyo	
PLL FM Stereo Multiplexer	U2342B	AEG Corp	105
	U2343B	AEG Corp	
PLL Stereo Decoder and Noise Blanker	TDA1591	Philips	
	TDA1591T	Philips	
Prescaler (for digital tuning)	TD6104	Toshiba	
Radio Circuit, FM, Single Chip	MC13135	Motorola	110
	MC13136	Motorola	
	TDA7021T	Philips	
RDS Data Modulator (FM)	µPC1346GS	NEC	
Receiver, Narrowband FM	**PMB2430**	**Siemens (3770)**	
	PMB2430S	**Siemens (3770)**	115
	PMB2432	**Siemens (3770)**	
	PMB2432S	**Siemens (3770)**	
	PMB2434S	**Siemens (3770)**	
Receiver Subsystem Dual Conversion	MC3335	Motorola	
	MC3362	Motorola	120
	MC3363	Motorola	
Receiver System	TDA7000	Philips	
	TDA7010T	Philips	
	PMB2401S	**Siemens (3770)**	
	PMB2402S	**Siemens (3770)**	125
Receiver System with Squelch and Scan Control	MC3357	Motorola	
Stereo Decoder	LM1310	National	
	LM4500A	National	
	TDA1578A	Philips	
	LA3361	Sanyo	130
	LA3365	Sanyo	
	LA3370	Sanyo	
	LA3375	Sanyo	
	TEA1330	SGS-Thomson	
Stereo Decoder, PLL, Low Voltage	TDA7040T	Philips	135
Transmitter, FM	PMB2230	Siemens	
Transmitter, GSM	PMB2200	Siemens	

Remote Control Circuits

NOTE:In the following category ONLY, the dagger symbol in front of a company name indicates a transmitter/encoder. Absence of a dagger designates a receiver/decoder.

Function	Device	Source	Line
IR Transmitter Diode Driver	U427B	AEG Corp	
	U428B	AEG Corp	140
	U428BF	AEG Corp	
	U429BF	AEG Corp	
	U430BF	AEG Corp	
Amplifier-Detector	GL3274	GoldStar	
	MC3373	Motorola	145
Infrared Remote Control Circuit	SAA3049	Philips	
Infrared Remote Control Preamplifiers (active high output)	µPC2801	NEC	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Remote Control Circuits (Cont'd)

Function	Device	Source
Infrared Remote Control Preamplifiers (active low output)	µPC2800	NEC
Infrared Remote Control Receiver, 38 kHz	SBX1610-52	Sony
	SBX1618-52	Sony
	SBX1619-52	Sony
	SBX1620-52	Sony
	SBX1621-52	Sony
	SBX1660-52	Sony
	SBX1780-52	Sony
	SBX1790-52	Sony
Infrared Remote Control Receiver, 40 kHz	SBX1610-51	Sony
	SBX1618-51	Sony
	SBX1619-51	Sony
	SBX1620-51	Sony
	SBX1621-51	Sony
	SBX1660-51	Sony
	SBX1780-51	Sony
	SBX1790-51	Sony
Infrared Remote Control with Learning Function for Codes	µPD17203	NEC
IR Remote Control Frontend Amplifier	U2501B	AEG Corp
	U2502B	AEG Corp
	U2503B	AEG Corp
	U2504B	AEG Corp
	U2505B	AEG Corp
	U2506B	AEG Corp
	U2507B	AEG Corp
	U2509B	AEG Corp
IR Remote Control Receiver (pulse code modulated)	U338M	AEG Corp
IR Remote Control Transmitter Circuit	U327M	AEG Corp
	U329M	AEG Corp
IR Transmitter/Receiver With MSK	µPD6130	NEC
IR Transmitter, 5 I/O	µPD6123	NEC
IR Transmitter, 8 I/O	µPD6124	NEC
IR Transmitter, 20 Keys	µPD6120	NEC
IR Transmitter, 32 Keys	µPD6121	NEC
IR Transmitter, 64 Keys	µPD6122	NEC
Preamplifier, for Infrared Control	TDA2320	SGS-Thomson
Preamplifier for Remote Control, 0.3 W Diss.	CX1261	Sony
Preamplifier for Remote Control, 0.6 W Diss.	CX20106	Sony
Programmable IR Transmitter	µPD6125	NEC
	µPD6125A	NEC
	µPD6126	NEC
	µPD6126A	NEC
Programmable Seven-Channel RC Encoder	NE5044	Philips
Receiver, Infrared	TDA3047	Philips
	TDA3048	Philips
Remote Control Amplifier, Infrared	CA3237	Harris
Remote Control Carrier Generator (LCD driver, 16 I/O ports)	µPD17202	NEC
Remote Control Carrier Generator (LCD driver, 8-bit A/D, 23 I/O ports)	µPD17201	NEC
Remote Control Decoder	M145027	SGS-Thomson
	M145028	SGS-Thomson
Remote Control Encoder	M145026	SGS-Thomson
Remote Control, Infrared	SAA3027	Philips
	SAA3028	Philips
	TDA8160	SGS-Thomson
	TDA8162	SGS-Thomson
Remote Control Receiver	MC44520	Motorola
	LR3715M	Sharp
	LU59002	Sharp
Remote Control Transmitter	M3004AB1	SGS-Thomson
	M3004LAB1	ℓ SGS-Thomson
	M3005AB1	SGS-Thomson
	M3005LAB1	ℓ SGS-Thomson
	M3006LAB1	ℓ SGS-Thomson
	UAA4000	SGS-Thomson
Remote Control Transmitter, PCM	M708	SGS-Thomson
	M708A	SGS-Thomson
	M708L	ℓ SGS-Thomson
	M709A	SGS-Thomson
	M709L	ℓ SGS-Thomson
	M710	SGS-Thomson
	M710A	SGS-Thomson
	M710L	ℓ SGS-Thomson
Remote Controller, 3/4 Wired	NJM2404	NJR
RF Amplifier/Mixer	**CA3049**	† **Harris (3637)**
Transmitter, Infrared	GM3043	GoldStar
	GM3044	GoldStar
Transmitter, Infrared PCM	MC14497	Motorola
Transmitter, PPM	UAA4009	SGS-Thomson
Transmitter/Receiver (encoder/decoder), 2 device sets	ML920	GEC Plessey
	ML922	GEC Plessey
	ML923	GEC Plessey
	ML924	GEC Plessey
	ML926	GEC Plessey
	ML927	GEC Plessey
	ML928	GEC Plessey
	ML929	GEC Plessey
	SL490	GEC Plessey
	MC145026	† Motorola
	MC145027	Motorola
	MC145028	Motorola
	MM58250	† National
	MSL9362	OKI
	MSL9363	OKI
	TC9149	Toshiba
	TC9150	Toshiba

Speech Circuits

Function	Device	Source
VSB Inverter	MX214	MX-COM
Dedicated Mask ROM for Voice Synthesis (128K)	T6684	Toshiba
Dedicated Mask ROM for Voice Synthesis (64K)	T6772	Toshiba
Delta Modulation System, Continuously Variable Slope	HC55536	Harris
	HC55564	Harris
PCM Recording and Playback Circuit	MSM6310	OKI
Read-Only Memory	TSP60C20	TI
Recorder, ADPCM (stand alone)	MSM6258	OKI
Recording/Reproduction (SRAM)	S5800A	Seiko Instr
Recording/Reproduction (SRAM/EPROM)	TC8830F	Toshiba
Recording/Reproduction with external DRAM	VP2500	Eletech
	TC8831F	Toshiba
Remote Control Receiver Preamplifier	IR3T24	Sharp
Solid State Recorder, ADPCM	MSM6388-V1	OKI
Solid State Recorder, Data Register (1Mx1)	MSM6389	OKI
Speaker Driver/Amplifier	MSC1161	OKI
Speech Analysis and Synthesis LSI	VP1000	Eletech
	MSM5218	OKI
	T6831	Toshiba
Speech and Sound Processor/Generator/Synthesizer	ES3100	ESS
Speech and Sound Processor/Generator/Synthesizer (with 8K ROM)	ES2108	ℓ ESS
	ES3116	ℓ ESS
	ES3206	ℓ ESS
Speech Encoding A/D Converter	PCM75	Burr-Brown
Speech Network Circuit	IR3N82	Sharp
Speech Procesor, ADPCM (for SRAM interface)	MSM6309	OKI
Speech Processor	TSP50C50	TI
Speech Processor, ADPCM (for DRAM interface)	MSM6308	OKI
Speech Recognition	HM2007	Hualon Micro
	MSM6253	OKI
Speech Recognition LSI	T6658A	Toshiba
Speech Recording and Reproduction with DRAM	HM2004	Hualon Micro
Speech Scrambler/Descrambler	COM9046	SMC
Speech Signal Pitch Control Circuit	MSM6322	OKI
Speech Synthesizer	VP1600	Eletech
	MSM5205	OKI
	MSM5248	OKI
	MSM6212	OKI
	MSM6243	OKI
	L6212	SGS-Thomson
Speech Synthesizer, Microprocessor and Memory	TSP50C41	TI
	TSP50C42	TI
	TSP50C43	TI
	TSP50C44	TI
Speech Synthesizer, ADPCM (with 1M Mask ROM)	MSM6375	OKI
Speech Synthesizer, ADPCM (with 128K Mask ROM)	MSM6372	OKI
Speech Synthesizer, ADPCM (with 256K Mask ROM)	MSM6373	OKI

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Speech Circuits (Cont'd)

Function	Device	Source
Speech Synthesizer, ADPCM (with 256K OTPROM)	MSM6378A	OKI
Speech Synthesizer, ADPCM (with 512K Mask ROM)	MSM6374	OKI
Speech Synthesizer Chip (duration: 2.8 seconds)	MSS0283	Mosel-Vitelic
Speech Synthesizer Chip (duration: 5.8 seconds)	MSS0581	Mosel-Vitelic
Speech Synthesizer Chip (duration: 10 seconds)	MSS1002	Mosel-Vitelic
Speech Synthesizer Chip (duration: 15 seconds)	MSS1503	Mosel-Vitelic
Speech Synthesizer Chip (duration: 22 seconds)	MSS2201	Mosel-Vitelic
Speech Synthesizer Chip (duration: 15 sec.)	MSS1501	Mosel-Vitelic
Speech Synthesizer Chip (duration: 20 sec.)	MSS2001	Mosel-Vitelic
Speech Synthesizer Chip (duration: 3 sec.)	MSS0301	Mosel-Vitelic
Speech Synthesizer Chip (duration: 6 sec.)	MSS0601	Mosel-Vitelic
Speech Synthesizer Circuit (3 second duration)	HM2035	ℓ Hualon Micro
	HM2055	ℓ Hualon Micro
Speech Synthesizer Direct Drive Speaker Amplifier	MSC1191	OKI
	MSC1192	OKI
	MSC1192	OKI
Speech Synthesizer with external ROM	VP1410	Eletech
	MSM6376	OKI
Variable Speech Controller	IR3R51	Sharp
Voice Band Inverter	MX014	MX-COM
Voice Recording/Reproducing LSI	T6668	Toshiba
Voice Store Retrieve Codec	MX709	MX-COM
Voice Synthesis LSI, Single Chip ADM	T6667	Toshiba
Voice Synthesis, 4-Channel ADPCM	MSM6295	OKI
Voice Synthesizer (ADPCM, 8 second duration)	HM2268	ℓ Hualon Micro
Voice Synthesizer (ADPCM, 10 second duration)	HM2068	Hualon Micro
Voice Synthesizer (ADPCM, 15 second duration)	HM2269	ℓ Hualon Micro
Voice Synthesizer (ADPCM, 20 second duration)	HM2069	ℓ Hualon Micro
Voice Synthesizer (ADPCM, 30 second duration)	HM2081	ℓ Hualon Micro
Voice Synthesizer, 3 Second ASPCM	HM2203	Hualon Micro
Voice Synthesizer, 6 Second ASPCM	HM2206	Hualon Micro
Voice Synthesizer, 12 Second ASPCM	HM2212	Hualon Micro
Voice Synthesizing LSI	T6721A	Toshiba
	T6803	Toshiba
VSB Inverter	MX224	MX-COM

Tape Recorder Circuits, Audio

Function	Device	Source
Audio System	LM1818	National
Auto Reverse and Auto Eject Plunger Driver	TD6304A	Toshiba
	TD6308A	Toshiba
Automatic Music Selection	TC9165	Toshiba
	TC9167	Toshiba
Broad Band Compandor	NE572	Philips
	NE575	Philips
Control Head Playback/Record Amplifier and Signals Interface Circuit	TDA8118	SGS-Thomson
CVSD Voice Recorder (continuously variable slope delta-modulation)	TSP3477	TI
Digital Audio Tape (DAT) System, Filter	HD49202	Hitachi
Motor Speed Control (automatic stop, dc manual stop, biasing and erasing oscillator)	TDA7770	SGS-Thomson
Motor Speed Control, Stop, Pause, Cassette Ejection	TDA7270	SGS-Thomson
Preamplifier, for Auto-Reversing Systems	LM1837	SGS-Thomson
Preamplifier, Low-Noise Dual, for Autoreverse Car Stereo	TA7405	Toshiba
Preamplifier with ALC	TDA2054	SGS-Thomson
Signal Level Sensor System (for microcassette)	NJM2072	NJR
Stereo Cassette Playback Circuit	TDA7273	SGS-Thomson
Tape Recorder Audio System Circuit	LA4160	Sanyo
Voice Record/Playback Circuit, 8 Second Duration	ISD1108	ISD
Voice Record/Playback Circuit, 45 Second Duration	ISD2545	ISD
Single-Key On-Tape Program Selector	HA12054	SGS-Thomson
8 Second Voice Record/Playback Device	ISD1208	ISD
10 Second Voice Record/Playback Device	ISD1110	ISD
	ISD1210	ISD
12 Second Voice Record/Playback Device	ISD1112	ISD
	ISD1212	ISD
16 Second Voice Record/Playback Device	ISD1016A	ISD
	ISD1416	ISD
20 Second Voice Record/Playback Device	ISD1020A	ISD
	ISD1420	ISD
60 Second Voice Record/Playback Device	ISD2560	ISD
75 Second Voice Record/Playback Device	ISD2575	ISD
90 Second Voice Record/Playback Device	ISD2590	ISD

Tape Recorder Circuits, Video

Function	Device	Source
Audio/Video Switch	LA7016	Sanyo
	LA7221	Sanyo
Channel Selector for VCR	LA7214	Sanyo
Large Band Head Amplifier for VCR, 3 Channel	TEA5701	SGS-Thomson
Playback and Record Amplifier for VCR, Advanced FM Audio	TEA5712	SGS-Thomson
Playback and Record Amplifier for VCR, 2-Head	TEA5702	SGS-Thomson
Playback and Record Amplifier for VCR, 3-Head	TEA5703	SGS-Thomson
Playback and Record Amplifier for VCR, 4-Head	TEA5704	SGS-Thomson
Switch and Driver for VCR	CXA1451	Sony
Switch, Audio/Video	LA7151	Sanyo
Timer/Driver, Precision 16 Channel	CD22401	Harris
VCR Audio Play/Record	GL3615	GoldStar

Television Circuits

Function	Device	Source
Microprocessor Interface	M206	SGS-Thomson
Microcontroller for Television and Video	87C054	Philips
Microcontroller for Television and Video (8Kx8 ROM)	83C053	Philips
Microcontroller for Television and Video (16Kx8 ROM)	83C054	Philips
Microcontroller for Television and Video (8kx8 ROM)	P83C053	Philips
Microcontroller, 8-Bit, for TV Frequency and Voltage Synthesis with On-Screen Display	ST6326	SGS-Thomson
	ST6327	SGS-Thomson
	ST6328	SGS-Thomson
	ST6340	SGS-Thomson
	ST6342	SGS-Thomson
	ST6344	SGS-Thomson
	ST6346	SGS-Thomson
	ST6356	SGS-Thomson
	ST6357	SGS-Thomson
	ST6358	SGS-Thomson
Microcontroller, 8-Bit, for TV Frequency Synthesis with On-Screen Display	ST6391	SGS-Thomson
	ST6393	SGS-Thomson
	ST6394	SGS-Thomson
	ST6395	SGS-Thomson
	ST6396	SGS-Thomson
	ST6399	SGS-Thomson
Microcontroller, 8-Bit, for TV Voltage Synthesis with On-Screen Display	ST6385	SGS-Thomson
	ST6386	SGS-Thomson
	ST6387	SGS-Thomson
	ST6388	SGS-Thomson
Analog Interface Unit	CA3247	Harris
Mixer Circuit with 2 Oscillators and Post Amplifier for UHF IF	U2200B	AEG Corp
AFC/Horizontal Oscillator Signal Processor with Sync Separator and AGC	CA3261	Harris
AM and FM Sound IF Circuit, Multistandard (for TV)	TDA8192	SGS-Thomson
Aperture Compensation Circuit for TV	CXA1387	Sony
Audio Switch and DC Volume Control Circuit (for TV)	TDA8196	SGS-Thomson
Audio/Video Switch	GL3810	GoldStar
Bilingual Signal Processor	GL3813	GoldStar

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Television Circuits (Cont'd)

Function	Device	Source	Line
Broadband RF Amplifiers	MWA0270	Motorola	
	MWA0304	Motorola	
	MWA0311	Motorola	
	MWA0370	Motorola	
Cable Driver for Digital Transfer	STV1389AQ	SGS-Thomson	5
Camera Sync. Generator	ZNA134E	GEC Plessey	
	ZNA134J	† GEC Plessey	
CATV Amplifiers (hybrid), 27 dB, 330 MHz	HSW3272A	Motorola	
CATV Receiver	LA7770	Sanyo	
Channel Display and Clock	MM58146	National	10
Channel Display Driver/Decoder	U143M	AEG Corp	
Chroma Circuits	MC44000	Motorola	
Chroma Circuits (demodulators, IF amplifiers, luminance control, signal processors, and various combinations)	TDA3506	AEG Corp	
	TDA3560A	AEG Corp	
	TDA3562A	AEG Corp	15
	CA3070	Harris	
	CA3126	Harris	
	CA3194	Harris	
	CA3217	Harris	
	MC1377	Motorola	20
	TDA3301	Motorola	
	TDA3303	Motorola	
	TDA3330	Motorola	
	TDA3505	Philips	
	TDA3300	SGS-Thomson	25
	TEA1030	SGS-Thomson	
	TEA5030	SGS-Thomson	
Circle Generator	4006Z	NCM	
Clock Generator (for video DSP chipset)	SAA9057	Philips	
Clock Signal Generator Circuit for Digital TV Systems (SCGC)	SAA7157	Philips	30
	SAA9057A	Philips	
	SAA9057B	Philips	
Clock Synchronizer	RCS401	ThirdDomain	
Color Bar Generator Chip	NCM4322Z	NCM	
Color Bar Generator Circuit	NCM5322Z	NCM	35
Color Comb Filter for TV	IR3P38A	Sharp	
Color TV Scanning and Power Supply Processor	TEA2028B	SGS-Thomson	
	TEA2029C	SGS-Thomson	
	TEA2128	SGS-Thomson	
Color TV Scanning Processor	TEA2130	SGS-Thomson	40
Color TV Video Modulator	MC1373	Motorola	
Composite Video Overlay Synchronizer for Color TV	MC1378	Motorola	
CRT Controller	RP5C16	Ricoh	
CRT Interface Chip	IR3P78	Sharp	
CRT Sync Generator	CXA1365	Sony	45
Data Slicer for Teletext Processor	SAA5231	SGS-Thomson	

Function	Device	Source	Line
Decoder, Closed-Caption	MC144143	Motorola	
Decoder, Multistandard (negative)	TDA4555	AEG Corp	
Decoder, Multistandard (positive)	TDA4556	AEG Corp	
Decoder, Stereo Only, US MTS	µPC1874	NEC	50
	µPC1875	NEC	
Decoder, 1 of 16	M054	SGS-Thomson	
	M055	SGS-Thomson	
Digital Color Space Converter	SAA7192	Philips	
	SAA7192A	Philips	55
Digital Comb Filter	**CXD2011**	**Sony** **(3794)**	
Digital Controlled Color Signal Processor	HA11489	Hitachi	
Digital Multistandard Color Decoder with SCART Interface	**SAA7151B**	**Philips** **(3746)**	
Digital Multistandard Color Decoder-Square Pixel (DMSD-SQP)	**SAA7191B**	**Philips** **(3745)**	
Digital Multistandard Decoder-Square Pixel (DMSD-SQP)	**SAA7191**	**Philips** **(3745)**	60
Digital Multistandard Television Decoder	SAA9051	Philips	
	TDA9051	Philips	
Digital Secam Decoder, S-VHS (SDSD)	SAA9056	Philips	
Digital Tuner and Signal Detector	LM4431	National	
Digital Tuning	SAB3035	Philips	65
	SAB3036	Philips	
	SAB3037	Philips	
Digital Tuning 1.3 GHz PLL	SDA3302	Siemens	
Digital Video Comb Filter	SAA7152	Philips	
Digital Video Encoder, GENLOCK Capable	**SAA7199B**	**Philips** **(3748)**	70
Digital Video Filtering and Dematrixing Circuit	STV3300	SGS-Thomson	
Digital Video Scaler	SAA17186	Philips	
Digitizer, Genlocking, NTSC or PAL	TMC22070C	Raytheon	
Double-Balanced Mixer for VHF/HF	**NE602A**	**Philips** **(3732)**	
	NE612A	**Philips** **(3733)**	75
	SA602A	**Philips** **(3732)**	
	SA612A	**Philips** **(3733)**	
East-West Pincushion Correction Circuit	TDA4950	SGS-Thomson	
EDTV Interpolation Processor	µPD9382	NEC	
EDTV Noise Reduction Circuit	µPD9384	NEC	80
EDTV Signal Processor	µPD9381	NEC	
EDTV Signal Processor (Y/C Separation and Motion Detection)	µPD9380	NEC	
EDTV Timing Generator	µPD9383	NEC	
EDTV Y/C Separation and Motion Dectection	µPD6480	NEC	
	µPD9388	NEC	85
Electronic Program Memory, 32-Station	M293	SGS-Thomson	

Function	Device	Source	Line
Encoder, RGB/YCrCb to NTSC/PAL	BT858	Brooktree	
	TMC22090C	Raytheon	
	TMC22190C	Raytheon	
Enhance Video Processor D/A (for video DSP chipset)	SAA9060	Philips	90
Field Buffer for NTSC TV (263x910x4-bit)	µPD42270-60	NEC	
Field Buffer, Dual Port, for NTSC and PAL (256Kx8-bit)	µPD42280-30	NEC	
	µPD42280-40	NEC	
FM/IF Amplifier and Demodulator for TV Stereo	U2829B	AEG Corp	
	U2830B	AEG Corp	95
Frequency Synthesizer	SAB3035	Philips	
	CXD1225M	Sony	
Horizontal & Vertical Processor	GL1150	GoldStar	
	CA3202	Harris	
	TDA2595	Philips	100
	TEA2017	SGS-Thomson	
Horizontal and Vertical Processor	TDA8185I	SGS-Thomson	
Horizontal Processor	TDA1940	AEG Corp	
	TDA1950	AEG Corp	
	TDA2591	AEG Corp	105
	TDA2593	AEG Corp	
	CA1391	Harris	
	CA1394	Harris	
	CA3210	Harris	
	MC1391	Motorola	110
	LM1391	National	
	TDA2593	Philips	
	TBA920	SGS-Thomson	
	TDA1180	SGS-Thomson	
	TDA2593	SGS-Thomson	115
IF Amplifier/Demodulator	U828B	AEG Corp	
	U829B	AEG Corp	
IF Amplifier/Detector	TBA120T	AEG Corp	
IF and PLL Detector System	MC44301	Motorola	
IF Signal Processor	LA7530	Sanyo	120
	LA7545	Sanyo	
	LA7555	Sanyo	
IF Signal Processor for CTV and VCR	CXA1446	Sony	
In-Set TV Pattern Control Logic	NCM3010Z	NCM	
Intercarrier Frequency Modulator	NCM4002Y	NCM	125
Intercarrier Frequency Modulator (internal PLL and Comparator)	4002Y-A	NCM	
IR Amplifier, Narrow Band	IR3N37/N	Sharp	
Line Buffer for NTSC TV (910x8-bit)	µPD42101-1	NEC	
	µPD42101-2	NEC	
	µPD42101-3	NEC	130
Line Buffer for NTSC TV (1135x8-bit)	µPD42102-1	NEC	
	µPD42102-2	NEC	
	µPD42102-3	NEC	
Line Buffer for PAL TV (1135x8-Bit)	µPD42102-5	NEC	
Line Selector	4003Z	NCM	135
LSI Sync Generator (for TV and video processing systems)	CD22402	Harris	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Television Circuits (Cont'd)

Function	Device	Source		Line
Luminance Delay	TDA4565	AEG Corp		
Modulator Circuit for Video Tape Recorders and Disc Players	MC1374	Motorola		
Modulator Oscillator, to 600 MHz	MC13024	Motorola		
Multi Sound Decoder (for US TV System)	µPC1872	NEC		
Multimode Monitor Processor (horiz., vert., and video combo)	MC1384	Motorola		5
NTSC Color Decoder	TDA3567	Philips		
NTSC Color Difference Decoder	TDA4570	Philips		
NTSC/PAL Decoder	**CXA1218**	**Sony**	**(3794)**	
	CXA1228	**Sony**	**(3794)**	
	CXA1585	**Sony**	**(3794)**	10
	V7020	Sony		
	V7021	Sony		
	V7040	Sony		
NTSC/PAL Encoder	**CXA1219**	**Sony**	**(3794)**	
	CXA1229	**Sony**	**(3794)**	15
	CXA1645	**Sony**	**(3794)**	
NTSC/PAL Sync Generator	CXD1030	Sony		
NTSC to RGB Converter	CXA1385	Sony		
NTSC TV Synchron Generator	NCM3009Z	NCM		
On-Screen Display (64 characters, 6 lines by 16 columns)	µPD6460	NEC		20
On-Screen Display (128 characters, 12 lines by 24 columns)	µPD6452	NEC		
On-Screen Display (128 characters, 12 lines by 24 columns)	µPD6145C/G	NEC		
PAL Decoder	U8060B	AEG Corp		
PAL Luma-Chroma and Deflection Processor	STV2100	SGS-Thomson		
PAL/NTSC Color Decoder	TDA3566	Philips		25
	TDA3566A	Philips		
PAL/NTSC Decoder	TDA3562A	SGS-Thomson		
PAL/NTSC Decoder w/ RGB Inputs	TDA2582	Philips		
PAL/NTSC Encoder	TDA8501	Philips		
PAL/NTSC TV Sync Generator	SAA1101	Philips		30
Parallel-Sound Processor, Multistandard Quasi (for TV Sets)	TDA4480	AEG Corp		
	TDA4480C	AEG Corp		
	TDA4481	AEG Corp		
Parallel-Sound Processor, Quasi	TDA4482B	AEG Corp		
Pattern Generator	4001Z	NCM		35
Phase Control	U210B	AEG Corp		
Picture Signal Improvement (PSI) Circuit	TDA4670	Philips		
Picture Tube Bias Circuit, Automatic	CA3224	Harris		
Picture-in-Picture AD/D-A (video chipset)	MB40176	Fujitsu		

Function	Device	Source		Line
Picture-in-Picture Circuit	LC7440	Sanyo		40
	LC7480	Sanyo		
Picture-in-Picture Controller	MB86140N	Fujitsu		
Picture-in-Picture Generator (allows multiple video inputs to be viewed on one TV screen)	µPD42272	NEC		
Picture-in-Picture Generator for NTSC and PAL Broadcasting Systems	µPD42271A-3	NEC		
	µPD42272A-3	NEC		45
Picture-in-Picture Memory Controller	HD49409	Hitachi		
PIF Circuit	GL3101A	GoldStar		
Remote Control Receiver, PCM	M104	SGS-Thomson		
Remote Control Transmitter, PCM	M709	SGS-Thomson		
	M710	SGS-Thomson		50
RF Modulator for VCR	CXA1596	Sony		
RGB Amplifier	TDA8153	SGS-Thomson		
RGB Encoder	**CXA1145**	**Sony**	**(3794)**	
RGB Interface for TV	IR3P32A	Sharp		
RGB Pattern Generator	NCM4011Z	NCM		55
RGB Switching Circuit	TEA5114A	SGS-Thomson		
RGB to NTSC Converter	6291	OEI		
RGB Video Amplifier System (for high resolution RGB color monitors)	LM1203	National		
	LM1203A	National		
RGB Video Processor (for video DSP chipset)	TDA4680	Philips		60
RGB/YC Switch for Digital Decoding	TDA8446	Philips		
RGB/YUV Switch	TDA8443	Philips		
	TDA8443A	Philips		
SECAM Color Decoder	CXA1214	Sony		
Serial Interface Transmission Decoder	STV1602A	SGS-Thomson		65
Serial Interface Transmission Encoder	STV1601A	SGS-Thomson		
SIF and PIF Circuit	GL3120	GoldStar		
Sign Mixer for TV	IR3P54A	Sharp		
Signal Processor, Bilingual	CA3154	Harris		
Signal Processor, PLL, Color TV	µPC1821	NEC		70
SMPS Controller	TDA4601B	SGS-Thomson		
Sound and Picture Processor	HA11485ANT	Hitachi		
Sound Circuits	TBA750	GEC Plessey		
	GL3201A	GoldStar		
	CA3065	Harris		75
	TDA3190P	Motorola		
	TDA1190	SGS-Thomson		
	TDA3190	SGS-Thomson		
	TDA4190	SGS-Thomson		
	TDA8190	SGS-Thomson		80
	TBA130-2	Siemens		

Function	Device	Source		Line
Sound IF Amplifier	TDA4445A	SGS-Thomson		
	TDA4445B	SGS-Thomson		
Sound MUX Decoder	SBX1637A-01	Sony		
	SBX1690-01	Sony		85
Sound Processor (with quadrature inrtercarrier demodulator)	TDA4445A	AEG Corp		
Sound Processor (with quadrature intercarrier and AM demodulator)	TDA4445B	AEG Corp		
Sound Dual F	GL3202	GoldStar		
Source, Select, Gain Control and A/D (for video DSP chipset)	**TDA8708**	**Philips**	**(3750)**	
Special Effects Controller for TV and VCR	MB86153	Fujitsu		90
Stereo Amplifier and DC Volume Control Circuit (for TV)	TDA8199	SGS-Thomson		
Sychron Generator	2001Z	NCM		
Sync Generator	CA3254	Harris		
	CA3255	Harris		
Sync Separator	GL3041	GoldStar		95
Sync Seperation Circuit	TDA4820T	Philips		
Synchronization and Deflection Circuit	LA7801	Sanyo		
	LA7806	Sanyo		
	LA7855	Sanyo		
	LA7856	Sanyo		100
	LA7857	Sanyo		
	LA7858	Sanyo		
Synchronous Deflection Processor (for multi-sync display TV receiver)	µPC1880	NEC		
Teletext Data Slicer	GL3917	GoldStar		
Teletext Decoder, Computer-Controlled	SDA5243	SGS-Thomson		105
	SDA5243H	SGS-Thomson		
	SDA5343	SGS-Thomson		
Teletext Decoder, Computer-Controlled (with 64K RAM)	STV5343	SGS-Thomson		
Test Pattern Generator	ZNA234	GEC Plessey		
Tone Control	TDA1524A	Philips		110
Traffic Camera Controller	4004Z	NCM		
Tuner Controller	SL952	GEC Plessey		
	GL3711	GoldStar		
Tuner, VHF Mixer-Oscillator	TDA5030	Philips		
TV Analog Switch	IR3P76	Sharp		115
TV Base-Brand Interface	LA7970	Sanyo		
TV/CATV Tuner Down Converter	µPC1605	NEC		
TV Field Discriminator Circuit	LA7950	Sanyo		
TV Horizontal/Vertical Countdown Digital Sync System for 525-Line Operation	CA3236	Harris		
	CA3241	Harris		120
TV Multiplexer/Demodulator Chip	IR3P59A	Sharp		
	IR3P77	Sharp		

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Consumer Circuits (Cont'd)

Television Circuits (Cont'd)

Function	Device	Source
TV NTSC One-Chip	LA7670	Sanyo
TV RGB Pattern Generator	NCM4001Z	NCM
TV Sound Channel Circuit	TDA8191	SGS-Thomson
TV Synchron Generator	NCM2001Z	NCM
	NCM2011Z	NCM
TV Tuner Band Selector (IF)	LA7920	Sanyo
TV Tuner Controller	LA7911	Sanyo
	LA7913	Sanyo
TV Tuner Frequency Synthesizer	U6202B	AEG Corp
	U6204B	AEG Corp
	U6316B	AEG Corp
	U6358B	AEG Corp
	6359B	AEG Corp
TV Tuner Power Supply Selector	LA7910	Sanyo
TV, VCR, PLL, Video and Sound IF	LA7550	Sanyo
TV Vertical Deflection Output Amplifier	TEA8170	AEG Corp
	TEA8172	AEG Corp
TV Voltage Synthesizer Controller (CMOS)	LR3790	Sharp
	LR3791	Sharp
U. S. Multi-Sound Decoder	μPC1870CA	NEC
UHF Modulator for VCR	CXA1333A	Sony
	CXA1433	Sony
UHF Power Amplifier	MHW707	Motorola
	MHW720A	Motorola
	MHW721A	Motorola
UHF Signal Processor	LA7058	Sanyo
UHF Signal Processor, Audio/Video	LA7053	Sanyo
	LA7054	Sanyo
UHF/VHF Modulator	TDA5664	Siemens
UHF/VHF Tuner	TDA2017	Siemens
Unity Gain Level Programmable Low Power Compandor	SA578	Philips
Universal Hi-fi Audio Processor for Television	TDA9860	Philips
Vertical Deflection	TDA2653A	Philips
	TDA3653	Philips
	LA7800	Sanyo
	LA7837	Sanyo
	LA7838	Sanyo
	TDA1170	SGS-Thomson
	TDA1170D	SGS-Thomson
	TDA1170N	SGS-Thomson
	TDA1170S	SGS-Thomson
	TDA1670	SGS-Thomson
	TDA1770	SGS-Thomson
	TDA2170	SGS-Thomson
	TDA2270	SGS-Thomson
	TDA8170	SGS-Thomson
	TDA8172	SGS-Thomson
Vertical Deflection Circuit, Low Noise (for CRTs)	TDA1170S	AEG Corp
VHF Mixer Circuit with 2 Oscillators and Post Amplifier for UHF IF	U4777B	AEG Corp
VHF Mixer/Oscillator, Low Power	**NE612**	**Philips** (3733)
VHF/UHF Tuner Front End	HA21001	Hitachi
Video Analog Input Interface	**TDA8708A**	**Philips** (3750)
	TDA8709A	Philips
Video Analog Interface for Chroma Input	TDA8709	Philips
Video and Audio Signals Switching Circuit	TEA1014	SGS-Thomson
Video and Sound IF Circuit	TDA8213	SGS-Thomson
Video and Sound IF Circuit, Multistandard	TDA8120B	SGS-Thomson
Video and Sound IF Circuit with Video and Sound Switches	TDA8222	SGS-Thomson
Video Buffer, Quad Unity Gain	SI584	Siliconix
Video Circuits (IF amplifiers, detectors, AGC, AFC, and various combinations)	TDA4426	AEG Corp
	TDA4427	AEG Corp
	TDA4440	AEG Corp
	TDA4442	AEG Corp
	TDA4450	AEG Corp
	SL1430	GEC Plessey
	SL1431	GEC Plessey
	SL1432	GEC Plessey
	TDA440	GEC Plessey
	MC13001	Motorola
	MC13001X	Motorola
	MC13002	Motorola
	MC13002X	Motorola
	MC13010	Motorola
	MC1330A1	Motorola
	MC1350	Motorola
	LM1823	National
	LM1886	National
	LM1889	National
	LM2889	National
	BCL4433AB	R&E Intl
	TBA1440G	SGS-Thomson
	TBA1441	SGS-Thomson
	TDA2540	SGS-Thomson
	TDA2541	SGS-Thomson
	TDA2542	SGS-Thomson
	TDA4433	SGS-Thomson
Video Control Combo Circuit with Auto Cut-Off Control	TDA4580	Philips
Video Display Processor	**YGV606**	**Yamaha** (3865)
Video Enhancement and D/A Processor (VEDA)	SAA9065	Philips
Video Enhancement and D/A Processor (VEDA2)	SAA7165	Philips
Video Gain Control/Fader	EL4094C	Elantec
Video IF Amplifier (for TV)	U4439B	AEG Corp
	U4453B	AEG Corp
Video IF and AFC Circuit for Color and Black-and-White TV	TDA4427A	AEG Corp
Video, IF and RF Amplifier	VA592	VTC
Video IF and RF Amps	MC3361	Philips
	NE604A	Philips
	NE605	**Philips** (3734)
	SA604A	Philips
Video IF Circuit, Multistandard	TDA8123A	SGS-Thomson
	TDA8124	SGS-Thomson
Video Line Driver	VLD212	ThirdDomain
Video Op Amp	**HA2544**	**Harris** (3637)
	VOA901	ThirdDomain
Video Output for CTV	STK185B	Sanyo
Video Processor, Digital Controlled, for Color TV	U4646B	AEG Corp
	U4647B	AEG Corp
Video Processor with Automatic Cut-Off Control	TDA4686	Philips
Video Screen Generator, RGB	**YGV604**	**Yamaha** (3865)
Video Signal Controller	VSC920	ThirdDomain
Video Switch	TEA2014A	SGS-Thomson
Video Switch/Multiplexer	VSM912	ThirdDomain
Video Sync Separator	LM1881	National
Video Sync Stripper (standard video input levels of 1–1.4 V p-p)	RSS100A	ThirdDomain
Video Sync-Stripper	RSS100C	ThirdDomain
	RSS100M	† ThirdDomain
Video 6-Bit D/A Converter (for TV)	μPD6325	NEC
	μPD6326	NEC
	μPD6335	NEC
	μPD6336	NEC
Voltage Synthesis Tuning System with 1 Analog Control	M491B	SGS-Thomson
Voltage Tuning System with 4 Analog Control and Microprocessor Interface	M494	SGS-Thomson
Wideband Variable Gain Amplifier	NE5209	Philips
	SA5209	Philips
Y/Chroma/Jungle IC for PAL/NTSC	CXA1213A	Sony
Z8 Digital Television Controller (Z8 core MPU with 8 Kbyte program ROM)	Z86C27	Zilog
128 Character On Screen Display	μPD6450	NEC
128 Character On Screen Display for VCR Camera	μPD6456	NEC
128 Character On Screen Display with Double Scan TV Mode	μPD6451	NEC
	μPD6451A	NEC
256 Character On Screen Display with Double Scan TV Mode	μPD6453	NEC
900 MHz Power Amplifier	MHW801	Motorola
	MHW803	Motorola
	MHW807	Motorola
	MHW851	Motorola

Video

Function	Device	Source
AF Detector for Camcorder	CXA1516	Sony
Analog-to-Digital Converter, Triple 8-bit	MC44250	Motorola
Baseband Delay Line	TDA4661	Philips
Broadcast Quality Two Channel Video Multiplier	GT4122	Gennum

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Video (Cont'd)

Function	Device	Source	Line
Buffer with Sync Tip Clamp	GB4550	Gennum	
Buffered Amplifier (for video gain block, zero insertion loss line driver)	HA5004	Harris	
Chrominance Signal Separator	μPC1893	NEC	
Circuit for 110° CRT Deflection Systems	TEA2031A	AEG Corp	
CMOS Continous Edge Graphics RAM-DAC (CEG/DAC)	ADV7141	AD	5
	ADV7146	AD	
	ADV7148	AD	
Color TV Decoder, Multistandard	TEA5640	SGS-Thomson	
	TEA5640E	SGS-Thomson	
Controller, CRT and Panel, CGA and Hercules compatible	**V6366**	**Yamaha (3865)**	10
CRT Deflection Amplifier	STK79905	Sanyo	
CRT Driver Amplifier, Triple (30 MHz)	LM2418	National	
CRT Video Driver Amplifier (175 MHz bw)	LH3424	National	
Current Mode Four Quadrant Multiplier	EL4083	Elantec	
	EL4084	Elantec	15
DC Restored Amplifier, 100 MHz (with S/H amp.)	EL2090C	Elantec	
DC Restored Video Amplifier	EL4089C	Elantec	
Digitizer, Color	BT254	Brooktree	
Digitizer, Gray Scale	BT252	Brooktree	
Display Controller, RGB, CRT, TV, LCDs	**YGV605**	**Yamaha (3865)**	20
Display Processor, RGB, CRT, TV, LCDs	**V9990**	**Yamaha (3865)**	
Divital Video 4: 2: 2 Parallel Interface	CXB1001	Sony	
Electronic Switch	GL3816	GoldStar	
FIP/LCD, LED Driver	μPD6320/1	NEC	
High-Performance True-Color RAMDAC	BT484	Brooktree	25
Horizontal and Vertical Deflection Circuit	TDA8214A	SGS-Thomson	
	TDA8215A	SGS-Thomson	
	TDA8218	SGS-Thomson	
Horizontal/Vertical Processor (for TTL video display units)	TDA8102B	SGS-Thomson	
	TDA9102B	SGS-Thomson	30
	TDA9102C	SGS-Thomson	
Horizontal/Vertical Scan Circuit, AFC Horizontal Oscillator Signal Processor (with sync separator and AGC)	CA3261	Harris	
IIC Bus Interface for Videoprocessors	U8442B	AEG Corp	
LCD Column Driver, 40 Outputs	μPD6308A	NEC	
Mixer Circuit, Video Processor	CA3253	Harris	35
Monochrome Display Controller, Advanced	YGV603	Yamaha	
Multi-Sync Monitor TTL to Analog Input Interface (converts TTL inputs to RGB outputs)	MC1382	Motorola	
Multimode Monitor Processor	MC1381FB	Motorola	
Multimode Monitor Processor (horizontal, vertical, and video)	MC1383	Motorola	
Multistandard Video IF	TDA4439	AEG Corp	40
NTSC/PAL Encoder	BT858	Brooktree	
On-Screen Display	ST6398	SGS-Thomson	
PAL Decoder and Video Processor	TDA8217	SGS-Thomson	
PAL/NTSC/SECAM Decoder/Sync Processor	TDA9141	Philips	
PAL/SECAM Color TV Decoder	TEA5640F	SGS-Thomson	45
Processor, RGB	**V9958**	**Yamaha (3865)**	
Programmable Video Sync Generator	LM1882	National	
	LM1882R	National	
RF Amplifier, Precision FET-Input	LH4117C	National	
RF/IF Circuit, Video IF Amplifier/PLL Detector System (for cable TV)	LM1823N	Harris	50
RF Modulator (for VCR)	**NJM2219**	**NJR (3704)**	
RGB to NTSC/PAL Encoder	**AD720**	**AD (3541)**	
Sample and Hold Circuit, High Speed	CXA1693	Sony	
Sync Deflection Circuit	LA7855	Sanyo	
	LA7856	Sanyo	55
	LA7857	Sanyo	
	LA7858	Sanyo	
Sync Processor, TV Horizontal/Vertical Countdown Digital Sync System	CA3218	Harris	
	CA3236	Harris	
	CA3241	Harris	60
Sync Separation and AFC (for Digital Video Processing)	CXD1229	Sony	
Sync Separator and Video Signal Identification Circuit	TDA8128	SGS-Thomson	
Sync Seperator	GS4881	Gennum	
Tape Read Signal Conditioner	TL041AC	TI	
Title Insertion for VCR	LV4100	Sanyo	65
Transversal Filter (for video signal)	RF5C136	Ricoh	
TV/μP Interface	M106	SGS-Thomson	
TV Video Modulator	NJM1372A	NJR	
	NJM2208	NJR	
Variable Gain Circuit with Disable, 200 MHz	EL2082	Elantec	70
	EL2082C	Elantec	
VCR Stereo Matrix, 8mm	LA7456M	Sanyo	
Vertical Deflection Circuit, Low Noise (for CRTs)	TDA1170N	AEG Corp	
Vertical Direction Outline Compensation Circuit (for video cameras)	CXA1270	Sony	
Video Amplifier, Differential (fixed or variable gain)	μA733	Philips	75
	μA733c	Philips	
Video Amplifier, High-Speed Single Channel	EL5003C	Elantec	
Video Amplifier (preamplifier of memory equipment, video and pulse signal)	**NJM592**	**NJR (3704)**	
Video Amplifier System (wideband, 200 MHz)	LM1201	National	
Video Amplifier System (230 MHz)	LM1202	National	80
Video Amplifier System (70 MHz)	LM1203B	National	
Video Amplifier (three channel 100MHz)	M52327SP	Mitsubishi	
Video Amplifier (three channel 130MHz)	M52307P	Mitsubishi	
	M52307SP	Mitsubishi	
Video Amplifier (wideband : 50 MHz)	M51387P	Mitsubishi	85
	M51392P	Mitsubishi	
Video Amplifier (wideband : 100 MHz)	M51399P	Mitsubishi	
Video Amplifier, Triple 60 MHz	EL4390C	Elantec	
	EL4393C	Elantec	
Video Amplifier, 100 MHz Current Feedback	HA5020-5	Harris	90
	HA5020-9	Harris	
Video Amplifier, 130 MHz RGB (with blanking)	LM1205	National	
	LM1207	National	
Video Amplifier, 2-Channel Input, Gate Controlled	MC1445	TI	
Video Amplifier, 2-Channel Selectable (preamp in read chain of streaming tape drivers)	SG040	Linfinity Micro	95
Video Analog Input Interface	**TDA8708B**	**Philips (3750)**	
Video Analog Switch, Dual Two-Input/Single Output	TK15062	Toko	
	TK15064	ℓ Toko	
	TK15065	Toko	
	TK15066	Toko	100
Video Analog Switch, Dual Four-Input/Single Output	TK15080	Toko	
Video Analog Switch, Two-Input/Single Output	TK15067	Toko	
	TK15110	Toko	
Video Analog to Digital Interface, 8-Bit, YUV	TDA8755	Philips	
Video Camera Auto-Iris Function	NJM2225	NJR	105
	NJM2225A	NJR	
Video Color Superimposer	NJM2247	NJR	
Video Crosspoint Switch, 4x1 (Monolithic)	GX434	Gennum	
Video DAC, 8-Bit with ECL Inputs	MC10324	Motorola	
Video DAC, 8-Bit with TTL Inputs	MC10322	Motorola	110
Video Decoder and Scaler Circuit, Digital (DESC)	**SAA7194**	**Philips (3747)**	
Video Decoder, Scaler and Clock Generator Circuit, Digital (DESCPro)	SAA7196	Philips	
Video Delay Line	TK16070	Toko	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Video (Cont'd)

Function	Device	Source	Line
Video Display Generator	MC6847	Motorola	
Video Display Processor, Enhanced	V9978	Yamaha	
Video Distribution Amplifier	EL2099C	Elantec	
Video Driver for CRT Monitor, High Negative-Voltage	1903	TeledyneC	
Video Encoder (4:2:2 D1)	**CXD8068**	**Sony (3795)**	5
	CXD8069	**Sony (3795)**	
Video Enhancement and D/A Processor (VEDA3)	SAA7164	Philips	
Video IF	TDA4443	AEG Corp	
Video IF Circuit	TDA4437	AEG Corp	
Video IF (high performance)	TDA4453	AEG Corp	10
Video Input Module, NTSC 18-Bit Input RGB Output	**SBX1761-01**	**Sony (3794)**	
	SBX1761-10	**Sony (3794)**	
	SBX1761-50	**Sony (3794)**	
Video Input Module, NTSC 24-Bit Input RGB Output	**SBX1762-01**	**Sony (3794)**	
	SBX1793-01	**Sony (3794)**	15
	SBX1793-21	**Sony (3794)**	
Video Matrix Switch, Bus-Controlled	TEA6414	SGS-Thomson	
	TEA6415B	SGS-Thomson	
Video Memory Controller for LD	**YM6020**	**Yamaha (3866)**	
Video Modulator (interfaces audio, color, difference, and luminance signals to TV antenna terminals)	LM1889	National	20
Video Multipler with DC Restore	GT4124	Gennum	
Video Multiplexer Module, 8x1 (HDTV quality)	GM8108	Gennum	
Video Multiplexer Module, 16x1 (broadcast quality)	GM8116	Gennum	
Video Multiplexer, 4x1 Wideband	**AD9300**	**AD (3524)**	
	AD9300K	**AD (3524)**	25
	AD9300T/883B	† **AD (3524)**	
Video Noise Reducer	NJM2210	NJR	
Video Noise Reducer for VCR Camera	NJM2224	NJR	
Video On-Screen Display Circuit	NJM2214	NJR	
Video Output	CX20095A	Sony	30
	CX20186	Sony	
Video Picture Enhancer	NJM2209	NJR	
Video Processor	TDA3506M	AEG Corp	
Video Processor for LD	**YVL151**	**Yamaha (3866)**	
Video Processor (with RGB insertion)	TDA3505G	AEG Corp	35
Video Pulse Generator	TBB278A	Siemens	
	TBB278B	Siemens	
Video Receiver Coprocessor, D2	**CXD8129**	**Sony (3795)**	
Video Scaler, Digital	**SAA7186**	**Philips (3744)**	

Function	Device	Source	Line
Video Signal Field Memory, 3-Port VRAM	**CXK1206**	**Sony (3794)**	40
	CXK48324	**Sony (3794)**	
Video Signal Processing 6 Bit A/D Converter	μPC660	NEC	
Video Subcarrier Signal Doubler/Tripler	**NJM2228**	**NJR (3704)**	
Video Subcarrier Signal Tripler	NJM2238	NJR	
Video Subcarrier Signal Quadrupler	NJM2240	NJR	45
Video Superimposer	NJM2207	NJR	
Video Superimposer with AFC	NJM2217	NJR	
Video Switch	TEA2114	SGS-Thomson	
	TEA2124	SGS-Thomson	
Video Switch, High Frequency (200 MHz, for use with all Harris op amps and buffers)	**HI222**	**Harris (3637)**	50
	HI222-5	**Harris (3637)**	
	HI222-9	**Harris (3637)**	
Video Switch Matrix (4x4)	TDA8540	Philips	
Video Switch Matrix (8x4)	MT88V32	Mitel	
Video Switch with 8 dB Amplifier	NJM2223	NJR	55
Video Switch, 2x3-Input (with 6 dB amplifier)	LA7955	Sanyo	
Video Switch, 4-Input (with 6 dB amplifier)	LA7952	Sanyo	
Video Switch, 5 Channel	TEA5115	SGS-Thomson	
	TEA5116	SGS-Thomson	
Video Switch, 5-Input	MC44900	Motorola	60
Video Switch 75-ohm Driver (for VCR)	CXA1451	Sony	
Video Switch, 2-Input Single Unit	NJM2233B	NJR	
Video Switch, 3-Input	**NJM2234**	**NJR (3704)**	
	NJM2235	NJR	
	NJM2248	NJR	65
	NJM2249	NJR	
	NJM2273	NJR	
Video Switch, 3-Input (with 6 dB amplifier)	NJM2245	NJR	
	NJM2246	NJR	
	NJM2265	NJR	70
	NJM2266	NJR	
Video Switch, 3-Input (with 75-ohm drivers)	NJM2243	NJR	
	NJM2244	**NJR (3704)**	
	NJM2263	NJR	
	NJM2264	NJR	75
Video Switch, 6-Input	NJM2283	NJR	
	NJM2284	NJR	
	NJM2285	NJR	
Video Sync Detector (for VCR, TV Video Camera)	NJM2220	NJR	
	NJM2230	NJR	80
Video Sync Separator	EL4581C	Elantec	
Video Transmitter Coprocessor, D2	**CXD8110**	**Sony (3795)**	
Video Triple 9-Bit D/A Converter, 35MHz, High Speed	SAA7169	Philips	

Function	Device	Source	Line
Wideband Unity Gain Video Buffer	GB4600	Gennum	
Wideband Video Processor	TEA5040	SGS-Thomson	85
Two Channel Video Multiplier	GT4123	Gennum	
1H Delay Line (PAL/SECAM)	LC8992	Sanyo	
40V FIP Driver, 20 Outputs	μPD6300	NEC	
8-mm Video AD/DA Converter	CXD1077	Sony	

Miscellaneous

Function	Device	Source	Line
Appliance Controller, D/A Converter	**DAC1201**	**Burr-Brown (3469)**	90
Automobile Power Switch/Actuator Driver	μPC1097	NEC	
Battery Capacity Monitor/Charge Controller for Battery Pack or System Integration	bq2011	Benchmarq	
	bq2013	Benchmarq	
Battery Capacity Monitor for Battery Pack or System Integration	bq2010	Benchmarq	
	bq2012	Benchmarq	95
Battery Fast Charge Controller and Discharge Monitor	bq2001	Benchmarq	
	bq2001	Benchmarq	
Battery Fast Charge IC for Nickel Cadium Batteries	bq2003	Benchmarq	
Capacitive Touch Light Dimmer Circuit	HI2410	Holt	
CD-ROM Decoder	CXD1196	Sony	100
Comparator plus Alarm Driver Circuitry (piezo driver and low battery detect)	MC14471	Motorola	
Cordless Telephone System Regulator Circuit	TA31086	Toshiba	
Data Buffer, Bidirectional, 32Kx8	μPD42532C-10	NEC	
Data Processor for AMPS and TACS Cellular Radios	**UMA1000**	**Philips (3729)**	
Detection Circuit, Low Voltage	PCF1252	Philips	105
Digital Lock	**LS7220**	**LSI Comp (3683)**	
	LS7225	**LSI Comp (3683)**	
	LS7226	**LSI Comp (3683)**	
	LS7228	**LSI Comp (3683)**	
	LS7229	**LSI Comp (3683)**	110
Dimmer Circuit for Halogen Lamps	SLB0587	Siemens	
Dimmer Circuit (for use with appliances)	HM3704	Hualon Micro	
Dimmer Circuit (replaces electomechanical wall switches)	SLB0586A	Siemens	
Display Filter, Graphic Equalizer	XR1091	Exar	
Electronic Digital Rheostat	DS1668	Dallas	115
	DS1669	Dallas	
	DS1669S	Dallas	
Facsimile Controller, Group 3	YTF405B	Yamaha	
Flash Circuit, 7 LED	HM5403	Hualon Micro	
FM Modulator for Infrared Data Communications	CXA1781	Sony	120

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source
Frequency Synthesizer, 1.3 GHz (I^2C controlled)	TSA5511	Philips
Ground Fault Interrupter	GL7101	GoldStar
	LM1851	National
	KA2803	Samsung
IF Detector Circuit	TA31134	Toshiba
Light Dimmer Circuit, 3-Level with Delay-Off Mode	HI2418-3	Holt
Light Dimmer Circuit, 4-Level with Delay-Off Mode	HI2418-4	Holt
Line Buffer, Dual-Port (5Kx16-bit)	μPD485506-25	NEC
	μPD485506-35	NEC
Line Buffer, Dual-Port (5Kx8-bit)	μPD485505-25	NEC
	μPD485505-35	NEC
Line Buffer, Dual-Port, 5Kx8-bit (for communications systems, fax, and plain paper copier)	μPD42505-50	NEC
Micro Power Receiver (up to 200 kHz bandpass)	DS1203S-B1	Dallas
Modulator Oscillator, to 600 MHz	MC13024	Motorola
Motor, Brushless DC Motor Commutator, 3 Phase	**LS7262**	**LSI Comp (3682)**
Motor, Brushless DC Motor Speed Controller, 4 Phase	**LS7264**	**LSI Comp (3682)**
Motor Controller, D/A Converter	DAC710	Burr-Brown
	DAC711	Burr-Brown
Motor Speed Regulator	CS2917	Cherry Semi
Music Chimes	SAB0600	Siemens
	SAB0601	Siemens
	SAB0602	Siemens
Pager Circuit, POCSAG Decoder, Alphanumeric Output	STC5233N	STC
Pager Circuit, POCSAG Decoder, CPU Interface	S7035C2F	Seiko Instr
	S7037AF	Seiko Instr
	S7038AF	Seiko Instr
Pager Driver	TA31090	Toshiba
Pager FM IF Detection Circuit	TA31122	Toshiba
	TA31142	Toshiba
Pager Receiver Circuit	**UAA2080T**	**Philips (3757)**
Phone Signal Processor	LA8604M	Sanyo
	LA8630M	Sanyo
Photo-Electric Smoke Detector Circuit	SD2	Supertex
Prescaler, 1 GHz (÷64/256)	SAB6456	Philips
Programmable Encoder/Decoder (Manchester phase encoding)	ED10	Supertex
Programmable Encoder (Manchester phase encoding)	ET15	Supertex
Protector Circuit, Battery Feed and Surge	MH80620	Mitel
Signal Processor and Power Amplifier (for answering machines)	LA2806	Sanyo
Smoke Detector	A5348	Allegro Micro
	CS235	Cherry Semi

(Continued)

Function	Device	Source
Smoke Detector (Cont'd)	MC14467	Motorola
	MC14470	Motorola
Smoke Detector, Photoelectric with I/O	MC145010	Motorola
Switch, Continous Light Dimmer with Separate Up/Down Controls	**LS7535**	**LSI Comp (3682)**
Switch, Continuous Light Dimmer with Separate Up/Down Controls	**LS7534**	**LSI Comp (3682)**
Switch, Video and Audio	TDA8440	Philips
	LA7221	Sanyo
	LA7222	Sanyo
Switches, DC-Controlled, Audio	LM1037	National
	LM1038	National
Switches, Proximity	TDA0159	SGS-Thomson
	TDA0161	SGS-Thomson
	TDA0162	SGS-Thomson
	TCA305	Siemens
	TCA355	Siemens
Switches, Touch-Sensitive Light Dimmer	**LS7231**	**LSI Comp (3682)**
	LS7232	**LSI Comp (3682)**
	LS7233	**LSI Comp (3682)**
	LS7234	**LSI Comp (3682)**
	LS7237	**LSI Comp (3682)**
Tachometer Circuit	CS189	Cherry Semi
	XR2917	Exar
	LM2907	National
	LM2917	National
Telephone Answering Machine Circuit	LA2805	Sanyo
Touch Activated Light Dimmer Circuit	HI1220	Holt
Touch Control Step Dimmer Light Switch with Automatic Gain Control (AGC)	LS7538	LSI Comp
	LS7539	LSI Comp
Traffic Light Control Circuit	4004Z	NCM
Universal Infrared Locking System (EEPROM 1K bit)	SDE2506	Siemens
Zero Voltage Switch	KA2804	Samsung

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Followers

Offset Voltage mV 25°C	Bias Current nA 25°C	Voltage Drift µV/°C	Unity Gain Bandwidth MHz min	Slew Rate v/us	Output V @ mA	Supply Range, V	Comments	Device	Source
0.25	100	100	100 •	1000	9@100	± 5 to ± 20	Fast Follower	LH0033	† Maxim
3	5	5 •	60 •	1000 •	11@11	± 5 to ± 18	100 mA Current Feedback	LM6181	National
4	3	6 •	20 •	30 •	10@1	± 5 to ± 18	Follower, Replaces 102	LM210	National
								SFC2210	SGS-Thomson
		12 •	20 •	30 •	10@1	± 5 to ± 18	Follower, Replaces 102	LM110	‡ National
5	0.1	100	100	100	9@100	± 5 to ± 20	Fast Follower	LH0033A/HR	† Maxim
			100 •	1000	9@100	± 5 to ± 20	Fast Follower	LH0033A	Maxim
	0.5	25	140	1000	9@100	± 5 to ± 20	High Accuracy, Fast Follower	MAX460M	† Maxim
	10	6 •	10 •	10 •	10@1.25	± 12 to ± 18	Follower	LM102	† National
6	0.4	90	55 •	220	10@22	± 6 to ± 18	Very Fast Follower	**BUF03E**	**AD (3530)**
		100	55 •	220	10@21	± 6 to ± 18	Very Fast Follower	**BUF03A**	**AD (3530)**
7.5	7	10 •	20 •	30 •	10@1	± 5 to ± 18	Follower, Replaces 102	LM310	National
10	0.25	50 •	100 •	1000	9@100	± 5 to ± 20	Fast Follower	LH0033	Calogic
								LH0033	† National
		100	100	100	9@100	± 5 to ± 20	Fast Follower	LH0033/HR	† Maxim
			100 •	1000	9@100	± 5 to ± 20	Fast Follower	ELH0033	† Elantec
	10		550	5000	@100mA	± 0.3 to ± 25		EL2031C	Elantec
	2000	25	140	1000	9@100	± 5 to ± 20	High Accuracy, Fast Follower	MAX460I	Maxim
15	0.25	100	100 •	1000	9@100	± 5 to ± 20	Fast Follower	LH0033AC	Maxim
	0.7	150	50 •	180	10@25	± 6 to ± 18	Very Fast Follower	**BUF03F**	**AD (3530)**
			170	50 •	180	± 6 to ± 18	Very Fast Follower	**BUF03B**	**† AD (3530)**
	30	20 •	10 •	10 •	10@1.25	± 12 to ± 18	Follower	LM302	National
	35000	33 •	250 •	1300•	10@100	± 5 ± 20	Video Buffer	HA5033-2	† Harris
				1300	10@100	± 5 ± 20	Video Buffer	HA5033-5	Harris
								HA5033-9	Harris
		33•	275•	2500	11@80	± 5 to ± 16	Gain = 0.99 (1k ohm)	**OPA633**	**Burr-Brown (3459)**
20	0.5	100	100 •	1000	9@100	± 5 to ± 20	Fast Follower	LH0033C	Maxim
								LH0033C	National
	5	100	200	1000	10@500	± 11 to ± 18	Fast, High Current	9911	OEI
	30	100	25	1000	10@50	± 3 to ± 15	6 Identical Sections	MZ320	AnalogSys
	7000	10 •	110	1300 •	10@100	± 5 to ± 22	Monolithic Buffer	HA5002-5	Harris
		30 •	110 •	1300•	10@100	± 5 to ± 22	Monolithic Buffer	HA5002-2	† Harris
				1300 •	10@100	± 5 to ± 22	Monolithic Buffer	HA5002-9	Harris
	20000	100	24 •	1500 •	10@100	± 6 to ± 18	Follower, Current Booster	AH0010C	OEI
								AH0010F	OEI
25	0.5	300 •	200 •	2000	10@200	± 5 to ± 20	Very Fast Follower	LH0063	† Maxim
30	5000	7	70	2000	11@100	± 5, ± 15	Low Quiescent Power, Audio/Video	EL2001C	Elantec
40	15000	20	180	2000	11@100	± 5 to ± 15	Fast Follower, Video Buffer	EL2002C	Elantec
	25000		100	1200 •	12@105	± 2.5 to ± 18	Video Line Driver/Video Buffer	EL2033C	Elantec
		20	100	1200	10@100	± 2.5 to ± 15	Fast Follower, Video Buffer	EL2003C	Elantec
	35000	33	100	2500	10@1A	± 5 to ± 15	Fast High Power Follower	EL2008C	Elantec
50	0.2 •	300 •	300 •	2000	10@200	± 5 to ± 20	Gain 0.094 (50 Ohm)	BB3553	† Maxim
							Gain 0.92 (50 Ohm)	**3553**	**† Burr-Brown (3459)**
	0.5	300 •	200 •	2000	10@200	± 5 to ± 20	Very Fast Follower	LH0063C	Maxim
	30	300 •	200 •	2000	10@200	± 5 to ± 20	Very Fast Follower	LH0063C	National
60	125000	33	125	3000	@1A	± 5 to ± 15	Fast High Power Follower	EL2009C	Elantec

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Instrumentation Amplifiers

Gain Range	Gain Error %	Offset Voltage µV (25°C)	Offset Current nA (25°C)	Bias Current nA	Band-width kHz	Slew Rate V/µs	CMRR dB	Comp.	Comments	Device	Source	Line
		80	35	40	8000	2.8	114		Dual Instrumentation Amplifier	**OP227A**	† **AD** **(3526, 3529)**	
									Dual Amplifier	**OP227B**	† **AD** **(3526, 3529)**	
										OP227E	**AD** **(3526, 3529)**	
		120	50	55	8000	2.8	106		Dual Amplifier	**OP227F**	**AD** **(3526, 3529)**	
		150	2	2	400	0.1	114	0		OP05A	† AD	5
										OP05A	† LinearTech	
		180	75	80	8000	2.8 *	106		Dual Amplifier	**OP227G**	**AD** **(3526, 3529)**	
		200	2	70	—	100	114		High Gain	OP06A	† AD	
		500	2.8	3	400	0.1	114	0		OP05	† LinearTech	
					600 *	0.17 *	110			OP10	† AD	10
										OP10A	† AD	
			3.8	4	400	0.1	110	0		OP05E	AD	
										OP05E	LinearTech	
					600 *	0.17 *	100			OP10E	AD	
			5	80	—	100	114		High Gain	OP06B	† AD	15
										OP06F	AD	
			6	7	600 *	0.17 *	100			OP10C	AD	
		1300	6	7	400	0.1	100	0		OP05C	AD	
										OP05C	LinearTech	
			13	110	—	100	110		High Gain	OP06G	AD	20
	0.1	10	0.05	0.12	18 *		104		Precision, Chopper Stabilized	LTC1100AC	LinearTech	
	0.11	10	0.08	0.3	18 *		100		Precision, Chopper Stabilized	LTC1100AM	† LinearTech	
	0.15	10	0.065	0.135	18 *		90		Precision, Chopper Stabilized	LTC1100C	LinearTech	
			0.12	0.45	18 *		90		Precision, Chopper Stabilized	LTC1100M	† LinearTech	
	0.5	600	0.04	0.04	120	12	84		High Speed, Precision, JFET	LT1102AC	LinearTech	25
										LT1102AM	† LinearTech	
	0.7	900	0.06	0.06	100	10	82		High Speed, Precision, JFET	LT1102C	LinearTech	
										LT1102I	LinearTech	
										LT1102M	† LinearTech	
0.1–1000	0.1	1000	10	40	100	10	74	0		AD521L	AD	30
										AD521S	† AD	
	0.2	1500	10	40	100	10	74	0		AD521K	AD	
		3000	20	80	100	10	70	0		AD521J	AD	
0.1–10000	0.6	50	1	4	82	3.5	85			**AMP01A**	† **AD** **(3520)**	
										AMP01E	**AD** **(3520)**	35
	0.8	100	2	6	82	3	75			**AMP01B**	† **AD** **(3520)**	
										AMP01F	**AD** **(3520)**	
										AMP01G	**AD** **(3520)**	
0.1–2000	0.5	1	0.025	0.05	120 *	5	90			AMP05A	AD	
										AMP05E	AD	40
	1	2	0.05	0.1	120 *	5	80			AMP05B	AD	
										AMP05F	AD	
1 to 1000	3	2000	50	125	350	0.3	100	1		LH0036	National	
										LH0036C	National	
1–1000	0.003	200	5	25	300 *	0.12 *	60	1		**AMP04A**	† **AD** **(3520)**	45
										AMP04E	**AD** **(3520)**	
		400	5	25	300 *	0.12 *	60	1		**AMP04F**	**AD** **(3520)**	
										AMP04G	**AD** **(3520)**	
	0.02	225	20	20	30	0.2	80			**PGA200B**	**Burr-Brown** **(3462)**	
	0.04	1000	0.02	0.1	100	23	96			**AM551C**	**Datel** **(3570)**	50
										AM551M	† **Datel** **(3570)**	
	0.05	50	2	2	10	0.3	80		Programmable Gain	**PGA204B**	**Burr-Brown** **(3462)**	
		450	30	30	30	0.2	80			**PGA200A**	**Burr-Brown** **(3462)**	
	0.1	25	20	20	2.5	0.4	90			**INA101C**	**Burr-Brown** **(3461)**	
			30	30	2.5	0.4	90			**INA101S**	† **Burr-Brown** **(3461)**	55
		30	500	8000	240 *	15 *	80			**INA103K**	**Burr-Brown** **(3461)**	
		50	30	30	2.5	0.4	90			**INA101A**	**Burr-Brown** **(3461)**	
			500	8000	240 *	15 *	80			**INA103B**	**Burr-Brown** **(3461)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Instrumentation Amplifiers (Cont'd)

Gain Range	Gain Error %	Offset Voltage µV (25°C)	Offset Current nA (25°C)	Bias Current nA	Band-width kHz	Slew Rate V/µs	CMRR dB	Comp.	Comments	Device	Source	Line
1–1000	0.1										(Cont'd)	
		125	2	5	10	0.3	75		Programmable Gain	**PGA204A**	**Burr-Brown (3462)**	
		200	7	7	750 *	0.25 *	110 *			**MN2200**	**MicroNet (3693)**	
										MN2200H	**† MicroNet (3693)**	
	0.15	25	20	20	25	0.2	80			**INA104C**	**Burr-Brown (3461)**	
										INA104K	**Burr-Brown (3461)**	5
			30	30	25	0.2	80			**INA104B**	**Burr-Brown (3461)**	
										INA104J	**Burr-Brown (3461)**	
										INA104S	**† Burr-Brown (3461)**	
		50	30	30	25	0.2	80			**INA104A**	**Burr-Brown (3461)**	
										INA104H	**Burr-Brown (3461)**	10
		1000	0.025	0.05	400 *	15	80			**PGA202B**	**Burr-Brown (3462)**	
										PGA202K	**Burr-Brown (3462)**	
										PGA203B	**Burr-Brown (3462)**	
										PGA203K	**Burr-Brown (3462)**	
	0.2	200	20	25	3	0.1	75	1		AD522S	† AD	15
							80	1		AD522B	AD	
	0.25	100	10	30	300	0.1	90			**INA102C**	**Burr-Brown (3461)**	
			1000	12000	240	15	72			**INA103A**	**Burr-Brown (3461)**	
		300	15	50	300	0.1	80			**INA102A**	**Burr-Brown (3461)**	
		500	10	30	300	0.1	90			**INA102K**	**Burr-Brown (3461)**	20
		2000	0.025	0.05	400 *	10	80			**PGA202A**	**Burr-Brown (3462)**	
										PGA203A	**Burr-Brown (3462)**	
	0.3	250	20	20	2.5	0.4	65			**INA101H**	**Burr-Brown (3461)**	
										INA101K	**Burr-Brown (3461)**	
	0.5	50	10	15	25 *	5 *	80	0		**AD524C**	**AD (3520)**	25
	1	25	10	15	50 *	5 *	80	0		**AD624C**	**AD (3520)**	
		75	15	25	50 *	5 *	75	0		**AD624B**	**AD (3520)**	
			35	50	50 *	5 *	70	0		**AD624S**	**† AD (3520)**	
		100	15	25	25 *	5 *	75	0		**AD524B**	**AD (3520)**	
		200	35	50	50 *	5 *	70	0		**AD624A**	**AD (3520)**	30
		400	20	25	3	0.1	75	1		AD522A	AD	
	2	100	35	50	25 *	5 *	70	0		**AD524S**	**† AD (3520)**	
		250	35	50	25 *	5 *	70	0		**AD524A**	**AD (3520)**	
1–10000	0.02	25	5	15	25	5	80			**AD625C**	**AD (3520)**	
	0.03	50	15	25	25	5	75			**AD625B**	**AD (3520)**	35
										AD625K	**AD (3520)**	
	0.05	200	35	50	25	5	70			**AD625A**	**AD (3520)**	
										AD625J	**AD (3520)**	
										AD625S	**† AD (3520)**	
	0.5	0.5			100		96			**INA118**	**Burr-Brown (3461)**	40
		50	0.5	1	120	0.75	80	1		**AD620B**	**AD (3520)**	
		100	5	10	200	4	75	1		**AMP02E**	**AD (3520)**	
		200	10	20	200	4	70	1		**AMP02F**	**AD (3520)**	
	0.7	125	1	2	120	0.75	73	1		**AD620A**	**AD (3520)**	
										AD620S	**† AD (3520)**	45
	1	50	2	2	10	0.3	80			**INA115B**	**Burr-Brown (3461)**	
	2	125	5	5	10	0.3	80			**INA115A**	**Burr-Brown (3461)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Instrumentation Amplifiers (Cont'd)

Gain Range	Gain Error %	Offset Voltage µV (25°C)	Offset Current nA (25°C)	Bias Current nA	Band-width kHz	Slew Rate V/µs	CMRR dB	Comp.	Comments	Device	Source
1–512	0.02	225	20	20	30	0.2	80			PGA201B	Burr-Brown
	0.05	450	30	30	30	0.2	80			PGA201A	Burr-Brown
1–8	0.024	50	2	2	100	0.3	80		Programmable Gain	**PGA205B**	**Burr-Brown (3462)**
	0.05	125	2	5	100	0.3	75		Programmable Gain	**PGA205A**	**Burr-Brown (3462)**
1–800	0.5	250	0.025	0.05	270	12	80			**INA110B** **INA110K** **INA110S**	**Burr-Brown (3461)** **Burr-Brown (3461)** † **Burr-Brown** ° **(3461)**
	1	500	0.05	0.1	270	12	70			**INA110A**	**Burr-Brown (3461)**
10–100	0.05	125	0.5	1	200 *	0.75	120			**AD621B**	**AD (3520)**
	0.055	160	0.6	8	2.3	0.06	84			LT1101AC LT1101AI LT1101AM	LinearTech LinearTech † LinearTech
	0.07	220	0.9	10	2.3	0.06	82			LT1101C LT1101I LT1101M LT1101S	LinearTech LinearTech † LinearTech LinearTech
	0.15	250	1	2	200 *	0.75	110			**AD621A** **AD621S**	**AD (3520)** † **AD (3520)**
20		400	0.5	15			140			LM321A	National
20 *		1500	2	18			120			LM221	National
100	0.2	50	2	2	50 *	0.3	110			**INA131B**	**Burr-Brown (3461)**
	0.5	125	5	5	50 *	0.3	106			**INA131A**	**Burr-Brown (3461)**
1000	0.01	2200		50	2000	0.6*	85	1		**INA120A**	**Burr-Brown (3461)**
	0.05	625		20	2000	0.6*	90	1		**INA120C**	**Burr-Brown (3461)**
		1100		20	2000	0.6*	90	1		**INA120B**	**Burr-Brown (3461)**
10000	0.02	500	0.01	0.02	450 *	17 *	106	1	High Speed FET	**INA111B**	**Burr-Brown (3461)**
	0.05	50	2	2	1*	0.6*	96*	1		**INA114B**	**Burr-Brown (3461)**
		125	5	5	1*	0.6*	90*	1		**INA114A**	**Burr-Brown (3461)**
		1000	0.01	0.02	450 *	17 *	100	1	High Speed FET	**INA111A**	**Burr-Brown (3461)**

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers

High Output Current

mA V	Device	Source	Line
30000@68	**PA03**	**Apex (3545)**	
20000@100	**PA04**	**Apex (3545)**	
20000@80	OPA541S/883B	† Burr-Brown	
15000@43	**PA12A**	**† Apex (3545)**	
10000 45	OPA502	Burr-Brown	5
10000@39	**PA12**	**Apex (3545)**	
	PA12M/883	**† Apex (3545)**	
	PA61A	**Apex (3545)**	
10000@38	**PA61**	**Apex (3545)**	
	PA61M/883	**† Apex (3545)**	10
10000@32	**PA51A**	**† Apex (3545)**	
	PA51M/883	**† Apex (3545)**	
10000@28	**PA51**	**Apex (3545)**	
10000@35	OPA541B	Burr-Brown	
	OPA541S	† Burr-Brown	15
10000@26	OPA501S	† Burr-Brown	
10000@20	OPA501A	Burr-Brown	
5000@45	**PA07**	**Apex (3545)**	
	PA07M/883	**† Apex (3545)**	
5000@44	**PA10A**	**Apex (3545)**	20
5000@37	**PA10**	**Apex (3545)**	
	PA10M/883	**† Apex (3545)**	
5000@22	**PA73**	**Apex (3545)**	
	PA73M/883	**† Apex (3545)**	
5000@18	**PA01**	**Apex (3545)**	25
5000@15	**PA02**	**Apex (3545)**	
	PA02M/883	**† Apex (3545)**	
4000@35	**PA19**	**Apex (3544)**	
2500x2@18	**PA21**	**Apex (3545)**	
2000@32	**PA09**	**Apex (3544)**	30
	PA09M/883	**† Apex (3544)**	
2000@100	**PB50**	**Apex (3544)**	
2000@22	LH0101	Maxim	
	LH0101A	† Maxim	
	LH0101AC	Maxim	35
	LH0101C	Maxim	
2000@20	3573	Burr-Brown	
2000@12	LH0021	† National	
2000@11	ELH0101	† Elantec	
	ELH0101A	† Elantec	40
	LH0101	† National	
	LH0101A	† National	
	LH0101AC	National	
	LH0101C	National	
1500@139	**PB58**	**Apex (3544)**	45
1100@11	ELH0021	Elantec	
1000@10	LH0021C	National	
500@10	LH0061C	National	
200@215	**PA85**	**Apex (3544)**	
200@10	**3553**	**† Burr-Brown (3459)**	50
	CLC103AM	† Comlinear	
200@10	BB3553	† Maxim	
	µA759C	National	
	µA759M	† National	
150@160	**PA08**	**Apex (3544)**	55
130@13	ELH0041	† Elantec	
	LH0041	† National	
	LH0041C	National	
100@215	**PA88**	**Apex (3544)**	
100@10	HOS060S	† AD	60
	3554A	**Burr-Brown (3459)**	

(Continued)

mA V	Device	Source	Line
100@10		(Cont'd)	
	3554B	**Burr-Brown (3459)**	
	3554S	**Burr-Brown (3459)**	
	CLC200AM	† Comlinear	
100@15	CA3094	† Harris	65
100@10	HA2542	Harris	
	LH0003	† National	
75@40	3583	Burr-Brown	
75@140	**PA83**	**Apex (3544)**	
	PA83M/883	**† Apex (3544)**	70
60@30	3580J	Burr-Brown	
50@10	AD380S	† AD	
	AMP01	**‡ AD (3520)**	
	9914A	OEI	
47@14	LH0020C	National	75
40@143	**PA84**	**Apex (3544)**	
30@70	3581J	Burr-Brown	
25@10 *	HA2541	Harris	

High Speed

Unity Gain Slew Rate (V/µs min)	Device	Source	Line
8000	CLC220AM	† Comlinear	
6000	CLC103AM	† Comlinear	80
4000	**WA01**	**Apex (3544)**	
	CLC200AM	† Comlinear	
2000	**AD844**	**AD (3526, 3512, 3529)**	
1800	**AD9618C**	**AD (3529)**	
	AD9618M	**† AD (3529)**	85
1600	**AD9617C**	**AD (3529)**	
	AD9617M	**† AD (3529)**	
1000 (dual device)			
	OP260	**AD (3512, 3530)**	
1000	**PA85**	**Apex (3544)**	
1000 *	**OPA603A**	**Burr-Brown (3459)**	90
1000	**3554**	**Burr-Brown (3459)**	
	AM500R	**Datel (3570)**	
	HFA0001	Harris	
	AH9914	OEI	
	9914A	OEI	95
900	**PA19**	**Apex (3544)**	
600	HA2539	Harris	
	HFA0005	Harris	
400	**AD840**	**AD (3512, 3529)**	
	PA09	**Apex (3544)**	100
	HA2540	Harris	
	LH0024	† National	
350 *	**AD842**	**AD (3512, 3530)**	
	HA2542	Harris	
350	LH0032C	National	105
300	**AD848**	**AD (3529)**	
	AD849	**AD (3529)**	
	HOS050	† AD	
	HOS050A	† AD	
	HOS050C	AD	110
	HOS060S	† AD	
	AM1435MC	**Datel (3570)**	
	AM1435R	**Datel (3570)**	
250	**AD841**	**AD (3530)**	
	AD843	**AD (3512, 3530)**	115
	3551J	Burr-Brown	
	3551S	† Burr-Brown	
	HA2541	Harris	
	LH0024C	National	
200	AD380S	† AD	120
160	HA5190	Harris	
	HA5195	Harris	
135	HA2529	Harris	
120	HA2525	Harris	
100	AD509K	AD	125
	AD509S	† AD	
	3550K	Burr-Brown	
	HA2520	† Harris	
	HA2544	**Harris (3637)**	
	HA5160	Harris	130
	HA5162	Harris	
±45	MA700	AnalogSys	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers (Cont'd)

High Voltage

Maximum Supply Voltage	Device	Source	Line
1000/±500	PA89	Apex	
450/±225	**PA85**	**Apex (3544)**	
	PA88	**Apex (3544)**	
350/±175	**PA08V**	**Apex (3544)**	
300/±150	**PA82J**	**Apex (3544)**	5
	PA84M/883	**Apex (3544)**	
	PB58	**Apex (3544)**	
300	**PA08**	**Apex (3544)**	
	PA83	**Apex (3544)**	
	PA83M/883	**Apex (3544)**	10
	PA84	**Apex (3544)**	
200/±100	**PA04**	**Apex (3545)**	
	PB50	**Apex (3544)**	
150/±75	**PA81J**	**Apex (3544)**	
150	**PA03**	**Apex (3545)**	15
100/±50	PA07M/883	Apex	
100	**PA07**	**Apex (3545)**	
	PA10A	**† Apex (3545)**	
	PA12A	**† Apex (3545)**	
90/±45	**PA10M/883**	**Apex (3545)**	20
	PA12M/883	**Apex (3545)**	
	PA61	**Apex (3545)**	
	PA61M/883	**Apex (3545)**	
90	**PA10**	**Apex (3545)**	
	PA12	**Apex (3545)**	25
80/±40	**PA09**	**Apex (3544)**	
	PA09M/883	**Apex (3544)**	
	PA19	**Apex (3544)**	
80	**PA51A**	**† Apex (3545)**	
	PA51M/883	**† Apex (3545)**	30
72	**PA51**	**Apex (3545)**	
60/±30	**PA73M/883**	**Apex (3545)**	
60	**PA73**	**Apex (3545)**	
56/±28	**PA01**	**Apex (3545)**	
±150	3582J	Burr-Brown	35
	3583	Burr-Brown	
	3584	Burr-Brown	
±85	LB1013A	AT&T	
±40	HA2640	† Harris	
	HA2645	Harris	40
	SG143	† Linfinity Micro	
	SG1536	† Linfinity Micro	
	SG343	Linfinity Micro	
	MC1536	† Motorola	
	LH0004	† National	45
	LH0004C	National	
	LM143	† National	
	LM144	† National	
	LM1536	† National	
±35	3580J	Burr-Brown	50
±34	SG1436	Linfinity Micro	
	MC1436	Motorola	
	LM344	National	
±30	MC1436C	Motorola	
	LM343	National	55

Low Bias Current

Current pA 25°C	Device	Source	Line
0.075	**AD515L**	**AD (3528)**	
	OPA104CM	Burr-Brown	
	OPA128LM	**Burr-Brown (3458)**	
	3528C	Burr-Brown	
0.1	OPA106W	† Burr-Brown	60
0.15	**AD515K**	**AD (3528)**	
	OPA104BM	Burr-Brown	
	OPA106V	† Burr-Brown	
	3528B	Burr-Brown	
0.2	ADOP07	† AD	65
0.3	**AD515J**	**AD (3528)**	
	OPA104AM	Burr-Brown	
	3528A	Burr-Brown	
0.5	AD504M	AD	
	AD510L	AD	70
	AD517L	AD	
	AD546	**AD (3528)**	
	LH0044A	† National	
	LH0044AC	National	
1	AD545K	AD	75
	AD545L	AD	
	AD545M	AD	
	AD645M	**† AD (3528)**	
	OPA105	† Burr-Brown	
	OPA111BM	**Burr-Brown (3457)**	80
	OPA602CM	**Burr-Brown (3457, 3459)**	
2	OPA103BM	Burr-Brown	
	OPA602BP	**Burr-Brown (3457, 3459)**	
	3527B	Burr-Brown	
3	OPA103AM	Burr-Brown	85
50	**AD705C**	**AD (3526)**	
	AD705M	**† AD (3526)**	
	HA5160	† Harris	
100	HA5170	† Harris	

Low Drift

Function	Device	Source	Line
0.2	RC4207	Raytheon	90
0.5	AD510L	AD	
	OP05A	‡ AD	
	LT1002AC	LinearTech	
	OP05A	† LinearTech	
	LH0044B	National	95
0.6	OP05E	AD	
	OP07A	‡ AD	
	OPA27A	**† Burr-Brown (3457, 3459)**	
	OPA27E	**Burr-Brown (3457, 3459)**	
	OPA37A	**† Burr-Brown (3457, 3459)**	100
	OPA37E	**Burr-Brown (3457, 3459)**	
	HA5127A	Harris	
	HA5137A	Harris	
	HA5147A	Harris	
	LT1001AC	LinearTech	105
	LT1001AM	† LinearTech	
	LT1007AC	LinearTech	
	LT1007AM	† LinearTech	
	LT1037AC	LinearTech	
	LT1037AM	† LinearTech	110
	OP05E	LinearTech	
	OP07A	† LinearTech	
	OP27A	† LinearTech	
	OP27E	LinearTech	
	OP37A	† LinearTech	115
	OP37E	LinearTech	
	µA714M	† National	
	LT1007AM	TI	
	LT1007M	TI	
	LT1037AM	TI	120
	LT1037M	TI	
	OP37A	TI	
	OP37C	TI	
0.8	**OPA627**	**Burr-Brown (3457, 3459)**	
	OPA637	**Burr-Brown (3457, 3459)**	125
1	AD504L	AD	
	AD504S	† AD	
	AD510K	AD	
	AD510S	† AD	
	AD517K	AD	130
	AD517S	† AD	
	AD547L	AD	
	OP05	‡ AD	
	OP05	† LinearTech	
	LH0044C	National	135
1 *	LM11	† National	
1	LM11C	National	
	LM725A	National	
1.2	HA5134A	Harris	
1.8	HA5127	Harris	140
	HA5137	Harris	
	HA5147	Harris	
2.0	HA5134	Harris	
5	**OPA1013**	**Burr-Brown (3457)**	
	OPA2107	**Burr-Brown (3457, 3459)**	145
	OPA602	**Burr-Brown (3457, 3459)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers (Cont'd)

Low Power

Supply Current µA @ ± 15V	Device	Source
9	OP215B	† AD
	OP215C	† AD
	OP215F	AD
	OP215G	AD
45	**OP20B**	**† AD (3526)**
	OP20C	**† AD (3526)**
	OP20F	**AD (3526)**
	OP20G	**AD (3526)**
	OP20H	**AD (3526)**
80	HA5142	Harris
	HA5144	Harris
220	**OP420B**	**† AD (3527)**
	OP420C	**† AD (3527)**
	OP420F	**AD (3527)**
	OP420G	**AD (3527)**
350	**OP21F**	**AD (3526)**
400	**OP21G**	**AD (3526)**
	LF442A	National
500	LF442	National
600	PM108	‡ AD
	LM108	† National
	LM112	† National
	LM212	National
	LH2108A	Raytheon
	LM108A	Raytheon
	LM108	† SGS-Thomson

Wide Band

Unity Gain Bandwidth MHz	Device	Source
1 GHz	HFA0002	Harris
40 *	AD380J	AD
	AD380K	AD
	AD380L	AD
	AD380S	† AD
40	HA2400	† Harris
40 *	HA2404	Harris
	HA2405	Harris
	HA2406-5	Harris
40	HA2541	Harris
	HA2544	**Harris (3637)**
50 *	3551J	Burr-Brown
	3551S	† Burr-Brown
60	HA5112	Harris
	HA5114	Harris
	HA5137	Harris
65 *	µA715C	National
	µA715M	† National
70 *	**3554A**	**Burr-Brown (3459)**
	3554B	**Burr-Brown (3459)**
	3554S	**Burr-Brown (3459)**
70	HA2542	Harris
70 *	LH0024	† National
	LH0024C	National
	LH0032A	† National
	LH0032C	National
90 (dual device)	**OP260**	**AD (3512, 3530)**
100 *	HOS050	† AD
	HOS050C	AD
	HOS060S	† AD
100	**AM500R**	**Datel (3570)**
	HA2620	† Harris
	HA5160	Harris
	HA5162	Harris
	NE5539	Philips
	HA2622	† Harris
	HA2625	Harris
100 (–3db)	CLC200AM	† Comlinear
120	HA5147	Harris
150	EHA5190	Elantec
	EHA5195	Elantec
	XR4560	Exar
	HA5190	Harris
	HA5195	Harris
150 (–3db)	CLC103AM	† Comlinear
170	**OPA620**	**Burr-Brown (3460)**
200 (–3db)	CLC220AM	† Comlinear
250	**OPA621**	**Burr-Brown (3460)**
	LH4118G-MIL	† National
300	9914A	OEI
400	EHA2540	Elantec
	HA2540	Harris
600	EHA2539	Elantec
	HA2539	Harris
1000	**WA01**	**Apex (3544)**
	OPA600/883B	**Burr-Brown (3460)**
3000	**OPA675**	**Burr-Brown (3457, 3460)**
	OPA676	**Burr-Brown (3457, 3460)**
150	LH4117C	National

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics

Single Units

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
				250	700		50		Transconductance Amplifier	MAX435C	Maxim	
										MAX435E	Maxim	
										MAX435M	† Maxim	
										MAX436C	Maxim	
										MAX436E	Maxim	5
										MAX436M	† Maxim	
	1000		6 *	90	1000 *		62		High-Speed, Current Feedback	**OP160A**	‡ **AD** **(3530)**	
.006	0.15	0.15	0.6	0.8	0.15 *	400	114	0	Bipolar	**AD705B**	**AD** **(3526)**	
±0.2	30000	5000		120 *		8 *	60			KA733	Samsung	
±0.25	0.01	0.03	±10	0.4	400		90	1	High Voltage	**PA85A**	† **Apex** **(3544)**	10
±0.5	±0.02	±0.02	±10	1	5	100	100	1	450 V Amplifier	**PA88A**	† **Apex** **(3544)**	
	0.025	0.020	10		30	100	110		±50 to ±600V supply 150 mA output.	**PA89A**	**Apex** **(3544)**	
±1	12000			1	75				Power Booster Amp	PB58A	Apex	
±1.5	12000			1	50				High Voltage Power Booster Amp	**PB58**	**Apex** **(3544)**	
±2	±0.05	±0.05	±30	1	5	100	100	1	450 V Amplifier	**PA88**	† **Apex** **(3544)**	15
	0.05	0.05	30	0.03	8		86	1	High Power	**PA03**	**Apex** **(3545)**	
		0.1	30		30	100	110		±50 to ±600V supply 150 mA output.	**PA89**	**Apex** **(3544)**	
±4	±0.05	0.1	±10	0.4	400		90	1	High Voltage	**PA85M**	**Apex** **(3544)**	
	0.05	0.1			15		90			**PA88M**	**Apex** **(3544)**	
±1750			-7000	1	50	6		1	±30V to ±100V supply, power booster, 2A out.	**PB50**	**Apex** **(3544)**	20
0.06	0.15	0.15	0.6	0.8	0.15 *	400	114	0	Bipolar	**AD705T**	† **AD** **(3526)**	
0.	0.1	0.02	10	13 *	50	250	82	0		**AD744T**	**AD** **(3512, 3528)**	
0.001	0.004 *	0.002 *	0.03	1.9 *	2		120		Low Noise	TLC2652AC	TI	
										TLC2652AI	TI	
						1000	120	0	Precision Chopper-Stabilized	TLC2652AM	† TI	25
	0.005	0.001	0.01	12	10		160	1	Precision, Autozero	MAX426C	Maxim	
										MAX426M	† Maxim	
	0.05	0.05	0.02	1	1		160	0		MAX425C	Maxim	
										MAX425M	† Maxim	
0.002 *	500 *			70	450 *				Color Video Differential Amplifier	LT1193	LinearTech	30
0.003	0.004 *	0.002 *		1.9 *	2		120		Low Noise	TLC2652Y	TI	
			0.03	1.9 *	2		120		Low Noise	TLC2652C	TI	
										TLC2652I	TI	
						1000	120	0	Precision Chopper-Stabilized	TLC2652M	† TI	
0.005	0.003	0.06	0.05	0.45 *	0.5 *	10000	120	0	Ultra Low Offset, ±15V, Chopper Stabilized	MAX421C	Maxim	35
										MAX421M	† Maxim	
									Ultra Low Offset, ±15V, Low Power Chopper Amp	MAX422C	Maxim	
										MAX422M	† Maxim	
										MAX423C	Maxim	
										MAX423M	† Maxim	40
	0.01	0.0005	0.05	2	2.5	10000	120	0	Auto-Zeroed	TC7650	TeledyneC	
		0.005	0.01	2 *	2.5 *	10000	120	0	Chopper Stabilized	ICL7650C	Maxim	
		0.02	0.02 *	2 *	2.5 *		120	2		ICL7650SC	Harris	
										ICL7650SC-1	Harris	
										ICL7650SI	Harris	45
										ICL7650SI-1	Harris	
										ICL7650SM	† Harris	
										ICL7650SM-1	† Harris	
			0.02	2 *	2.5 *	10000	120		Chopper Stabilized	ICL7650S	Harris	
			0.05	2 *	2.5 *	5000	120	0	Chopper Stabilized	ICL7650	† Maxim	50
	0.015	0.5	0.2	1	4	1000	120	0	Auto-Zeroed Amplifier	TC7650A	TeledyneC	
	0.03		0.05		3 *	10000				LTC1150	LinearTech	
			0.1		3 *	1000		0	Operates on ±15V	LTC1150M	† LinearTech	
		0.03	0.05	1.2 *	4 *		120	2		LTC1052C	TI	
										LTC1052M	† TI	55
		0.06	0.05	0.45 *	0.5 *	1000	110	0	Chopper Stabilized	ICL7652	Maxim	
			0.1	0.5	0.5	1000	120	0	High Voltage Auto-Zeroed Amplifier	TC9420	TeledyneC	
										TC9421	TeledyneC	
		10	0.05	0.5	0.5	1M	110	0		MAX420	† Maxim	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
0.005											(Cont'd)
	0.035	0.065	0.05	2.5	4	3000	120	0	Chopper Stabilized	LTC1050AC	LinearTech
										LTC1050AM	† LinearTech
	0.05	0.0005 *	0.05	0.7 *	0.2 *	1000	110	0	Auto-Zeroed	TC900A	TeledyneC
		0.1	0.05	2.5	4	1000	110	0	Chopper Stabilized	LTC1050M	† LinearTech
	0.075	0.125	0.05	2.5	4	1000	110	0	Chopper Stabilized	LTC1050C	LinearTech
	0.1	0.15	0.05	0.4	1	1000	120	2	Auto-Zeroed	TC7652C	TeledyneC
		0.2	0.05	0.125	0.125	1000	120	0	Ultra Low Offset Chopper with Capacitors.	MAX432C	Maxim
				0.5	0.5	1000	120	0	Ultra Low Offset Chopper with Capacitors.	MAX430C	Maxim
	0.175	0.35	0.05	1.2*	4 *	1000	120	0	Chopper Stabilized	LTC1052C	LinearTech
				1.2 *	4 *	1000	120	0	Chopper Stabilized	LTC7652C	LinearTech
	0.5	0.5	0.05	0.5	0.5		140 *	0		MAX420M	† Maxim
	1	2	0.05	1.2 *	4 *	1000	120	0	Chopper Stabilized	LTC1052M	† LinearTech
0.01	0.02	0.04	0.1	2 *	2.5 *	5000	120	0	Chopper Stabilized	ICL7650B	† Maxim
	0.03	0.03	0.05	0.5 *	0.5 *		140 *	0		MAX420C	Maxim
	0.05 *	0.03 *	0.05	1.9 *	1.5	1000	110	0	Low Noise, Chopper-Stabilized	TLC2654AM	† TI
			0.3 *	1.9 *	1.5		110			TLC2654AC	TI
										TLC2654AI	TI
	0.1		0.1		0.8 *	3162		0		LTC1049C	LinearTech
		0.1	0.1	0.5	0.5	1000	120	2	Auto-Zeroed	TC915C	TeledyneC
		0.2	0.05	0.125	0.125	1000	120	0	Ultra Low Offset Chopper with Capacitors.	MAX432E	Maxim
				0.5	0.5	1000	120	0	Ultra Low Offset Chopper with Capacitors.	MAX430E	Maxim
	0.45	0.03	0.05	1.5	10 *	4000	110		Very Low Noise, Zero-drift	LTC1250C	LinearTech
	0.95	0.02	0.05	1.5	10 *	3000	110		Very Low Noise, Zero-drift	LTC1250M	† LinearTech
	1.2	0.3	0.1	0.6	0.3	12000	140	0	Low Cost	**OP177F**	**AD (3526)**
	1.5	1	0.2	0.4	0.1	12000	130	0	Ultra-Precision	**OP177A**	**AD (3526)**
										OP177E	**AD (3526)**
	2	2	0.3	0.4	0.1	500	114	0	Ultra Low Offset, Low Drift.	MAX400M	† Maxim
	25	25	0.2 *	14 *	4.5 *	1500	126		Precision	LM627C	National
				65 *	14 *	1500	126		Precision	LM637C	National
0.010	1.2	0.3	0.1	0.6	0.3	12000	140	0	Low Cost	**OP177B**	**† AD (3526)**
0.015	0.03	0.06	0.1	0.45 *	0.5	5000	110	0	Chopper Stabilized	ICL7652B	Maxim
	0.05	0.1	0.15	0.8	2	1000	120	0	Auto-Zeroed	TC901C	TeledyneC
	0.07	0.15		1.5 *	2.5 *	500	120	0	Auto-Zeroed	TC911	TeledyneC
	0.08	0.0005 *	0.2	0.7 *	0.2 *	100	100	0	Auto-Zeroed	TC900B	TeledyneC
	1	1	0.1	0.9 *	0.15 *	13 *	130			**AD707C**	**AD (3526)**
										AD707T	**AD (3526)**
	1.2	0.3	0.1	0.9	0.3	8000	130	0	Ultra-Low Offset Voltage	**AD707**	**AD (3526)**
	2	2	0.3	0.4	0.1	500	114	0	Ultra Low Offset, Low Drift.	MAX400C	Maxim
										MAX400E	Maxim
			0.6	0.4	0.1	450	114	0	Ultra Low Offset, Low Drift	LT1001AM	† LinearTech
				0.8	0.25		126	0	Precision Amplifier	LT1001AM	† Maxim
	35	30	0.8	5	1.7	7	117			MAX427C	Maxim
										MAX427E	Maxim
										MAX427M	† Maxim
				45	11	7	117			MAX437C	Maxim
										MAX437E	Maxim
										MAX437M	† Maxim
0.02	0.05 *	0.03 *		1.9 *	1.5		105			TLC2654Y	TI
			0.06	1.9 *	1.5	1000	105	0	Low Noise, Chopper-Stabilized	TLC2654M	† TI
			0.3 *	1.9 *	1.5		105			TLC2654C	TI
										TLC2654I	TI
	1.2	0.3	0.7	0.6	0.3	6000	140	0	Low Cost	**OP177G**	**AD (3526)**
0.025	-2		0.1	0.6	0.1	5000	120	0	Ultra-Low Offset Voltage	OP77A	Calogic
	0.02	0.1	0.6	0.9*	0.05	200	108	0	Low Power	**OP97A**	**† AD (3526)**
	0.2		0.6		0.1	300			Low Noise	OP97A	† LinearTech
									Low Power	OP97E	LinearTech
		0.1	0.6	0.9*	0.05	200	108	0	Low Power	**OP97E**	**AD (3526)**
	1	0.25	0.5	0.25 *	0.1 *	1000	110	0	Ultra Low Offset Voltage, Low Drift	AD517L	AD
	1.2	0.3	0.1	0.6	0.3	12000	120	0	Ultra-Low Offset Voltage	**OP77A**	**† AD (3526)**
	1.5	1.5	0.3	0.9 *	0.15 *	13 *	130			**AD707B**	**AD (3526)**
										AD707K	**AD (3526)**
										AD707S	**AD (3526)**

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.025											(Cont'd)	
	2	1.5	0.3	0.4	0.1	150	120		High Precision, High Gain	OP77	† Raytheon	
			0.6	0.4	0.1	5000		0		**OP77E**	**AD (3526)**	
		2	0.2 *	1.8 *	0.7 *	1500	124			LM607AC	National	
			0.3	0.6	0.5		120			HA5177A	Harris	
						2000	120	2	Ultra Low Offset Voltage	HA5177A-2	† Harris	5
										HA5177A-5	Harris	
			0.6	0.4	0.1	300	110	0	Ultra Low Offset, Low Drift	OP07A	† Maxim	
						450	114	0	Ultra Low Offset, Low Drift	LT1001AC	LinearTech	
				0.5 *	0.1	150	110	0	Ultra Low Noise	OP07A	† Raytheon	
				0.6 *	0.1	300	110	0	Low Drift	OP07A	Calogic	10
					0.17 *	300	110	0	Low Drift	ADOP07A	† AD	
				0.6	0.5		110			HA5130-2	† Harris	
										HA5130-5	Harris	
				0.8	0.25		126	0	Precision Amplifier	LT1001AC	Maxim	
				1.2 *	0.25 *	300	110	0	Low Offset Voltage, Low Drift	OP07A	‡ AD	15
	10	2.5	2	0.3 *	0.1 *	1000	110	0	Trimmed Offset	AD510L	AD	
		10	0.2 *	14 *	4.5 *	3000	126		Precision	LM627AC	National	
										LM627AM	† National	
				65 *	14 *	3000	126		Precision	LM637AC	National	
										LM637AM	† National	20
	15	2.5	0.5	0.4 *	0.06 *	1000	120	1	Precision, Low Noise	LH0044A	† National	
										LH0044AC	National	
	35			5	2.5	7000		0	Low Noise, High Speed Precision Input	LT1007AC	‡ TI	
				60	11	7000			Low Voltage Noise	LT1037AM	† LinearTech	
					15	7			Low Noise, High Speed Bipolar	LT1037AC	TI	25
			0.6		1.7	7000			Extremely Low Noise, Low Drift	LT10007AM	† LinearTech	
	40			8	2.8	1000		0	Low Noise, High Speed	OP27E	TI	
				63	17	1			Low Noise, High Speed Bipolar	OP37E	TI	
		35	—	63 *	11 *	—	—	0	Low Noise, High Slew Rate	OP37A	† Raytheon	
										OP37E	Raytheon	30
			0.2	25 *	11	1000	—	0	Ultra Low Noise, Low Offset	OP37A	Calogic	
										OP37E	Calogic	
					18 *	1000	—	0	Ultra Low Noise, Low Offset	**ADOP37A**	**† AD (3526, 3512, 3529)**	
										ADOP37E	**AD (3526, 3512, 3529)**	
										OP37A	**‡ AD (3526, 3512, 3529)**	35
										OP37E	**AD (3526, 3512, 3529)**	
										OP37A	‡ TI	
			0.6	5	1.7	600	114	0	Ultra Low Noise	OP27A	† Raytheon	
										OP27E	Raytheon	
									Ultra Low Noise, Low Offset	OP27A	† TI	40
						1000	114	0	Ultra Low Noise	**ADOP27A**	**† AD (3526, 3512, 3529)**	
										ADOP27E	**AD (3526, 3512, 3529)**	
										OP27A	**‡ AD (3526, 3512, 3529)**	
										OP27E	**AD (3526, 3512, 3529)**	
										OP27A	Calogic	45
										OP27E	Calogic	
				8 *	1.7	1000	114	0	Ultra Low Noise	**OPA27A**	**† Burr-Brown (3457, 3459)**	
										OPA27E	**Burr-Brown (3457, 3459)**	
				8.5 *	10	1000	114	0	Ultra-Low Noise	HA5127A	† Harris	
				63	11	1000	114	0	Ultra Low Noise, Gain >5	**OPA37A**	**† Burr-Brown (3457, 3459)**	50
										OPA37E	**Burr-Brown (3457, 3459)**	
				80 *	20 *	1000	114	1	Ultra-Low Noise	HA5137A	† Harris	
				120	28	1000	114	2	Ultra-Low Noise	HA5147A	† Harris	
	80		1.8		1.7	1000			Unity Gain Stable, Very Low Noise	OP27E	LinearTech	
	90	90	1	9	1.7	10	117			TLE2027AC	TI	55

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.025	90	90	1	9	1.7	10	117				(Cont'd)	
										TLE2027AI	TI	
										TLE2027AM	† TI	
				50	6	10	117			TLE2037AC	TI	
										TLE2037AI	TI	
										TLE2037AM	† TI	5
0.035	0.1	0.1	1.5	0.8*	0.1	300	114	0	Precision Low Drift Bipolar	LT1012C	LinearTech	
	0.2	0.1	1.5	0.9*	0.2*	300	114			**PM1012A**	**† AD (3526)**	
0.04			0.8	20	6*			0		LT1128	LinearTech	
	±90	50	0.8	50	11	7000	114	0	Ultra-low Noise High-speed Precision	LT1028	† Maxim	
	90	50	0.8	50	11	30*	114		Low Noise Frequency Synthesizers	LT1028AC	LinearTech	10
										LT1028AM	† LinearTech	
	900	150	0.8	110*	12.5	5	120			**AD797B**	**AD (3526, 3529)**	
0.05	0.15	0.15	1.5	0.8*	0.1	200	110	0	Precision Low Drift Bipolar	LT1012M	† LinearTech	
	0.3	0.15	1.5	0.9*	0.2*	200	110			**PM1012G**	**AD (3526)**	
	0.5		1		0.1	700				LT1097C	LinearTech	15
	2	0.75	1	0.25*	0.1*	1000	100	0	Low Drift	AD517K	AD	
									Ultra Low Offset Voltage, Low Drift	AD517S	† AD	
	5	0.5	0.5	0.2	—	2000	126	0	Precision Instrumentation	LM363A	† National	
	10	10	0.2*	14*	4.5*	2000	126		Precision	LM627BC	National	
										LM627BM	† National	20
				65*	14*	2000	126		Precision	LM637BC	National	
										LM637BM	† National	
	13	4	1	0.3*	0.1*	1000	110	0	Trimmed Offset	AD510K	AD	
										AD510S	† AD	
	15	0.5	1.3	0.7*	0.25	1000	100	0	Single Supply	LT1006AC	LinearTech	25
										LT1006AM	† LinearTech	
	30	5	0.5	0.4*	0.06*	500	114	1	Precision, Low Noise	LH0044B	National	
0.06	0.15	0.15	0.6	0.8	0.15*	400	114	0	Bipolar	**AD705K**	**AD (3526)**	
	0.2	0.2	1.2	0.8	.15*	300	110	0	Bipolar	**AD705A**	**AD (3526)**	
	0.350		1.4		0.1	700			Low Power, Precision	LT1097	LinearTech	30
	2.8	2.8	0.6	0.4	0.1	2000		0		**OP77B**	**AD (3526)**	
			1	0.4	0.1	2000		0		**OP77F**	**AD (3526)**	
	3	2.8	0.2*	1.8*	0.7*	1000	116			LM607BC	National	
						2000	116			LM607BM	† National	
	4	3.8	1	0.4	0.1	250	110	0	Precision	LT1001C	LinearTech	35
						400	110	0	Low Offset Voltage	LT1001M	† LinearTech	
	6	6	0.6	0.6	0.5		110			HA5177	Harris	
	8	4	1.3	0.4	0.1	200	106			OP-07A	† National	
	55			5	2.5	5000		0	Low Noise, High Speed Precision Input	LT1007C	TI	
				60	15	5			Low Noise, High Speed Bipolar	LT1037C	TI	40
			1		1.7	5000			Extremely Low Noise, Low Drift	LT10007M	† LinearTech	
		50	1	5	1.7	2	110		Low Noise, High Speed	LT1007C	LinearTech	
				45	11	2	110		Low Noise, High Speed	LT1037C	LinearTech	
			1.3	5	1.7	1000	106	0	Ultra Low Noise	**ADOP27B**	**† AD (3526, 3512, 3529)**	
										ADOP27F	**AD (3526, 3512, 3529)**	45
										OP27B	**‡ AD (3526, 3512, 3529)**	
										OP27F	**AD (3526, 3512, 3529)**	
										OPA27B	**† Burr-Brown (3457, 3459)**	
										OPA27F	**Burr-Brown (3457, 3459)**	
										OP27F	Calogic	50
										OP27B	† Raytheon	
										OP27F	Raytheon	
				45	11	1000	106	0	Ultra Low Noise, Gain >5	**ADOP37B**	**† AD (3526, 3512, 3529)**	
										ADOP37F	**AD (3526, 3512, 3529)**	
										OP37B	**‡ AD (3526, 3512, 3529)**	55
										OP37F	**AD (3526, 3512, 3529)**	
										OPA37B	**† Burr-Brown (3457, 3459)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.06	55	50	1.3	45	11	1000	106	0	Ultra Low Noise, Gain >5		(Cont'd)	
										OPA37F	**Burr-Brown (3457, 3459)**	
										OP37B	Calogic	
										OP37F	Calogic	
				63 *	11	1000	106	0	Ultra Low Noise, Gain >5	OP37B	† Raytheon	
										OP37F	Raytheon	5
	60	50	1.3	5	1.7	1000	106	0	Ultra Low Noise	OP27B	Calogic	
0.060	4	3.8	1	0.8	0.25		126	0	Precision Amplifier	LT1001C	Maxim	
										LT1001M	† Maxim	
	6	6	0.6	0.6	0.5	1000	110	1	Ultra Low Offset Voltage	HA5177-5	Harris	
0.070	0.1	0.0005 *	0.8	0.7 *	0.2 *	100	98	0	Auto-Zeroed	TC918	TeledyneC	10
0.075	0.3	0.15	1.5	0.9 *	0.05	150	108	0	Low Power	**OP97F**	**AD (3526)**	
	3	2.8	1.3	0.4	0.1	150	110		Ultra-Low Offset, Low Drift	OP-07	National	
						200	110	0	Low Offset Voltage, Low Drift	OP07	† LinearTech	
				0.6 *	0.17 *	200	110	0	Low Drift	ADOP07	† AD	
					0.3 *	500 *	126 *	0		OP07J	† Maxim	15
				1.2 *	0.25 *	200	110	0	Low Offset Voltage, Low Drift	OP07	† Maxim	
										µA714M	† National	
	4	3.8	0.2	0.4	0.2	150	106	0	Low Offset Voltage, Low Drift	OP07E	TI	
			1.3	0.4	0.1	150	106		Ultra-Low Offset, Low Drift	OP-07E	National	
						200	110	0	Low Offset Voltage, Low Drift	OP07E	LinearTech	20
				0.6 *	0.1	250	123 *	0	Low Drift	OP07E	Calogic	
					0.17 *	200	123 *	0	Low Drift	ADOP07E	AD	
				1.2 *	0.25 *	200	106	0	Low Offset Voltage, Low Drift	OP07E	AD	
										OP07E	Maxim	
										µA714EC	National	25
		4	1.3	0.6	0.5		106			HA5135-2	† Harris	
										HA5135-5	Harris	
	6	2.8	1.3	0.4	0.3 *	150	110	0		OP07	AD	
	75	3	2	46	450			0	Very High-Speed Transimpedance	**AD846**	**AD (3526, 3512, 3529)**	
		60		45	17				Audio Op-Amp	MA362C	AnalogSys	30
										MA362M	AnalogSys	
	200		1	60	2000			0	60 MHz, 2000 V/µs	**AD844**	**AD (3526, 3512, 3529)**	
	250		3.5	80	450		120	0		**AD846B**	**AD (3526, 3512, 3529)**	
0.08	0.05	0.01	1.5	1 *	0.3 *	500	114	0	Improved LM11	LM11A	† National	
	2	2	0.2 *	1.8	0.7 *	5000	124			LM607AM	† National	35
	15	0.5	1.5	0.1 *	—	1000	105	0	Precision, Low Power	**OP20B**	**† AD (3526)**	
	25	0.9	1.3	0.7 *	0.25	70	97	0	Single Supply	LT1006C	LinearTech	
										LT1006M	† LinearTech	
	180	100	1	50	11	2	110		Ultra Low Noise	LT1028C	LinearTech	
			1.0	50	11	30*	110		Low Noise Frequency Synthesizers	LT1028M	† LinearTech	40
										LT1028M	† TI	
	2000	300	1	110 *	12.5	4	110			**AD797A**	**AD (3526, 3529)**	
										AD797S/883B	**† AD (3526, 3529)**	
0.09	2.5	2	1	0.9 *	0.15 *	13 *	120			**AD707A**	**AD (3526)**	
										AD707J	**AD (3526)**	45
0.095	0.28	0.15		0.45	0.12	450	115		Low Power, Precision	LT1112AC	LinearTech	
										LT1112AM	LinearTech	
0.1			3	TBD	350	1000			Ultra Low Noise, Wideband	CLC425J	Comlinear	
			210	250	1600	50 dB		0		**OPA622**	**Burr-Brown (3460)**	
	0.0005	0.0005	0.8	16 *	40	200	106	0	Fast Settling, Low Noise	**OPA627SM**	**† Burr-Brown (3457, 3459)**	50
	0.0008	0.0015	5	2	5		110	0		SP111	† Sipex	
	2.8	2.8	1.2	0.4	0.1	2000		0		**OP77H**	**AD (3526)**	
	3	2	1.5		5	500	90		High Precision	MAX480C	Maxim	
		2.8	0.4 *	1.2 *	0.25 *	500	—	0	Ultra Low Offset Voltage	OP207A	† AD	
										OP207B	AD	55
	5pA	5pA	0.8	16 *	40	200	106	0	Fastsettling, Low noise	**OPA627**	**Burr-Brown (3457, 3459)**	
0.1 *	21	2	400	120	1400	100000	59		1 to 100 V/V Gain Adjust	CLC522	Comlinear	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											**(Cont'd)**	
0.1	25	5	3	3 *	0.1 *	250	94	0	Trimmed Offset	AD510J	AD	
	35	5	1	0.4 *	0.06 *	500	114	1	Precision, Low Noise	LH0044C	National	
	50	3	2	0.5	0.7		85			TLE2021BC	TI	
										TLE2021BI	TI	
		5	2 *	2 *	0.7	1000	100	0	Low Power Precision	TLE2021BM	† TI	5
	80			8	2.8	700		0	Low Noise, High Speed	OP27G	TI	
				63	17	700			Low Noise, High Speed Bipolar	OP37G	TI	
		75	—	63 *	11 *	—	—	0	Low Noise, High Slew Rate	OP37C	† Raytheon	
										OP37G	Raytheon	
			0.4 *	8 *	1.7	700	120	0	Ultra Low Noise	OP27C	Calogic	10
										OP27G	Calogic	
					3.2 *	1200 *	120	0	Ultra Low Noise	**ADOP27C**	**† AD (3526, 3512, 3529)**	
						1200	120	0	Ultra Low Noise	**ADOP27G**	**AD (3526, 3512, 3529)**	
						1200 *	120	0	Ultra Low Noise	**OP27C**	**‡ AD (3526, 3512, 3529)**	
										OP27C	TI	15
				25 *	11	700	120	0	Ultra Low Noise	OP37C	Calogic	
										OP37G	Calogic	
					18 *	700	120	0	Ultra Low Noise	**ADOP37C**	**† AD (3526, 3512, 3529)**	
										ADOP37G	**AD (3526, 3512, 3529)**	
										OP37C	**‡ AD (3526, 3512, 3529)**	20
										OP37G	**AD (3526, 3512, 3529)**	
			1.8	5	1.7	700	100	0	Ultra Low Noise	OP27C	† LinearTech	
										OP27G	LinearTech	
										OP27C	† Raytheon	
										OP27G	Raytheon	25
					7	1000	100	0	Ultra-Low Noise	HA5127	† Harris	
				45	11	700	100	0	Ultra Low Noise	**OPA37C**	**† Burr-Brown (3457, 3459)**	
										OPA37G	**Burr-Brown (3457, 3459)**	
									Ultra Low Noise.	OP37G	Maxim	
									Ultra Low Noise, Gain >5	OP37C	† LinearTech	30
										OP37G	LinearTech	
				60	14	1000	100	1	Ultra-Low Noise	HA5137	† Harris	
				120	28	700	100	2	Precision, High Slew Rate	HA5147	† Harris	
	90	90	1	7	1.7	5	100			TLE2027C	TI	
										TLE2027I	TI	35
										TLE2027M	† TI	
				50	6	5	100			TLE2037C	TI	
										TLE2037I	TI	
										TLE2037M	† TI	
	150	15	0.5	0.6 *	0.25	2000	110	0	Precision, Low Power	**OP21B**	**† AD (3526)**	40
										OP21F	**AD (3526)**	
	160	75	1.8	5	1.7	450	96		Low Noise, Precision	**OP27G**	**AD (3526, 3512, 3529)**	
	300			45	200	20			Ultra High Speed	LT1220C	LinearTech	
	5000	5000	0.8	16	55 *		116 *	0	High Speed, Precision	**OPA627B**	**Burr-Brown (3457, 3459)**	
				80	135 *		116	0	High Speed, Precision	**OPA637B**	**Burr-Brown (3457, 3459)**	45
										OPA637S	**Burr-Brown (3457, 3459)**	
0.12	0.1	0.1	1.5	1*	0.1	200	114	1	Precision Low Drift Bipolar	LT1008C	LinearTech	
										LT1008M	† LinearTech	
										LT1008M	† TI	
	0.3	0.15	1.5	0.5 *	0.1	2 *	114	0	Low Power	**PM1008A**	**† AD (3526)**	50
										PM1008G	**AD (3526)**	
0.13	0.28	0.15		0.45	0.12	600	110		Low Power, Precision	LT1112C	LinearTech	
										LT1112M	† LinearTech	
	12	6	0.2	0.4	0.2	100	110	0	Low Offset Voltage	OP07D	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.14*	0.000075*	0.000030*	5	1.0*	3.0*	700	118*	0	FET Electrometer	**OPA128L**	**Burr-Brown (3458)**	
	0.00015	0.000030*	10	1.0*	3.0*		118*	0	FET Electrometer	**OPA128K**	**Burr-Brown (3458)**	
										OPA128S	† **Burr-Brown (3458)**	
0.15	0.01	0.01	5	1.5	2.1	400	83	0	CMOS, Rail to Rail, Single/Dual 5V	ALD1712A	† AdvLinear	
									CMOS, Rail to Rail Single/Dual 5V	ALD1712B	† AdvLinear	5
	0.05	0.01	4.0	6.5*	10	150	86			LT1055AC	LinearTech	
										LT1055AM	† LinearTech	
		0.010	4.0	6.5*	12	150	86			LT1056AC	LinearTech	
										LT1056AM	† LinearTech	
	0.075	0.01	0.7*	1*	0.3*	500	114	0	Improved LM11	LM11AC	National	10
	0.2	0.2	1.2	0.8	0.15*	300	110	0	Bipolar	**AD705J**	**AD (3526)**	
	2	0.2	2.5	0.8*	0.12*	80	104	0	Improved 108 A, Low Bias, Compensated	OP12A	‡ AD	
										OP12E	AD	
								1	Improved 108 A, Low Bias	OP08A	‡ AD	
										OP08E	AD	15
	2.8	2.8	1.2	0.4	0.1	2000	100		Ultra-Low Offset	**OP77G**	**AD (3526)**	
	5	1	3	0.25*	0.1*	1000	94	0	Ultra Low Offset Voltage, Low Drift	AD517J	AD	
		3	1.5		5	500	90		High Precision	MAX480E	Maxim	
	7	6	0.2	0.4	0.2	100	100	0	Ultra-Low Offset Voltage	OP07C	TI	
			1.8	0.4	0.1	100	100		Ultra-Low Offset, Low Drift	OP-07C	National	20
						120	100		Ultra Low Offset	OP07C	AD	
								0	Low Offset Voltage, Low Drift	OP07C	LinearTech	
				0.5*	0.1	100	100	0	Ultra Low Noise	OP07C	Raytheon	
				0.6*	0.1	120	100	0	Low Drift	OP07C	Calogic	
					0.17*	120	100	0	Low Drift	ADOP07C	AD	25
				1.2*	0.25*	120	100	0	Low Offset Voltage, Low Drift	OP07C	Maxim	
	9	0.35	16	0.23	0.05	250	97		Single Supply	LT1077AC	LinearTech	
										LT1077AI	LinearTech	
										LT1077AM	† LinearTech	
	10	1.0			0.08	2000	110			**OP90A**	† **AD (3526)**	30
										OP90E	**AD (3526)**	
		6	0.2*	1.8*	0.7*	1000	110			LM607C	National	
	11		3		0.05	240			Precision, Single Supply Micropower, Low Noise	LT1077	LinearTech	
		0.45	2	0.23	0.05	200	94		Single Supply	LT1077C	LinearTech	
										LT1077I	LinearTech	35
										LT1077M	† LinearTech	
	12	6	0.2	0.4	0.3*	120	94	0	Ultra-Low Offset Voltage	OP07Y	TI	
			2.5	0.4	0.1	100	94		Ultra-Low Offset, Low Drift	OP-07D	National	
				0.5*	0.1	100	94	0	Ultra Low Noise	OP07D	Raytheon	
				0.6*	0.1	120	94	0	Low Drift	OP07D	Calogic	40
					0.17*	120	94	0	Low Drift	ADOP07D	AD	
				1.2*	0.25*	120	94	0	Low Offset Voltage, Low Drift	OP07D	Maxim	
									Ultra Low Offset, Low Drift	OP07D	‡ AD	
	100	4	1	0.6	0.25*	1000	100	0	High Speed, Low Power	**OP21A**	**AD (3526)**	
										OP21E	**AD (3526)**	45
	250		5	20	2000*			0	60 MHz, 2000 V/µs	**AD844B**	**AD (3526, 3512, 3529)**	
	600	200	0.2*	3*	1*	200*	86*	0		OP113A	AD	
										OP113G	AD	
0.150	7	6	1.8	0.5	0.17	100	97		Ultra-Low Offset, Low Drift	NJMOP07	NJR	
0.16	8	7.6			0.1	200	106	0	200°C Operation	LT1001X	† LinearTech	50
	95	85			0.7	2000	104	0	200°C Operation	LT1007X	† LinearTech	
0.18	0.4	0.38	1.8		0.1	120	110		Low Noise	LT1012	LinearTech	
0.2	0.001*	0.0005*	0.5*	1.9*	2	90	90	0	Low Noise, Precision	TLC2201AM	† TI	
						400	90		Low Noise	TLC2201AC	TI	
										TLC2201AI	TI	55
										TLC2201BC	TI	
										TLC2201BI	TI	
										TLC2201BM	† TI	
	7	2	1.5		5	225	85		High Precision	MAX480M	† Maxim	
		6	0.7*	1.2*	0.25*	400	—	0	Ultra Low Offset Voltage	OP207E	AD	60
										OP207F	AD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.2											(Cont'd)	
	20	5	3	1.2 *	0.25	300	110	0	Precision	CA3193A	Harris	
	25	2.5	5	0.1 *	—	400	100	0	Precision, Low Power	**OP20C**	† **AD (3526)**	
										OP20G	**AD (3526)**	
	50	3	2	0.5	0.7		85			TLE2021AC	TI	
										TLE2021AI	TI	5
		5	2 *	2 *	0.7	1000	100	0	Low Power Precision	TLE2021AM	† TI	
	200	20	0.5	0.6 *	0.25	1500	105 *	0	Precision, Low Power	**OP21G**	**AD (3526)**	
	450		5	80	450		120	0		**AD846A**	**AD (3526, 3512, 3529)**	
			5.5	80 *	450 *		110			**AD846S/883B**	† **AD (3526, 3512, 3529)**	
				80	450		116	0		**AD846S**	**AD (3526, 3512, 3529)**	10
0.25		0.15	-	0.35	18	128	85	0		**AD526**	† **AD (3520)**	
	± 150	± 80	2	28 *	4.5		115		Low Noise, Low Voltage	MAX410C	Maxim	
	0.000075		5	1	3 *				FET-Input Electrometer	**AD549C**	**AD (3526, 3528)**	
	0.0001	0.00003 *	5	1 *	3 *	300	90	1		**AD549K**	**AD (3526, 3528)**	
		0.00004	5	1 *	1.2	150	76	0	Ultra Low Bias Military	OPA106W	† Burr-Brown	15
	0.00015	0.00004	5	0.7	0.7	—	80	—	Ultra Low Bias FET	3528B	Burr-Brown	
		0.00008	10	1 *	1.2	150	76	0	Low Bias Military	OPA106V	† Burr-Brown	
	0.001		2	1.5	1	120 dB			FET	**OPA124**	**Burr-Brown (3457)**	
			3	1	0.3	40000	76	0		**AD545AM**	**AD (3528)**	
		0.0002	2	1 *	0.9	100	76	0	Low Bias, FET Input	OPA105W	† Burr-Brown	20
				1	0.9	200	76			OPA105WM/883B	† Burr-Brown	
				1 *	0.9	200	76	0	Low Drift, Low Bias FET	OPA103DM	Burr-Brown	
			5	1 *	0.9	100	76	0	Low Bias, FET Input	OPA105V	† Burr-Brown	
						200	76	0	Low Drift, Low Bias FET	OPA103CM	Burr-Brown	
			25	1 *	0.9	100	76	1	Low Bias, FET Input	OPA105UM	† Burr-Brown	25
		0.00025	1	2	1	—	100	1	Low Noise, Dielectrically Isolated	**OPA111B**	**Burr-Brown (3457)**	
		0.0005	1	1.6 *	1 *		94			**AD795B**	**AD (3526, 3529)**	
			3	0.7 *	0.3	40	76	0	Precision, Low Drift FET	AD545M	AD	
				1.6 *	1 *		94			**AD795K**	**AD (3526, 3529)**	
		0.001	2	5	28	40	92	0	High-speed Precision Di-FET	**OPA602C**	**Burr-Brown (3457, 3459)**	30
	0.0015	0.0005	5	2 *	2 *		110 *	1		**AD645K**	**AD (3528)**	
	0.002	0.0003 *	5	1 *	0.6	100	76 *	0	Low Drift FET	3527B	Burr-Brown	
	0.003	0.0005	1	2 *	2 *		110 *	1		**AD645C**	**AD (3528)**	
			2	2 *	2 *		110 *	1		**AD645B**	**AD (3528)**	
	0.005	0.0003 *	2	1 *	0.6	100	76 *	0	Ultra Low Drift FET	3527C	Burr-Brown	35
		0.001	8	2.4 *	5	100	95		Low Bias Current	**OP43E**	**AD (3527)**	
	0.01	0.004	5 *	10 *	5	50	80	0	Low Noise, Wideband JFET	OPA101BM	Burr-Brown	
					10	50	80	0	Low Noise, Wideband JFET	OPA102BM	Burr-Brown	
	0.010		2	1	1.8 *		86		Precision Low-Power BiFET	**AD548**	**AD (3526)**	
	0.025	0.002	1	1	3	250	80	2	Ultra Low Drift BIFET	AD547L	AD	40
		0.010	3			200			High-Speed BiFET	**AD711C**	**AD (3512, 3526)**	
	0.03	0.03	3	200	75	250	90	0	BiFET, 500 ms settling time	**AD744**	† **AD (3512, 3528)**	
	0.05	0.01	5	8*	23	150	86	0	Wideband, Low-Drift JFET	LT1022AC	† LinearTech	
										LT1022AM	† LinearTech	
		0.02	3	13 *	50	250	86	0		**AD744C**	**AD (3512, 3528)**	45
	0.25	0.075	1 *	4.5 *	2.8 *	2000	90			**AD743B**	**AD (3512, 3528)**	
	0.5	25	5	12.8	100	250	110	0	JFET Input, Bipolar	**AD845**	† **AD (3512, 3530)**	
	1	0.1	5	16	100	500		0		**AD845B**	**AD (3512, 3530)**	
										AD845K	**AD (3512, 3530)**	
	1.5	0.005	2	1	1	300	86		Precision Low Power BiFET	**AD548C**	**AD (3526)**	50
	20	2.5			0.08	1000	104			**OP90F**	**AD (3526)**	
	50		2		100		104			**OPA637**	**Burr-Brown (3457, 3459)**	
			7	1.5	6				Programmable gain = 1,10,100	**PGA102S**	† **Burr-Brown (3462)**	
									Programmable gains = 1,10,100	**PGA102B**	**Burr-Brown (3462)**	
										PGA102K	**Burr-Brown (3462)**	55

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											**(Cont'd)**	
											(Cont'd)	
0.25	80	75	1.8	5	1.7	700	100	0	Ultra Low Noise, Gain >5	**OPA27C**	† **Burr-Brown (3457, 3459)**	
										OPA27G	**Burr-Brown (3457, 3459)**	
	10000	10000	2	16	55 *		110 *	0	High Speed, Precision	**OPA627A**	**Burr-Brown (3457, 3459)**	
				80	135 *		110	0	High Speed, Precision	**OPA637A**	**Burr-Brown (3457, 3459)**	
0.26 *	0.000150 *	0.000065 *	20	1.0 *	3.0 *	700	118 *	0	FET Electrometer	**OPA128J**	**Burr-Brown (3458)**	5
0.28	380		0.5 *		10	2000			Low Noise, Ultra Low Distortion	LT1115C	LinearTech	
0.3	0.05	0.01	1 *	1 *	0.3	100	110	0	Improved 108 A, Low Power	LM11	† National	
	0.1	0.03	5	4	5	300	100	0	Precision JFET Input	HA5170-2	† Harris	
		0.06	5	4	5	300	100	0	Precision JFET Input	HA5170-5	Harris	
	2	0.2	3.5	0.8 *	0.12 *	80	104	0	Improved 108 A, Low Power, Compensated	OP12B	‡ AD	10
										OP12F	AD	
	5	1	1.5	—	0.7 *	1000	100	0	Programmable Micropower	**OP32E**	**AD (3527)**	
				0.25	0.08	400	82	0	Programmable Micropower	**OP22A**	**AD (3527)**	
							88	0	Programmable Micropower	**OP22E**	**AD (3527)**	
			2	—	0.7 *	1000	100	0	Programmable Micropower	**OP32A**	† **AD (3527)**	15
	25	2	5	0.1 *	—	500	90	0	Precision, Low Power	**OP20H**	**AD (3526)**	
	50	50	7	1.91	80	5	80		High Slew Rate, Wideband	HA2548A-5	Harris	
				150	120	1000	80		Closed Loop Gain >5	HA2548	† Harris	
	450		1 *	20	2000 *			0	60 MHz, 2000 V/µs	**AD844A**	**AD (3526, 3512, 3529)**	
										AD844J	**AD (3526, 3512, 3529)**	20
			5	20	2000 *			0	60 MHz, 2000 V/µs	**AD844S**	**AD (3526, 3512, 3529)**	
	3500	100	5	400	400	400	110	0	Wideband, Fast Settling	**AD840**	† **AD (3512, 3529)**	
	5000	200	3 *	400	400 *	130 *	115 *	0		**AD840K**	**AD (3512, 3529)**	
0.35			1 *	0.1 *	20000	400	75		Micropower	LMC6061AI	National	
										LMC6061AM	† National	25
				1.3 *	1200	400	75			LMC6081AI	National	
										LMC6081AM	† National	
0.4	±350	±200	2	28 *	4.5		105		Low Noise, Low Voltage	MAX410E	Maxim	
										MAX410M	† Maxim	
	0.05	0.02	8.0	5.5*	7.5	120	83			LT1055C	LinearTech	30
										LT1055M	† LinearTech	
					9.0	120	83			LT1056C	LinearTech	
										LT1056M	† LinearTech	
0.4 *	0.075		25	0.35*	1.0 *	25	70	0	FET Electrometer	AD515L	Burr-Brown	
	0.15		15	0.35*	1.0 *	40	80	0	FET Electrometer	AD515K	Burr-Brown	35
	0.3		50	0.35*	1.0 *	15	94 *	0	FET Electrometer	AD515J	Burr-Brown	
0.4	25	0.9	3.5		0.25	0.3	97		Precision, Single Supply	LT1006	LinearTech	
0.45	25	5	5		0.005	40	80	0		**OP90G**	**AD (3526)**	
0.5			1	40	1100	10			Voltage Feedback, Low Gain	CLC420I	Comlinear	
			2	0.25	6				Programmable Gain (G = 1,10,100)	**PGA103**	**Burr-Brown (3462)**	40
			3	65	800	8			Clamped output low offset, 14-bit settling	CLC502-8	† Comlinear	
										CLC502I	Comlinear	
				80	800	8			14-bit Accruate Low Offset and Drift	CLC402-8	† Comlinear	
										CLC402I	Comlinear	
			5	50	4000	50 Offset			Low Offset and Drift	CLC201A8	† Comlinear	45
			25	110	1200	10			Very Wideband	CLC409-8	† Comlinear	
										CLC409I	Comlinear	
		2000	4 *	100				0	Wideband, Fast Settling	**AD9610B**	**AD (3529)**	
										AD9610T	† **AD (3529)**	
	−0.0015 *	100	1.7 *	6 *	30	100	85			TLE2141AC	TI	50
										TLE2141AI	TI	
										TLE2141AM	† TI	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											**(Cont'd)**	
0.5											(Cont'd)	
	0.00006	0.00002 *	10	1 *	3 *	300	90	1		**AD549L**	**AD (3526, 3528)**	
	0.000075	0.00002	10	0.5 *	0.3	—	70	—	Ultra Low Bias FET	3528C	Burr-Brown	
		0.00004	10	1 *	1.6 *	100	80	0	Ultra Low Bias FET	OPA104CM	Burr-Brown	
	0.0001	0.00003 *	15	1 *	3 *	300	90	1		**AD549S**	**AD (3526, 3528)**	
	0.00015	0.00008	15	1 *	1.6 *	100	66	0	Ultra Low Bias FET	OPA104BM	Burr-Brown	5
		0.0003	10	0.5	1	300	90			**OPA128SM/883B**	† **Burr-Brown (3458)**	
	0.0003	0.00008	10	0.5 *	0.3	—	66	—	Ultra Low Bias FET	3528A	Burr-Brown	
	0.001		5	1	0.3	40000	76	0		**AD545AL**	**AD (3528)**	
	0.001 *	0.0005 *	0.5 *	1.8 *	1.8	150	90		Low Noise	TLC2201Y	TI	
				1.9 *	2	90	90	0	Low Noise, Precision	TLC2201M	† TI	10
						400	90		Low Noise	TLC2201C	TI	
										TLC2201I	TI	
	0.001	0.002 *	15	1 *	0.9	200	76	0	Low Drift, Low Bias FET	OPA103BM	Burr-Brown	
	0.002	0.001	5	1.6 *	1 *		90			**AD795A**	**AD (3526, 3529)**	
			10	1.6 *	1 *		90			**AD795J**	**AD (3526, 3529)**	15
				2	1			0		**OPA111M/883B**	† **Burr-Brown (3457)**	
		0.0015	5	2	1	560	90	1	Low Noise, Dielectrically Isolated	**OPA111A**	**Burr-Brown (3457)**	
										OPA111S	† **Burr-Brown (3457)**	
		0.002	5	4	24	25	88	0	High-speed Precision Di-FET	**OPA602B**	**Burr-Brown (3457, 3459)**	
										OPA602S	† **Burr-Brown (3457, 3459)**	20
		0.003 *	25	1 *	0.9	200	76	0	Low Drift, Low Bias FET	OPA103AM	Burr-Brown	
	0.003 *	0.001 *	6 *	0.4	10 *	15	65			TLE2061BC	TI	
										TLE2061BI	TI	
										TLE2161BC	TI	
										TLE2161BI	TI	25
	0.003	0.001	10	2 *	2 *		110 *	1		**AD645J**	**AD (3528)**	
	0.004	0.001	10	1.6 *	1 *		90			**AD795S/883B**	† **AD (3526, 3529)**	
	0.004 *	0.002 *	6 *	2 *	2	30	72	0	JFET Low Power, High Drive	TLE2061BM	† TI	
								1	JFET Low Power, High Drive	TLE2161BM	† TI	
	0.005	0.0004 *	5	2	3.5		80			**AD820B**	**AD (3526)**	30
		0.001	5	0.5 *	1	1000	100	0	JFET	OP41A	† AD	
				2 *	2 *		110 *	1		**AD645A**	**AD (3528)**	
				2.4 *	5	100	95		Low Bias Current	**OP43A**	† **AD (3527)**	
			8	0.5 *	1	1000	100	0	JFET	OP41E	AD	
			10	2 *	2 *		110 *	1		**AD645S**	**AD (3528)**	35
										AD645S/883B	† **AD (3528)**	
				2*	2*		110*	1		AD6545S/883B	† AD	
0.5*	0.005	0.004	10	2*	2*	320	86	0	Dielectrically Isolated FET, Low Noise	**OPA121K**	**Burr-Brown (3458)**	
0.5	0.005	0.025	10	2 *	8	500	80	0	Ion Implanted FET	AD611K	AD	
	0.01		6 *	5	5	128			Digitally-Controlled Programmable Gain, Multiplexed Input	**PGA100B**	**Burr-Brown (3462)**	40
			10		12	200	70	1	Ultra-low Power CMOS	MAX406	† Maxim	
				0.004	3	200	70		Unity Gain Stable, Single Supply	MAX406AE	Maxim	
				0.008	20 *	40 *	80	1	Ultra-Low Power CMOS	MAX406AC	Maxim	
										MAX406AM	† Maxim	
		0.01	7	1.5	2.1	400	83	0	CMOS, Rail to Rail Single/Dual 5V	ALD1712	† AdvLinear	45
			10	—	20	800	96	0	to ± 150V supply, 150mA output	**PA08A**	**Apex (3544)**	
				1.3 *	3.5	100	120 *	0	to ± 50V supply, 5A output	**PA07A**	**Apex (3545)**	
				5	12	30	74	0	to ± 75 V supply, 30 A output	**PA03A**	**Apex (3545)**	
	0.015	0.006	10	10 *	5	50	80	0	Low Noise, Wideband JFET	OPA101AM	Burr-Brown	
					10	50	80	0	Low Noise, Wideband JFET	OPA102AM	Burr-Brown	50
	0.02	0.01	10	—	100 *	—	104 *	2	to ± 50V supply, 4A output	**PA09A**	**Apex (3544)**	
				3	10	50	80	0	Wideband JFET	LF411A	National	
				150*	600	150*	100*	1	± 40 V supply, 4 A output	**PA19A**	**Apex (3544)**	
	0.025	0.002	2	1	3	250	80	2	Ultra Low Drift BIFET	AD547K	AD	
			5	1	3	250	80	2	Ultra Low Drift BIFET	AD547S	AD	55
				2	17 *	50	80	0	High Speed JFET	AD544L	AD	
		0.01	5	1 *	3	200	80	0	Precision Bipolar JFET	AD542L	AD	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											(Cont'd)	
0.5											(Cont'd)	
	0.035	0.002	5	20	94 *	60*	80	1	Wideband, Fast Settling	OPA605C	Burr-Brown	
	0.05	0.01	5	—	45	100	86	—	Wideband, Decompensated, Settles to 0.01% in 1.5 µ	OP17A	‡ AD	
									Wideband, Decompensated, Settles to 0.01% in 1.5 µs	OP17E	AD	
				14 *	10	35	85	0	Bias Compensated	OP15E	LinearTech	
									Bipolar-JFET	OP15A	† LinearTech	5
						100	86	0	Bipolar-JFET, Bias Compensated	OP15A	‡ AD	
										OP15E	AD	
				19 *	18	35	85	0	Wideband-JFET, Bias Comp.	OP16A	† LinearTech	
										OP16E	LinearTech	
						100	86	0	Wideband-JFET, Bias Compensated	OP16A	‡ AD	10
										OP16E	AD	
		0.025	10	0.8	0.8	50	80	0	Low Power-BIFET	LF441A	National	
				3.4	18	200	80		Precision High Speed BiFET	**AD711B**	**AD (3512, 3526)**	
										AD711K	**AD (3512, 3526)**	
										AD711T	**† AD (3512, 3526)**	15
	0.1	0.05	10	13 *	50	250	82	0		**AD744B**	**AD (3512, 3528)**	
										AD744K	**AD (3512, 3528)**	
	0.10	0.02	5 *	2.5 *	5 *	50	85	0	Bipolar JFET	PM155	† AD	
	0.2	0.1	10 *	3	13	50	80	0	BiFET, Low Offset	TL087I	TI	
				8 *	30 *	50	—	0		MC34081A	Motorola	20
										MC35081A	† Motorola	
				16 *	55 *	50	—	—	Decompensated	MC34080A	Motorola	
										MC35080A	† Motorola	
	0.25	0.075	1 *	4.5 *	2.8 *	2000	90			**AD743K**	**AD (3512, 3528)**	
		0.1	3	4.5	2.8	1000	110		Ultralow Noise BiFET	**AD743**	**AD (3512, 3528)**	25
	0.4	0.05	10 *	3 *	13 *	25	70	0	Low Offset JFET	TL087C	TI	
	1	0.5	1	130	1000	10			Ultra-Fast	**AM500MM**	**† Datel (3570)**	
		1		100	35	150	100	0		2600	Sipex	
										2620	Sipex	
										2622	Sipex	30
										2625	Sipex	
	1.5	0.005	5	1	1	300	82		Precision Low Power BiFET	**AD548B**	**AD (3526)**	
										AD548K	**AD (3526)**	
										AD548T	**† AD (3526)**	
	2	0.2	5			80	96	2		LM208A	TI	35
				1 *	0.3 *	80	96	1	Precision Bipolar, Low Bias	PM108A	‡ AD	
										LM108A	† LinearTech	
										LM108A	‡ National	
										LM108AFRH	‡ National	
										LM208A	National	40
										LM108A	† SGS-Thomson	
										LM208A	SGS-Thomson	
										LM108A	† TI	
		1	5	220				0	Wideband, Fast-Settling	AD9611	AD	
	5µA	1µA	20	1.1 GHz	1000	15	90	1	Wideband	EL2038C	Elantec	45
				400	400	15	90		Wideband	EL2040C	Elantec	
								1	Wideband	EL2039C	Elantec	
	7	1	5			80	96			LM308A	TI	
				1 *	0.3 *	80	96	1	Precision Bipolar	LM308A	LinearTech	
										LM308A	Motorola	50
										LM308A	National	
										LM308A	SGS-Thomson	
	7.5	2	2	—	0.7 *	750	95	0	Programmable Micropower	**OP32B**	**† AD (3527)**	
										OP32F	**AD (3527)**	
				0.25	0.08	250	80	0	Programmable Micropower	**OP22B**	**AD (3527)**	55
							85	0	Programmable Micropower	**OP22F**	**AD (3527)**	
	10		3	150	800	2	65	0	14-Bit Settling with Clamping	CLC502	† Comlinear	
				175	800	2	65	0	14-Bit Settling	CLC402	† Comlinear	
		12	5	0.4	0.1	80	100	1	High Precision Isolation Amplifier	**AD208A**	**AD (3521)**	
										AD208B	**AD (3521)**	60
	26	2.5	1	1	27	100	80	0		LF400AM	† National	
		5	10	16	27	100	90	0		LF400AC	National	
	35	2	8	0.8	0.25	100	90	0		OP02A	‡ AD	
	40	10	5	1.2 *	0.25 *	100	100	0	Precision	CA3193	Harris	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.5											(Cont'd)	
	50		7	1.5	6				Programmable Gain (G = 1,10,100)	**PGA102A**	**Burr-Brown (3462)**	
		3	2	0.5	0.7		85			TLE2021C	TI	
										TLE2021I	TI	
		5	2 *	2 *	0.7	1000	100	0	Low Power Precision	TLE2021M	† TI	
			5	1 *	0.5 *	50	90	0	Higher Accuracy 741	AD741L	AD	5
	80	5	2			1000	110		Instrumentation	LM725A	National	
		10	0.5	0.3 *	0.12 *	1000	110	1	Precision Low Noise	AD504M	AD	
			1	0.3 *	0.12 *	1000	110	1	Precision Low Noise	AD504L	AD	
										AD504S	† AD	
	150	6	5	0.6	0.25	500	84		Low Power	**OP21H**	**AD (3526)**	10
	2800	50	10	100	275	3000	95	0	Gain of 2 Stable, Voltage Mode	EL2045C	‡ Elantec	
0.5 *	5000 *		5 *	95	4000	50	60 *	0		CLC201AI	Comlinear	
										CLC201AM	Comlinear	
				160	6000	50	56 *	0		CLC203AI	Comlinear	
										CLC203AM	Comlinear	15
				170	6500	50	60 *	0		CLC221AI	Comlinear	
										CLC221AM	Comlinear	
0.5	7000	500	0.3 *	750	230	65 *	100	0		**AD829S/883B**	† **AD (3512, 3529)**	
									High Speed, Low Noise Video	**AD829A**	**AD (3512, 3529)**	
										AD829S	† **AD (3512, 3529)**	20
	10000		25	350	1200	1 to 10	50	0	Low Distortion	CLC409	† Comlinear	
	25000	2000	8 *	300 *	250	582	70	0	Wideband Precision	**OPA620L**	**Burr-Brown (3460)**	
			12 *	500	500 *		70		Wideband Precision	**OPA621L**	**Burr-Brown (3460)**	
0.50	0.005	0.0003 *	10	1 *	0.6	100	76 *	0	Low Drift FET	3527A	Burr-Brown	
0.500	0.01	0.005	5	13*	25	100	85	0	Wideband-JFET, Dielectrically Isolated	**OPA606L**	**Burr-Brown (3457, 3459)**	25
0.6	0.05	0.02	9	8*	18	120	82	0	Wideband, Low-Drift JFET	LT1022C	† LinearTech	
										LT1022M	† LinearTech	
	0.075			14	60	180			JFET Input	LT1122AC	LinearTech	
										LT1122AM	† LinearTech	
										LT1122BC	LinearTech	30
										LT1122BM	† LinearTech	
	0.1	0.01	5	1 *	0.3 *	100	110	0	Precision, Low Input Current	LM11C	Motorola	
										LM11C	National	
	60	5		1.7 *	0.5 *	0.3	85			TLE2021Y	TI	
	26	5	10	3	70	100	90			LF401AC	National	35
0.7	30	2	5	2.5 *	18 *	50	90	0	High Speed	OP01	‡ AD	
			8	150	18 *	50	85	0		OP01H	AD	
0.75	0.010	0.002	7.5	2.4 *	5	500	85		Low Bias Current	**OP43F**	**AD (3527)**	
	0.075	2.8	1.3	0.5 *	0.1	150	110	0	Ultra Low Noise	OP07	† Raytheon	
		3.8	1.3	0.5 *	0.1	150	106	0	Ultra Low Noise	OP07E	Raytheon	40
	0.2	0.04	10	1.5	100	500	86		High-speed, precision.	**OP44E**	**AD (3528, 3530)**	
				10 *	50	200	86	1	Fast Settling	**OP42E**	**AD (3526, 3528)**	
	4	4	3 *	5	28	100 *	100 *	0	Quad, Precision	**OPA404BG**	**Burr-Brown (3458, 3460)**	
	80	5	—	0.44 *	0.3	50	80	0	High Performance	µA741EC	National	
				1 *	0.3 *	50	80	0	High Performance	µA741AM	† National	45
		50	0.5 *	35 *	15		86			HA5221-9	Harris	
			0.5*	35	25 *	300	86	0		HA5221	† Harris	
			2.5	30	15		106		Low Noise, Wideband	HA5221/883	† Harris	
	100	100	0.5 *	35 *	15		86			HA5221-5	Harris	
	5000	300	2 *	20 *	200 *		100	0		**AD849S/883B**	† **AD (3529)**	50
				725	200	85	115 *	0	High Speed, Low Power	**AD849A**	**AD (3529)**	
	6600	300	2 *	725	200	85	115 *	0	High Speed, Low Power	**AD849S**	**AD (3529)**	
0.8			1 *	0.1 *	15000	200	66		Micropower	LMC6061I	National	
			2	200	2300	200			Voltage Feedback, Low Gain	CLC422-8	† Comlinear	
										CLC422I	Comlinear	55
	0.2	0.1	4.3 *	1.1 *	2	5	75	0	Low Power, JFET	TL031AM	† TI	
			8 *	3.1 *	15	50	75	0	JFET	TL051AM	† TI	
			9.7	1.1 *	2	5	75	0	Low Power, JFET	TL032AM	† TI	
			25	1.1 *	2	5	75	0	Low Power, JFET	TL031AC	TI	
										TL031AI	TI	60
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											**(Cont'd)**	
											(Cont'd)	
0.8	0.2	0.1	25	1.1 *	2	5	75	0	Low Power, JFET	TL032AC	TI	
										TL032AI	TI	
				3.1 *	15	50	75	0	JFET	TL051AC	TI	
										TL051AI	TI	
	0.4	0.15	2 *	4.5 *	2.8 *	1000	80			**AD743A**	**AD (3512, 3528)**	5
	20		8	85 *	350 *	77 dB	92		Ultra Low Noise	CLC425	Comlinear	
	10000		15	35	500		65	0	High Speed, Voltage Feedback	CLC420B8D	† Comlinear	
0.9	–0.0015 *	100	1.7 *	6 *	30	100	85			TLE2141C	TI	
										TLE2141I	TI	
										TLE2141M	† TI	10
	0.03	0.015	7	0.30	0.01	100	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1706A	† AdvLinear	
		0.025	7	0.4	0.33	40	70	0	CMOS, Rail-to-Rail	ALD1701A	† AdvLinear	
				1	1.4	50	70	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1702A	† AdvLinear	
	0.1			13	50	150				LT1122CM	† LinearTech	
										LT1122DM	† LinearTech	15
									JFET Input	LT1122CC	LinearTech	
										LT1122DC	LinearTech	
	0.85	0.025	7	2.1	5	50	70	0		ALD1704A	† AdvLinear	
	50	50	9	1.91	80	5	80		High Slew Rate, Wideband	HA2548-5	Harris	
										HA2548-9	Harris	20
1			2 *	450	380	95 dB		0	Low Distortion	**OPA642**	**Burr-Brown (3460)**	
			10	95	3000	5			Low Distortion	CLC232-8	† Comlinear	
										CLC232I	Comlinear	
									Low Gain, Low Power	CLC231A8	† Comlinear	
	–0.0015 *	100		6 *	30	100	80			TLE2141Y	TI	25
	0.000075	—	25	0.35	0.3	50	70	0	FET Electrometer	**AD515L**	**AD (3528)**	
				1	0.3	25000	70	0		**AD515AL**	**AD (3528)**	
	0.00015	—	15	0.35	0.3	100	80	0	FET Electrometer	**AD515K**	**AD (3528)**	
				1	0.3	40000	80	0		**AD515AK**	**AD (3528)**	
	0.0003	0.00008	25	1 *	1.6 *	100	66	0	Ultra Low Bias FET	OPA104AM	Burr-Brown	30
	0.0005		20 *	1 *	3 *	300	84	0		**AD546K**	**AD (3528)**	
	0.001		15	1	0.3	25000	70	0		**AD545AK**	**AD (3528)**	
		0.0005	15	0.7 *	0.3	40	70	0	Precision Low Drift FET	AD545K	AD	
	0.002		25	1	0.3	15000	66	0		**AD545AJ**	**AD (3528)**	
		0.001	25	0.7 *	0.3	20	66	0	Precision Low Drift FET	AD545J	AD	35
	0.0025	0.00005 *	20	1 *	3 *	300	80	1		**AD549J**	**AD (3526, 3528)**	
	0.004	0.003	20	2	1		90	0	Low Noise	**OPA111V**	**† Burr-Brown (3457)**	
										OPA111VM/883B	**Burr-Brown (3457)**	
	0.005	—	10	1 *	3	75	80	0	High Accuracy, FET	AD506L	AD	
		0.0002	10	1 *	1	75	76	0	Precision FET	LH0052C	National	40
	0.008	400	6 *	1000	250	50	94		Low Noise, High Speed	LT1226C	LinearTech	
			10 *	150 *	250	12.5	94		High Speed	LT1225C	LinearTech	
	0.01		6 *	5	14	128			Digitally-Controlled Programmable Gain, Multiplexed Input	**PGA100A**	**Burr-Brown (3462)**	
		0.0004 *	10	2	3.5		80			**AD820A**	**AD (3526)**	
										AD820S	**AD (3526)**	45
		0.002	7.5 *	0.5 *	1	500	90	0	JFET	OP41F	AD	
			10	0.5 *	1	500	90	0	JFET	OP41B	† AD	
		0.01	10	—	125 *	100	130 *	2	to ± 150V supply, 40mA output	**PA84A**	**Apex (3544)**	
				3	20	1000	130 *	0	to ± 150V supply, 75mA output	**PA83A**	**Apex (3544)**	
			15	3.5	20	6	75	0	High-speed Precision Di-FET	**OPA602A**	**Burr-Brown (3457, 3459)**	50
		100	11 *	11 *	30	3	80		Low Power, High Speed	LT1200C	LinearTech	
	0.010	0.002	10	2.4 *	5	500	85		Low Bias Current	**OP43B**	**† AD (3527)**	
	0.025	0.002	10	2	16	50	80	0	High Speed Precision Bipolar JFET	AD544K	† AD	
			15	2	16	50	80	0	High Speed Precision Bipolar JFET	AD544S	AD	
		0.01	10	1 *	3	50	76	0	Precision Bipolar JFET	AD542S	† AD	55
						200	80	0	Precision Bipolar JFET	AD542K	AD	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
1											(Cont'd)
	0.03	0.025	7*	2.1*	5*	150*	60	0		ALD1704G	AdvLinear
	0.035	0.002	25	20	94	60	70	1	Wideband, Fast Settling	OPA605A	Burr-Brown
		0.005	5	1	3	100	76	2	Ultra Low Drift BIFET	AD547J	AD
	0.05	0.01	10	2*	10*	100	80	0		OPA445SM	† Burr-Brown
		0.03	30	1.6*	6	32	95	0	High Current	OPA541BM	Burr-Brown
		0.1	15	150	1000	0	44	1	Wideband, Fast Settling	BB3554B	Maxim
							60	1	Wideband, Fast Settling	MX3554B	Maxim
			25	150	1000	0	44	1	Wideband, Fast Settling	BB3554S	† Maxim
							60	1	Wideband, Fast Settling	MX3554S	† Maxim
	0.050	0.01	15	70	1000	100	44	1	150 ns Settling to 0.05%	**3554B**	**Burr-Brown (3459)**
			25	70	1000	100	44	1	150 ns Settling to 0.05%	**3554S**	**Burr-Brown (3459)**
	0.1	0.01	50	50*	250*	100	70*	1	Wideband, Fast Settling	3551J	Burr-Brown
										3551S	† Burr-Brown
		0.02	10	—	35	75	86	—	Wideband, Decompensated, Settles to 0.01% in 1.5 µs	OP17B	‡ AD
				13*	7.5	30	85	0	Bias Compensated	OP15B	† LinearTech
										OP15F	LinearTech
						75	86	0	Bipolar-JFET, Bias Compensated	OP15F	AD
				18*	12	30	85	0	Wideband-JFET, Bias Comp.	OP16B	† LinearTech
										OP16F	LinearTech
						75	86	0	Wideband-JFET, Bias Comp.	OP16B	‡ AD
									Wideband-JFET, Bias Compensated	OP16F	AD
			15	0.4	23	10	100		Low-Cost Programmable Gain Instrumentation Amp.	**AM551M**	**Datel (3570)**
			20	13*	45	200	78	0		**AD744S**	**AD (3512, 3528)**
				40	330*	25	60	1	Wideband, Fast Settling	AD380K	AD
										AD380L	† AD
										AD380S	AD
		0.04	50	10*	65	100	70*	0	Fast Settling, 1 µs to 0.01%	3550J	Burr-Brown
		0.040	50	10*	65	25	70*	0	Fast Settling, 1 µs to 0.01%	3550S	† Burr-Brown
				20*	100	100	70*	0	Fast Settling, 0.6 µs to 0.01%	3550K	Burr-Brown
		0.05	20	13*	45	200	78	0		**AD744A**	**AD (3512, 3528)**
										AD744J	**AD (3512, 3528)**
	0.12		10	35	300					**AD843**	**AD (3512, 3530)**
	0.2	0.04	10	1.5	100	500	86		High-speed, precision.	**OP44A**	**† AD (3528, 3530)**
				10*	45	160	80	1	Fast Settling	**OP42A**	**† AD (3526, 3528)**
		0.1	10*	3	13	50	80	0	BiFET	TL088I	TI
				8*	30*	25	—	0		MC35081	† Motorola
					32*	25	—	0		MC34081	Motorola
				16*	55*	25	—	—	Decompensated	MC35080	† Motorola
	0.4	0.15	2*	4.5*	2.8*	1000	80			**AD743J**	**AD (3512, 3528)**
										AD743S	**AD (3512, 3528)**
										AD743S/883B	**† AD (3512, 3528)**
				20*	12.5*	1000	80	0		**AD745S/883B**	**† AD (3512, 3528)**
	0.5	0.02	10	10	35	75	86			OP17F	AD
	1*	0.4	12	34	250*	30	80	0		**AD843B**	**AD (3512, 3530)**
										AD843K	**AD (3512, 3530)**
	2	0.3	10	16	94	200	86		16MHz CBFET	**AD845S/883B**	**† AD (3530, 3512)**
					100	500		0		**AD845S**	**AD (3512, 3530)**
		100	10	30	300*	100	70	2	Low Offset, Fast Settling	HOS060	† AD
										HOS060/883	† AD
	3	200	8	300	1100	1	80	0	High-speed, Voltage Feedback	CLC420A	† Comlinear
	5			1.0	1.5	56	110			SL562	GEC Plessey
		0.5	10	0.8*	0.12*	40	84	0	Precision, Low Input Current	OP12C	‡ AD
										OP12G	AD
								1	Precision, Low Input Current	OP08C	‡ AD
										OP08G	AD
	8	8	3*	4	24	100*	100*	0	Quad, Precision	**OPA404AG**	**Burr-Brown (3458, 3460)**
										OPA404SG	**† Burr-Brown (3458, 3460)**
	10	3	3	—	0.7*	500	85	0	Programmable Micropower	**OP32G**	**AD (3527)**
	50	10	5.5*	6	2	50	80	0	Four Channel Multiplexed Input	LM604AM	† National
	100		2	50	2000	1000		1	Module, Wideband, Fast Settling	9808	OEI

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
1	100										(Cont'd)	
		20	4 *	1 *	0.25 *	30	70	2	High Voltage	LH0004	† National	
			5			1000	100		Instrumentation	LM725	National	
	200 *	10 *	5 *	10 *	25 *		86	0	Bipolar/JFET Audio	OP176G	AD	
	250	20		15	50	100	86		Wideband Amplifier	LT118A	† LinearTech	
										LT318A	LinearTech	5
	300	50		15	±5		100		Power Op Amp	MA921	AnalogSys	
		300	10 *	500 *	150	100	100		Low Noise, High Speed	LT1222C	LinearTech	
			15 *	150 *	200	50	92		High Speed	LT1221C	LinearTech	
			20 *	45 *	200	20	92		Very High Speed	LT1220	LinearTech	
	1000	1000	-	80 *	130	30	90	0	High Speed, Wide Band Operational Amplifier	**OP64A**	‡ **AD (3530)**	10
			2 *	1000	200	80	100			HFA0002-5	Harris	
										HFA0002-9	Harris	
	3300	50	15	50	300	5500	80	0	High-Speed, Low Power	**AD847**	† **AD (3530)**	
	3500	100	14	80	375	9000	115	0	Wideband, Fast Settling	**AD842**	† **AD (3512, 3530)**	
	5000		10 *	100	1200	400	58	0		HA5004	† Harris	15
1 *	5000 *		10 *	165	3000	5	46 *	0		CLC231ABC	Comlinear	
										CLC231AI	Comlinear	
										CLC231AM	Comlinear	
1	5000		10	270	3000	±1 to ±5						
							46	0	Low Distortion	CLC232	† Comlinear	
		200	14 *	80	375 *	90 *	115	0		**AD842K**	**AD (3512, 3530)**	20
			35 *	40	300 *	45 *	109 *	0		**AD841K**	**AD (3530)**	
		300	7 *	24 *	200 *		92	0		**AD848S/883B**	† **AD (3529)**	
			7	175	200	20	105 *	0	High Speed, Low Power	**AD848S**	**AD (3529)**	
			15 *	35 *	200 *	2	80	0		**AD847S/883B**	† **AD (3530)**	
				50	300	3.5	95 *	0	High Speed, Low Power	**AD847S**	**AD (3530)**	25
	6000	1000	8 *	2000 *	500	2.8	70		2 GHz GBWP Gain of 10	EL2075C	Elantec	
	6600	300	2 *	725	200	85	115 *	0	High Speed, Low Power	**AD849J**	**AD (3529)**	
			7	175	200	20	105 *	0	High Speed, Low Power	**AD848A**	**AD (3529)**	
										AD848J	**AD (3529)**	
			15 *	12.7	300 *	2	78			**AD817A**	**AD (3530)**	30
				50	300	3.5	95 *	0		**AD847A**	**AD (3530)**	
										AD847J	**AD (3530)**	
	8000			150	250	12.5			High Speed	LT1225	LinearTech	
				1000	250	50			High Speed	LT1226	LinearTech	
		400	5 *	400	400 *	130 *	110 *	0		**AD840J**	**AD (3512, 3529)**	35
										AD840S	**AD (3512, 3529)**	
										AD840S/883B	† **AD (3512, 3529)**	
	8200	500	0.3	25	150	30	100		High Speed, Low Noise	**AD829**	**AD (3512, 3529)**	
	15000		25	80	3000		35	0	Wide Bandwidth, Fast Settling	**AD9610T/883B**	† **AD (3529)**	
	20000		15	150	0.005		40	0	Fast Settling, Wideband	CLC221A8C	† Comlinear	40
	30000	2000	6 *	24	310	90 dB	90		Low Distortion, Wideband	**OPA628A**	**Burr-Brown (3460)**	
			8 *	300 *	250		65	0	Wideband Precision	**OPA620K**	**Burr-Brown (3460)**	
										OPA620S	† **Burr-Brown (3460)**	
			12 *	500	500 *		75		Wideband Precision	**OPA621K**	**Burr-Brown (3460)**	
										OPA621S	**Burr-Brown (3460)**	45
		5000	5	100 *	240		85	1	Wideband	**OPA675K**	**Burr-Brown (3457, 3460)**	
										OPA676K	**Burr-Brown (3457, 3460)**	
	50000	1	5	100	3000	1	35	0	Transimpedance fast-settling	SP9610	† Sipex	
		1500	5	200 *	350 *		85 *	1	Wideband Switched-Input	**OPA678S**	**Burr-Brown (3457, 3460)**	
1.0	0.25	0.075	2	20	12.5	4000	102	0	Ultralow Noise, High Speed, BiFET	**AD745B**	**AD (3512, 3528)**	50
									Ultralow Noise, High-Speed BiFET	**AD745K**	**AD (3512, 3528)**	
	1000	1000	-	80 *	130	30	90	0	High Speed, Wideband	**OP64E**	‡ **AD (3530)**	
			2 *	1000 *	250 *	80	100		Closed Loop Gain >10	HFA0002	Harris	
	7000	500	0.3 *	750	230	65 *	100	0	High Speed, Low Noise Video	**AD829J**	**AD (3512, 3529)**	
1.1	5000 *	150	25	150 *	1400 *		50	0	Low Distribution, Precision, Wide Bandwith	**AD9617B**	**AD (3529)**	55
										AD9617T	**AD (3529)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
1.1											(Cont'd)	
	20000		25	130	1800 *		44	0		**AD9618B**	**AD (3529)**	
										AD9618T	**AD (3529)**	
1.2	0	3	2	0.35	0.08	250 *	80	0	Programmable Micropower	**OP22H**	**AD (3527)**	
1.5			3 *	1500	1000	95 dB		0	Low Distortion	**OPA643**	**Burr-Brown (3460)**	
			10	80	1200	80			Clamped output 1nA overload recovery	CLC501-8	† Comlinear	5
										CLC501I	Comlinear	
	0.00025		15	1	3	94 dB				**OPA129**	**Burr-Brown (3458)**	
		0.000005*		0.3*	0.2	100000	50	0	Low Bias Current	**OP80E**	**AD (3527)**	
	0.001	0.000008*		0.3*	0.2	100000	50	0	Low Bias Current	**OP80F**	**AD (3527)**	
	0.003 *	0.001 *	6 *	0.4	10 *	15	65			TLE2061AC	TI	10
										TLE2061AI	TI	
										TLE2161AC	TI	
					18 *	15	65			TLE2161AI	TI	
	0.004 *	0.002 *	6 *	2 *	2	30	72	0	JFET Low Power, High Drive	TLE2061AM	† TI	
								1	JFET Low Power, High Drive	TLE2161AM	† TI	15
	0.01	—	25	1 *	3	50	80	0	High Accuracy, FET	AD506K	AD	
			50	1 *	3	50	80	0	High Accuracy, FET	AD506S	† AD	
	0.015	0.01	5*	10	22	56	80	0	Wideband-JFET, Dielectrically Isolated	**OPA606K**	**† Burr-Brown (3457, 3459)**	
										OPA606S	**† Burr-Brown (3457, 3459)**	
	0.025	0.005	7.5 *	0.5 *	1	300	90	0	JFET	OP41G	AD	20
			7.5	2.4 *	5	300	85		Low Bias Current	**OP43G**	**AD (3527)**	
	0.05	0.1	± 30	0.4	400		90	1	High Voltage	**PA85**	**Apex (3544)**	
	0.1			4.5	7.5	120			JFET Input, Lowest Offset Voltage	LT1055	LinearTech	
				5.5	9	120			Low Offset Voltage, JFET Input	LT1056	LinearTech	
	0.2	0.1	4.3 *	1.1 *	2	4	75	0	Low Power Bipolar JFET	TL031M	† TI	25
			5.9 *	1.1 *	2	5	75	0	Low Power, JFET	TL031C	TI	
			6.2 *	1.1 *	2	5	75	0	Low Power, JFET	TL031I	TI	
			8 *	3.1 *	15	50	75	0	Bipolar JFET	TL051M	† TI	
									JFET	TL051C	TI	
										TL051I	TI	30
			10.8 *	1.1 *	2	5	75	0	Low Power, JFET	TL032C	TI	
										TL032I	TI	
	0.25	0.05	8	1.2	80	500	80		High-speed, precision.	**OP44F**	**AD (3528, 3530)**	
			8 *	10 *	40	200	80	1	Fast Settling	**OP42F**	**AD (3526, 3528)**	
	0.4	0.15	2	20	12.5	4000	95	0	Ultralow Noise, High Speed, BiFET	**AD745A**	**AD (3512, 3528)**	35
										AD745J	**AD (3512, 3528)**	
	2	0.3	20	16	100	500		0		**AD845A**	**AD (3512, 3530)**	
										AD845J	**AD (3512, 3530)**	
1.5 *	10 µA *		10 *	120 *	1200 *		70 *	0	Clamped Output Voltage and Fast Overload Recovery	CLC501	† Comlinear	
1.5	26	5	10	3	70	100	80			LF401C	National	40
	100	10			0.17 *	130	100	0	200°C Operation	LM118X	† LinearTech	
		15	3	0.3 *	0.12 *	500	100	1	Low Drift, Low Noise	AD504K	AD	
	120	45	4 *	1 *	0.25 *	30	70	2	High Voltage	LH0004C	National	
	6000	1000	8 *	200 *	175	10	65	0		EL2073C	Elantec	
				400 *	275	10	65			EL2074C	Elantec	45
	8000	400	14 *	80	375 *	90 *	115	0		**AD842J**	**AD (3512, 3530)**	
										AD842S	**AD (3512, 3530)**	
										AD842S/883B	**† AD (3512, 3530)**	
	50000	2000	10	200 *	350 *		85 *	1	Wideband Switched-Input	**OPA678A**	**Burr-Brown (3457, 3460)**	
1.6	25000		12	40	500		60	0	Clamping, Low Gain	CLC502A8D	† Comlinear	50
				50	500		60	0	Low Gain	CLC402AM	† Comlinear	
										CLC402A8D	† Comlinear	
1.9	0.2	0.1	10 *	16 *	55 *	25	—	—	Decompensated	MC34080	Motorola	
2									24 W BTL Audio Amplifier	TDA1515A	Philips	
			6 *	1300	350	57 dB		0	Wideband, Low Noise	**OPA640**	**Burr-Brown (3460)**	55
				1600	650	57 dB		0	Wideband, Low Noise	**OPA641**	**Burr-Brown (3460)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
2			20	50	700	8			High Speed Video, OP Amp with Disabler	CLC410-8	† Comlinear	
										CLC410I	Comlinear	
									Low Cost, Low Power	CLC400-8	† Comlinear	
										CLC400I	Comlinear	
			25	27	2000	10			Low Gain OP Amp with Disabler	CLC430-8	† Comlinear	5
										CLC430I	Comlinear	
			30	130	1500	10			Low Cost, Low Power	CLC406-8	† Comlinear	
										CLC406I	Comlinear	
				165	2600	20			High Full-Power BW Low Power, High Slew	CLC404-8	† Comlinear	
										CLC404I	Comlinear	10
	-75	10	15			50	80	1		LM101A	TI	
	±5		25 *	1.4	5		75	2	High-Speed Micropower	MAX402C	Maxim	
										MAX402E	Maxim	
				4	10 *		75	2	High Speed Micropower	MAX438C	Maxim	
										MAX438E	Maxim	15
	±25		25 *	7	25		66	2	High-Speed Micropower	MAX403C	Maxim	
										MAX403M	† Maxim	
				18	48 *		66	2	High Speed Micropower	MAX439C	Maxim	
										MAX439E	Maxim	
										MAX439M	† Maxim	20
	±5		25	1.4	5	468	75	2	High-Speed Micropower	MAX402	Maxim	
				7	25	68	66	2	High-Speed Micropower	MAX403	† Maxim	
	0.001		20 *	1 *	3 *	300	80	0		**AD546J**	**AD (3528)**	
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	30	60	1	Programmable, Low Bias	TS271BC	SGS-Thomson	
							70	1	Programmable, Low Bias	TLC251BC	TI	25
										TLC271BC	TI	
			5 *	2.3 *	4.5 *	10	70	1	Programmable, High Bias	TLC271BC	TI	
	0.002	0.0001*		0.3*	0.2	100000	50	0	Low Bias Current	**OP80B**	**† AD (3527)**	
	0.005	0.001	0.7 *	2.2	5.3	7	70	0	LinCMOS, Programmable	TLC271BI	TI	
	0.008	400	25 *	45 *	250	3.3	86		High Speed	LT1224C	LinearTech	30
	0.01			0.004	3	100	54		Unity Gain Stable, Single Supply	MAX406BE	Maxim	
				60	1000					SP4010	† Sipex	
			10	0.008	20 *	40 *	65	1	Ultra-Low Power CMOS	MAX406BC	Maxim	
										MAX406BM	† Maxim	
	0.025 *	0.01 *	20	1 *	3	50	76	0	Precision Bipolar JFET	AD542J	AD	35
	0.03	0.015	7	0.3	0.01	100	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1706B	† AdvLinear	
		0.025	7	1	1.4	50	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1702B	† AdvLinear	
	0.05	0.005	20	2	15	30	74	0	High Speed Precision Bipolar JFET	AD544J	AD	
		0.01	5	—	40	50	85	—	Wideband Decompensated	PM157A	† AD	
				2.5 *	3	50	85	0	Bipolar - JFET	PM155A	† AD	40
										LF155A	† National	
										LF355A	National	
				2.5	3	50	85	1	JFET Input	LF155A	† SGS-Thomson	
				4	10	50	85	0	Wideband - JFET	PM156A	† AD	
										LF156A	† National	45
										LF356A	National	
									Wideband-JFET, Dielectrically Isolated	OPA156A	† Burr-Brown	
										OPA356A	† Burr-Brown	
								1	JFET Input	LF156A	† SGS-Thomson	
				15	40	50	85	—	Wideband Decompensated	LF157A	† National	50
										LF357A	National	
								1	JFET Input	LF157A	† SGS-Thomson	
		0.025	20	3	16	150	76		Precision High Speed BiFET	**AD711A**	**AD (3512, 3526)**	
										AD711J	**AD (3512, 3526)**	
										AD711S	**† AD (3512, 3526)**	55
		0.03	10 *	0.044 *	1.6 *	86	76	0		ICL7611A	Harris	
										ICL7612A	Harris	
				0.48 *	0.16 *	20	76	1	Low Power	ICL7614AC	Maxim	
										ICL7614AM	† Maxim	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
2	0.05	0.03	10 *								(Cont'd)	
				1.4 *	1.6 *	10	76	0	CMOS, Low Power, Programmable Low Bias	ICL7611AC	Maxim	
										ICL7611AM	† Maxim	
									Programmable Bias, Extended CMVR	ICL7612AC	Maxim	
										ICL7612AM	† Maxim	
										ICL7616AC	Maxim	5
										ICL7616AM	† Maxim	
		0.05			20		90		High Voltage	**PA08M/883**	† **Apex** **(3544)**	
			30	—	30 *	800	96	0	To ± 150V supply, 150mA output	**PA08**	**Apex** **(3544)**	
				1.3 *	5	100	120 *	0	to ± 50V supply, 5A output	**PA07**	**Apex** **(3545)**	
				5	30 *	800	96	0	To ± 175 V supply, 150 mA output	**PA08V**	**Apex** **(3544)**	10
		0.1	50	150	1000	0	44	1	Wideband, Fast Settling	BB3554A	Maxim	
							60	1	Wideband, Fast Settling	MX3554A	Maxim	
	0.050	0.01	50	70	1000	100	78 *	1	150 ns Settling to 0.05%	**3554A**	**Burr-Brown** **(3459)**	
	0.1		20	35	220	20	58	1	Hybrid, Wideband, Fast Settling	AH104	† OEI	
		0.025	50 *	70 *	500 *	20	70	2		EL2006	† Elantec	15
		0.05	10 *	3 *	13 *	50	80	0	Bipolar JFET	µA771AC	National	
										µA771AM	† National	
			20	150	400	10	60	3	Fast Settling, Wideband	**OPA600V**	**Burr-Brown** **(3460)**	
										OPA600V/MIL	† **Burr-Brown** **(3460)**	
										OPA600V/883B	† **Burr-Brown** **(3460)**	20
	0.2	0.1	10 *	8 *	25 *	25	70	0	Low offset, low drift JFET input	LF411C	Motorola	
			20	2.7	8	25	70	0	JFET Input	LF411C	TI	
									Wideband JFET	LF411	National	
				3	10	50	80	0	JFET Input, High Speed	LF351A	SGS-Thomson	
	0.3	0.025	7	0.4	0.33	32	65	0	CMOS, Rail-to-Rail	ALD1701B	† AdvLinear	25
	0.5	10	5	2.5 *	5	75	85	0	Bipolar-JFET	LF155A	† LinearTech	
										LF355A	LinearTech	
				4	10	75	85	0	Wideband-JFET	LF156A	† LinearTech	
										LF356A	LinearTech	
	0.85	0.025	7	2.1	5	50	70	0		ALD1704B	† AdvLinear	30
	1.5	0.01	20		1	300	76		Precision Low Power BiFET	**AD548A**	**AD** **(3526)**	
				1	1	300	76		Precision Low Power BiFET	**AD548J**	**AD** **(3526)**	
										AD548S	† **AD** **(3526)**	
	2	0.2	15			50	85		Low Input Current	PM208	AD	
				1 *	0.2 *	50	85	0	Micropower, Supply Current 600 µa	LM112	† National	35
										LM212	National	
					0.3 *	50	85	1	Precision Bipolar	PM108	‡ AD	
										LM108	† LinearTech	
										LM108	† National	
										LM208	National	40
										LM108	† SGS-Thomson	
										LM108M	† SGS-Thomson	
										LM208	SGS-Thomson	
										LM108	† TI	
	2.5 *	1	12	34	250 *	25	76	0		**AD843A**	**AD** **(3512, 3530)**	45
										AD843J	**AD** **(3512, 3530)**	
						30	76	0		**AD843S**	**AD** **(3512, 3530)**	
	3		45	2000	2	2	62	0	Low Gain with Disable	CLC430	Comlinear	
	5		35	215	2600	10		0	Driver Amplifier	CLC560	† Comlinear	
					3300	10		0	Driver Amplifier	CLC561	† Comlinear	50
	10	1	10	200	700	1000	50	0	Wideband, Current Mode Feedback	EL400C	Elantec	
	10µA	1µA	10	200	700	1000	50	0	Wideband, Current Mode Feedback Amp and Disable	EL2070J	‡ Elantec	
		5	7	85	625	2	60	0	Wideband, Current Mode Feedback	EL2130	Elantec	
2*	11*	0.3*	15	2	0.45	40	80		With Adjustable Reference	LM611AC	National	
2	20		20 *	730 *	800 *	0.95 *		0	Unity Gain Closed-Loop Buffer Amplifier	CLC110	† Comlinear	55
		0.7	2 *	—	—	60	89	0	Op Amp and Voltage Reference	LM10BL	LinearTech	
										LM10BL	National	
						120	93	0	Op Amp and Voltage Reference	LM10	LinearTech	
										LM10B	LinearTech	
										LM10B	National	60
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
2	20	0.7	2*	—	—	120	93	0			(Cont'd)	
									4p Amp and Voltage Reference	LM10	† National	
	35	7	20*	40*	200	10	70	0	Wideband, Unity Gain Stable	HA2541-5	Harris	
	50	5	10	0.8	0.25	50	90	0		OP02C	‡ AD	
				1	0.5*		80			OP02/883	AD	
	60	10	15	—	40	50	70	1	60 V/µs Comp. for g = 5	SE538	† Philips	5
	75	5	10	0.8	0.5*	50	80	0	Dual Matched	OP14C	AD	
				1	0.25		25			OP04	AD	
		10	3*	1*	0.5*	50	80	1	High Performance Bipolar	LM201A	TI	
			15	1*	0.5*	25	80	1	General Purpose, Uncompensated	LM101A	† SGS-Thomson	
						50	80	0	General Purpose, Compensated	LM107	† LinearTech	10
										SG107	† Linfinity Micro	
										SG207	Linfinity Micro	
										LM107	‡ National	
										LM207	National	
										LM107	Rochester	15
									Higher Accuracy 741	AD741S	† AD	
								1	General Purpose, Improved 101, Uncompensated	AD101A	† AD	
										LM101A	† LinearTech	
										SG101A	† Linfinity Micro	
										SG201A	Linfinity Micro	20
										LM101A	† Motorola	
										LM201A	Motorola	
										LM101A	‡ National	
										LM201A	National	
										LM101A	† Raytheon	25
										LM201A	SGS-Thomson	
							90	0	Higher Accuracy 741C	AD741K	AD	
	200	50	10	1	1	45*	80	3		µA709AM	† TI	
				5*	0.25*	25	80	3	General Purpose	LM709A	† National	
					0.3*	25	80	3	General Purpose	SFC2709A	† SGS-Thomson	30
	250	200	20	3	32	10	70			LH4105C	National	
	500	50	10*	3.5*	13*	50	80	1	High Performance, Single Supply	MC33071A	Motorola	
										MC34071A	Motorola	
										MC35071A	† Motorola	
	800	80	2*	24*	10*	25	100*			MC33272	Motorola	35
										MC33274	Motorola	
		200		10*	13*	50	80	0		SE5534	TI	
										SE5534A	TI	
			—	10*	13*	50	80	1	Wideband, Low Noise	XR5534M	† Exar	
			5	10*	13*	50	80	1	Wideband, Low Noise	SE5534	† Philips	40
										SE5534A	† Philips	
	1000		6*	90	1000*		62		High-Speed, Current Feedback	**OP160E**	‡ **AD (3530)**	
			30	90	1000	1 to 10	50	0	Low Power	CLC414	† Comlinear	
	1500	300	—	10*	6*	25	70	1	Low Noise, Comp. for G = 3	**SSM2134**	**AD (3529)**	
	2000	2000		80*	130	20	84			**OP64F**	**AD (3530)**	45
	5000		30	160	1500	1 to 10	50	0	Low Power	CLC406	† Comlinear	
		600	3	2	50		80			CA3080A	Harris	
										CA3080AE	Harris	
										CA3080AM	Harris	
										CA3080AS	Harris	50
	6600	200	10*	70	350	5	82		Video	**AD818A**	**AD (3530)**	
	8000			45	250	3.3			High Speed	LT1224	LinearTech	
		400	35*	40	300*	45*	100*	0		**AD841J**	**AD (3530)**	
										AD841S	**AD (3530)**	
										AD841S/883B	† **AD (3530)**	55
	10000		15	35	500		65	0	High Speed, Voltage Feedback	CLC420AM	† Comlinear	
										CLC420A8D	† Comlinear	
2*	10000		20*	200*	700*		50*	0	Wideband, Fast-settling	CLC400	† Comlinear	
2	14500	1000	20	400	340	151	75	1	Gain > 10	HA2850	† Harris	
				500	625	20	75	1	Lower Power HA2539	HA2839	† Harris	60
									Lower Power HA2540	HA2840	† Harris	
		4000	20*	4.8	300	20	75		High Slew Rate	HA2850-5	Harris	
										HA2850-9	Harris	
				8.7	550	20	75		Very High Slew Rate	HA2839-5	Harris	
										HA2839-9	Harris	65

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
2	14500	4000	20 *	8.7	550	20	75		Very High Slew Rate	HA2840-5 HA2840-9	(Cont'd) Harris Harris	
	20000	7000	20 *	150 *	160	10	74		I supply < 16 mA.	EL2195	Elantec	
	21000		25	800	2500		40	0	Low Distortion	CLC232A8C	† Comlinear	
	35000	5000	10	100 *	200		75	1	Wideband	**OPA675J** **OPA675S** **OPA676J** **OPA676S**	**Burr-Brown (3457, 3460)** † **Burr-Brown (3457, 3460)** **Burr-Brown (3457, 3460)** † **Burr-Brown (3457, 3460)**	5
		7000	9 *	40 *	200	10	70	0	Wideband, Unity Gain Stable	HA2541-2	† Harris	
			20 *	40 *	200	10	70		Wideband, Unity Gain Stable, Fast Settling	EHA2541-5	Elantec	10
2.0	0.4	0.15	2	20	12.5	4000	95	0	Ultralow Noise, High Speed, BiFET	**AD745S**	† **AD (3512, 3528)**	
2.2	5000 *	150	25	150 *	1400 *		50	0	Low Distortion, Precision, Wide Bandwith	**AD9617A** **AD9617J**	**AD (3529)** **AD (3529)**	
									Low Distribution, Precision, Wide Bandwith	**AD9617S**	**AD (3529)**	
	45000		25	130	1800 *		44	0		**AD9618A** **AD9618J** **AD9618S**	**AD (3529)** **AD (3529)** **AD (3529)**	15
2.5			6	0.1 *	0.22 *		90 *		Single Supply Differential Amplifier	**AD626A** **AD626B**	**AD (3520)** **AD (3520)**	
			12	650	180	51 dB		0	Low Power	**OPA646**	**Burr-Brown (3460)**	20
	0.002	0.0001 *	-	0	0.2	75	50	0	Low Bias Current 0V In/0V Out	**OP80G**	**AD (3527)**	
	0.25	0.17	2 *	350 *	325 *	16	70		Ultra High Speed	LT1192C LT1192M	LinearTech † LinearTech	
	12	12	5 *	4	24	100 *	100 *	0	Quad, Precision	**OPA404KP** **OPA404KU**	**Burr-Brown (3458, 3460)** **Burr-Brown (3458, 3460)**	25
	125	35	2			250	115		Instrumentation	LM725C	National	
	200	40	5	0.3 *	0.12 *	250	94	1	Low Drift, Low Noise	AD504J	AD	
	2500			350	325	16			High Speed Wide Bandwidth	LT1192	† LinearTech	
		2500		80 *	130	20	84			**OP64G**	**AD (3530)**	
	20000		15	75	0.003		40	0	Fast Settling, Wideband	CLC201A8C	† Comlinear	30
	25000		15	40	500		60	0	High Speed, 12-Bit Settling	CLC500A8D	† Comlinear	
				110	500		60	0	High Speed, Fast Settling	CLC500	† Comlinear	
3				100	800				High Speed	LT1223	† LinearTech	
			1.3 *	0.075 *	0.015	200	68		Single Supply	LMC6041AI	National	
				0.35 *	0.07	200	70		Low Power, CMOS	LPC661AI	National	35
			20	100	1200	50			Low Cost, Low Power	CLC401-8 CLC401I	† Comlinear Comlinear	
			40	80	1200	20			Very low programmable, supply current/power (10mW–100mW)	CLC505-8 CLC505I	† Comlinear Comlinear	
			45	400	2500			0	Wide Bandwidth	**OPA644**	**Burr-Brown (3459)**	40
	0.0003	—	50	0.35	0.3	40	66	0	FET Electrometer	**AD515J**	**AD (3528)**	
				1	0.3	15000	66	0		**AD515AJ**	**AD (3528)**	
	0.003 *	0.001 *	6 *	0.4	10 *	15	65			TLE2061C TLE2061I TLE2161C TLE2161I	TI TI TI TI	45
	0.003	0.003		100 *	850	70	56		Current Feedback	LT1223C LT1223M	LinearTech LinearTech	
	0.004 *	0.002 *		0.04 *	2.6	30	72			TLE2061Y	TI	
			6 *	2 *	2	30	72	0	J-FET Low Power, High Drive	TLE2061M	† TI	50
								1	J-FET Low Power, High Drive	TLE2161M	† TI	
	0.02	0.02	1.3 *	0.35 *	0.07	200	70		Low Power, CMOS	LPC661AM	† National	
	0.020	0.020 *	25	5	20 *	400	110 *	0	High Voltage FET	3581J	Burr-Brown	
				5 *	20 *	400	110 *	0	High Voltage FET	3583	Burr-Brown (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Device

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Band-width MHz	Slew Rate V/μs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
3	0.020	0.020*	25								(Cont'd)	
				5	20*	800	110*	0	High Voltage FET	3582J	Burr-Brown	
				7*	—	1000	110*	2	High Voltage FET	3584	Burr-Brown	
	0.05*	0.003*	8*	20	15	25	80	1	FET Input, Audio Op Amp, Low Distortion, Low Noise	**OPA604**	**Burr-Brown (3458)**	
				20*	25*		100*	0	DET Input, Audio	**OPA604A**	**Burr-Brown (3458)**	
	0.05	0.01	10*	100*	100	75	74	1	Wideband, High Slew Rate	HA5160-2	† Harris	5
										HA5160-5	Harris	
		0.025	10	2	10	33		0		OPA445BM	Burr-Brown	
			40	700	750	82	76*	2	Wide Bandwidth, High Output Current	**OPA654A**	**Burr-Brown (3458)**	
							76*	2	Wide Bandwidth, High Output Current	OPA654AM	Burr-Brown	
		0.05			100		90	2		**PA84M/883**	**Apex (3544)**	10
			25	—	125*	100	130*	2	To ± 150V supply, 40mA output	**PA84**	**Apex (3544)**	
				5*	20*	100	110*	0	± 32/75Vs, ± 30mA.	**PA81J**	**Apex (3544)**	
									± 70/150Vs, ± 15mA.	**PA82J**	**Apex (3544)**	
				5	20	1000	130*	0	To ± 150V supply, 75mA output	**PA83**	**Apex (3544)**	
										PA83M/883	† **Apex (3544)**	15
				75*	25*	100	130*	2	Fast Settling, High Voltage	**PA84S**	**Apex (3544)**	
	0.1	0.025	25	40*	350	20	70	2	FET Input	EL2006A	† Elantec	
		0.05	25	4.5*	13		70	0	Wideband, High Output Current	**PA02A**	† **Apex (3545)**	
			30	—	100*	—	104*	2	to ± 50V supply, 4A output	**PA09**	**Apex (3544)**	
				150*	600	150*	100*	1	± 40 V supply, 4 A output	**PA19**	**Apex (3544)**	20
			100	4	38					**PA04**	**Apex (3545)**	
	0.2	0.05	10*	3*	13*	50	80	0	Low Noise, Bipolar JFET	TL071BC	SGS-Thomson	
				4*	13*	50	80	0	Low Noise, Bipolar JFET	TL071BC	Motorola	
										TL071BC	TI	
			15	—	25	50	82	—	Wideband, Decompensated, Settles to 0.01% in 1.6 μs	OP17C	‡ AD	25
									Wideband, Decompensated, Settles to 0.01% in 1.6 μs	OP17G	AD	
				0.2*	5	25	80	0	Bias Compensated	OP15G	LinearTech	
				12*	5	50	82	0	Bipolar-JFET, Bias Comp.	OP15C	‡ AD	
									Bipolar-JFET, Bias Compensated	OP15G	AD	
				17*	9	25	80	0	Wideband-JFET, Bias Comp.	OP16C	† LinearTech	30
										OP16G	LinearTech	
						50	82	0	Wideband-JFET, Bias Comp.	OP16C	‡ AD	
									Wideband-JFET, Bias Compensated	OP16G	AD	
		0.1	—	3	13*	50	70	0	Bipolar JFET	TL081B	Motorola	
										TL081BC	TI	35
			10*	1*	3.5*	4	80	0	Low Power, Bipolar JFET	TL061BC	SGS-Thomson	
										TL061BC	TI	
									Programmable Bipolar JFET	TL066BC	TI	
				1	3.5	4	80	1	BiFET, Low Power	TL060BC	TI	
				3*	13*	50	80	0	Bipolar JFET	TL081BC	SGS-Thomson	40
										TL088C	TI	
	0.3	0.075	10*	0.3	10	200*	85	0	2 A Power	LH0101A	† National	
										LH0101AC	National	
				4	7.5	50	85		2A Power, 5A Peak	LH0101ACK	Maxim	
										LH0101AK	† Maxim	45
								0	2 A Power	ELH0101A	† Elantec	
			10	5	7.5	50	85	0	High Output Current	LH0101A/HR	† Maxim	
	0.30	0.075	10*	4.0	10	50	85	0	2 A Power	LH0101A	† Maxim	
		75	10*	0.3	10	200*	85	0	2 A Power	LH0101AC	Maxim	
	0.5	0.05	25	40*	350	20	70	2	FET Input	EL2006AC	Elantec	50
	2	0.2	20	0.024*	25	94 dB	90		450 V, 200 mA	**PA87A**	† **Apex (3544)**	
		1	10*	3	10*	25	70	2	Wideband	MC34181	Motorola	
	4	0.5	5	100	1000	1000	0		Settles to 0.01% in 200 ns	**AM500GC**	**Datel (3570)**	
										AM500MC	**Datel (3570)**	
	5	5	5	20	35	150	100	1	Wideband, Uncompensated	SP2620	† Sipex	55
	7.5	3	—	0.25*	0.16*	100	70	0	Programmable	LM4250	† National	
	10	1000	50	1	500	300	80	2	High Slew Rate	MA207	AnalogSys	
	15	5	5	12	7	150	100	0	Wideband	SP2600	† Sipex	
		15	15	35*	25	100	80	1	Wideband, General Purpose	AD507K	AD	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units

(Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
3	20	5	—	0.85 *	0.55	80	80	0	Low Power, Radiation Resistant	HS3530RH	‡ Harris
		10	40	1 *	1.8 *	63	74	0	±45Vs, ±10A, 97W.	**PA61A**	**Apex (3545)**
				4 *	2.5	70	74	0	to ±50V supply, 15A output	**PA12A**	**† Apex (3545)**
				4	2.5	316	100	0	High Current (15A), High Power	OPA512S	† Burr-Brown
				6 *	2.5	70	74	0	to ±50V supply, 5A output	**PA10A**	**† Apex (3545)**
	26	5	10	16	27	100	80	0		LF400C	National
	50	10	5.5 *	6	2	50	80	0	Four Channel Multiplexed Input	LM604AC	National
	80	10	5.5 *	6	2	50	80	0	Four Channel Multiplexed Input	LM604C	National
										LM604I	National
		30	—	1 *	0.6	50	80	0	To 500 mA, Single Supply	µA759M	† National
			15	0.4	0.3	50	80	0	General purpose	LM741E	SGS-Thomson
									Higher Performance	LM741A	† National
										LM741E	National
	100	100	—	10	22	30	80	1	High Slew Rate, Wideband	HS3516RH	‡ Harris
	150	30	10	1 *	0.6 *	25	80			LM759M	† National
	200	50	20	1 *	0.5 *	50	80	0	Higher Accuracy 741C	AD741J	AD
		75	3	10	6	1000 *	80	1		HA5101-2	† Harris
										HA5101-5	Harris
										HA5101-9	Harris
					40	1000 *	80	1		HA5111-2	† Harris
										HA5111-5	Harris
										HA5111-9	Harris
			10	6	6	1000	80	0	Low Noise, Wideband	HA5101	† Harris
				100	40	1000	80	1	Low Noise, High Slew Rate	HA5111	† Harris
	300	50		3.5	1.6				741 General Purpose	RC4741	Raytheon
		100	3 *	1 *	1.5	100	70	1	0.1 A Power	ELH0041	† Elantec
				20 *	1.5	100	70	1	0.2 A Power	LH0041	† National
			25	0.015	3 *	100	70		High Power, High Current	52063	Micropac
										52106	Micropac
				0.02	1.5	100	70	1	1 A Power	ELH0021	Elantec
				1 *	1.5	100	70	1	1 A Power	LH0021	† National
	500	500		10 *	100		60		Low Power	LT1217C	LinearTech
	1000	200	10	40	20	100	70	0	Low Noise, Wideband	MA322	AnalogSys
		500	14	50	250	30	80	0	Lower Power HA2541	**HA2841**	**† Harris (3637)**
	2000		8 *	90	1000 *		60		High-Speed, Current Feedback	**OP160F**	**‡ AD (3530)**
		200	4 *	10 *	—	20	70	0	General Purpose Wide Bandwidth	LH0003	† National
			4	10 *	—	20	70	0	General Purpose Wide Bandwidth	LH0003C	National
	3000	350	3 *	575	200	7.5	88		High Speed	LM6165	† National
										LM6265	National
	5000		5 *	16 *	1000		60 *		Video	**AD810A**	**AD (3529)**
										AD810S/883B	**AD (3529)**
				40 *	400 *		60 *	1		**AD811J**	**AD (3529)**
									High Performance	**AD811S/883B**	**† AD (3529)**
	6000	800	10	4.5	225	0.3	74		High Slew Rate	LH4161A	† National
3 *	10000 *		20 *	150 *	1200 *		50 *	0	Wideband, Fast-settling	CLC401	† Comlinear
3	10000	500	13	80	250	30K	85	1	High Current	**HA2842**	**† Harris (3637)**
		1000	13 *	5.2	325	50	80		High Slew Rate	HA2842-5	Harris
										HA2842-9	Harris
			14 *	3.2	200	25	80		Fast Settling	**HA2841-5**	**Harris (3637)**
										HA2841-9	**Harris (3637)**
	13000	30	-	1460	600	47	70	1		**AD5539**	**† AD (3529)**
		1000		110 *	600 *	250	70	1		5539	† Philips
				220	600		85 *	0		**AD5539S**	**† AD (3529)**
	25000		20	85	800		60	0	High Speed, Output Clamping	CLC501A8D	† Comlinear
3 to 16	0.001 *	0.001 *	5 *	2.3 *	4.5 *	10	70	1	Programmable, High Bias	TLC271C	TI
3.0	500		5	40	400		60	1		**AD811S**	**AD (3529)**
	5000		5 *	40	400		60 *	1		**AD811A**	**AD (3529)**
3.5			11	70	3400	50			Overdrive Protected 100Ma output current	CLC206AI	Comlinear
										CLC206A8	† Comlinear
				100	2400	50			Low Distortion	CLC207-8	† Comlinear
										CLC207I	Comlinear
									Overdrive Protected Low Power	CLC205AI	Comlinear
										CLC205A8	† Comlinear

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devic

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
3.5	0.015	—	75	1*	3	20	70	0	High Accuracy, FET	AD506J	AD	
	0.1	20	15	2.5 *	5	50	85	0	Bipolar JFET	LF155	† LinearTech	
				5 *	9	50	85	0	Wideband JFET	LF156	† LinearTech	
	4	2	10 *	3	10 *	25	70	2	Wideband	MC33181	Motorola	
	12	2.5	6 *	—	0.04 *	25	80	1	Micropower	CA3078A	Harris	5
	25	4	15 *	0.80 *	0.55	100	80		Adjustable Reference	LM611AI	National	
										LM611AM	† National	
3.5 *	3000 *		11 *	170 *	2400 *		60 *	0	Overdrive Protected	CLC205	† Comlinear	
3.5	3000		11	170	2400	± 7 to ± 50	60	0	Low Distortion	CLC207	† Comlinear	
3.5 *	4000 *		11 *	180	3400 *		60 *	0	Overdrive Protected	CLC206	† Comlinear	10
4			3	40	1100	10			Voltage Feedback, Low Gain	CLC420-8	† Comlinear	
		10			30 *	80 dB	80	1		TAF1453	Siemens	
		100			18 *	85 dB	80			TAA762	Siemens	
	0.01	0.005		4	10	32	90			CA5130A	Harris	
										CA5160A	Harris	15
	3	—	12	20 *	30 *	—	70	0	Unity Gain, Noninverting	SFC2110M	SGS-Thomson	
	10	10	5 *	12 *	4	100	80	0	High Impedance	HA2600-2	Harris	
	15	15	5 *	100 *	25	100	80	1	Wide Band, High Impedance	HA2620-2	Harris	
			20	35 *	20	100	80	1	Wideband, General Purpose	AD507S	† AD	
	25	12	15 *	4	3	100	80			HA2640-2	† Harris	20
				4 *	5 *	100	80	0	High Voltage	HA2640	† Harris	
	30	2	5	—	—	40	80	0	Op Amp and Voltage Reference	LM10CL	LinearTech	
										LM10CL	National	
						80	90	0	Op Amp and Voltage Reference	LM10C	LinearTech	
										LM10C	National	25
	100	10	20	12	30	30	90	0	High Slew Rate Offbeat Compensation	SP2500	† Sipex	
										2500	‡ Sipex	
										2502	‡ Sipex	
										2505	‡ Sipex	
					65	15	90	0	High Slew Rate Offset Compensation	SP2510	† Sipex	30
										2510	‡ Sipex	
										2512	‡ Sipex	
										2515	‡ Sipex	
				20	120	15	90	0	Offbeat Compensation	2520	‡ Sipex	
										2522	‡ Sipex	35
										2525	‡ Sipex	
								1	High Slew Rate, Uncompensated	SP2520	† Sipex	
	200	50	15	12 *	10	50	80	0	High Speed, Fast Settling	AD518K	AD	
			20	12 *	10	50	80	0	High Speed, Fast Settling	AD518S	† AD	
		100	5	0.6	0.25		95			NE5230	ℓ Philips	40
										SA5230	ℓ Philips	
	250			15	50	25			High Speed	LM118	† LinearTech	
		50		4	6	50	100	0	Four Input Programmable Amplifier	EHA2405A	Elantec	
			—	15 *	50	50	80	0	Precision High Speed	LM118	‡ National	
										LM218	National	45
										LM118	Rochester	
										LM118	† SGS-Thomson	
										LM218	SGS-Thomson	
										LM218	TI	
									Precision High-Speed	LM118	† TI	50
	500	75	10 *	4.5 *	13 *	25	70	1	High Performance, Single Supply	MC33071	Motorola	
										MC34071	Motorola	
										MC35071	† Motorola	
		150	42	0.5	18	440	76	0		SG1173	† Linfinity Micro	
	700	100	10	—	—	25	70	1	40mA Output	MA342	AnalogSys	55
			25	—	9 *	18	70	1	General Purpose, OC Output	SFC2761M	† SGS-Thomson	
										SFC2861M	† SGS-Thomson	
	1500	300	—	10 *	6 *	25	70	1	Low noise, Comp. for G = 3	XR5534	Exar	
										XR5534A	Exar	
										XR5534C	Exar	60
										RC5534	Raytheon	
										RC5534A	Raytheon	
				10	13	25	70	1	Low Noise, High Performance	NE5534	TI	
										NE5534A	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
											(Cont'd)
4	1500	300	5 *	10 *	13 *	100 *	100 *	1	Wideband, Low Noise	NE5534	Philips
										NE5534A	Philips
										SA5534	Philips
										SA5534A	Philips
	3000	350	6 *	140	200	1.8	86		High Speed	LM6164	† National
										LM6264	National
	30000	5000	20 *	70 *	400	4	60 *	3	High Slew Rate	LH0024	† National
4 to 16	0.001 *	0.001 *	5 *	2.3 *	4.5 *	10	70	1	Programmable, High Bias	TLC271M	† TI
4.5	0.03	0.015	7	0.30	0.01	100	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD1706	† AdvLinear
		0.025	7	0.4	0.33	32	65	0	CMOS, Rail-to-Rail Single/Dual 5V Supply	ALD1701	† AdvLinear
	0.030	0.025	7	1	1.4	50	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD1702	† AdvLinear
	0.85	0.025	7	2.1	5	70	70	0	Rail-to-Rail	ALD1704	† AdvLinear
	100	2		1.8	2.1	50	80		Low Power, Single Supply	MC35171	† Motorola
		50	10	1.8	2.1	50		0	Low Power, Single-Supply	MC33171	Motorola
	170	32	6 *	—	0.04 *	25	80	1	Micropower	CA3078	† Harris
	22000		50	90	1000		45	0	Very Wideband, Low Distortion	CLC409AM	† Comlinear
										CLC409A8D	† Comlinear
5	-1500	50	10 *	3.5	8	25	70			TL33071	TI
										TL34071	TI
										TL35071	TI
	0.001	0.0005	5	0.7 *	0.3	40	76	0	Precision, Low Drift FET	AD545L	AD
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	30	60	1	Programmable, Low Bias	TS271AC	SGS-Thomson
							70	1	Programmable, Low Bias	TLC251AC	TI
										TLC271AC	TI
										TLC271AM	TI
			5 *	2.3 *	4.5 *	10	70	1	Programmable, High Bias	TLC271AC	TI
										TLC271AM	TI
	0.001	0.05		0.5	0.5	18	85			CA5420A	Harris
	0.003	0.002	4 *	0.5 *	0.5 *	20	70	0	Low Supply Voltage	CA3420A	† Harris
	0.005	0.001	0.7 *	2.2	5.3	7	70	0	LinCMOS, Programmable	TLC271AI	TI
	0.01	0.0005	0.05	2	2.5 *		130 *	0		ICL7650M	† Maxim
	0.015	0.004	20 *	5	160	15	74	0		HA5190-2	† Harris
	0.02	0.01	30	2	50				High Power	**PA04A**	**Apex (3545)**
		0.02	30	0.36	80		86			**PA05A**	**Apex (3545)**
		300 *	25	150 *	250	30	70	1	Ultra High Speed, Wideband	**AM1435M**	**Datel (3570)**
										AM1435MC	**Datel (3570)**
	0.03	0.02	6 *	4 *	10 *	50	80	0	MOS-Bipolar	CA3160A	† Harris
	0.030	0.02	10 *	4 *	10 *	50	80	1	MOS, Single Supply, Strobe	CA3130A	† Harris
	0.04	0.02	4 *	0.063 *	0.03 *	10	70	0	Nanopower BIMOS	CA3440A	Harris
			6 *	4.5 *	9 *	20	70	0	MOSFET, Single Supply	CA3140A	Harris
	0.05			40 *	400					CLM4132	Calogic
			25 *	140 *	1000			0	Buffer Amplifier	EL2005	† Elantec
		0.002 *	10	35 *	100	78	92 *	0	Wide Bandwidth, Fast Settling	**OPA671A**	**Burr-Brown (3457, 3459)**
										OPA671AP	**Burr-Brown (3457, 3459)**
			10 *	35	107 *	80 *	92 *		Wide Bandwidth, Fast Settling	**OPA671**	**Burr-Brown (3457, 3459)**
		0.03	15 *	0.044 *	1.6 *	80	70	0		ICL7611B	Harris
										ICL7612B	Harris
				0.48 *	0.16 *	10	70	1	Low Power	ICL7614BC	Maxim
										ICL7614BM	† Maxim
				1.4 *	1.6 *	6	70	0	CMOS, Low Power, Programmable Low Bias	ICL7611BC	Maxim
										ICL7611BM	† Maxim
									Programmable Bias, Extended CMVR	ICL7616BC	Maxim
										ICL7616BM	† Maxim
						10	70	0	Programmable Bias, Extended CMVR	ICL7612BC	Maxim
										ICL7612BM	† Maxim
			25 *	1.4 *	1.6 *	6	70	0	Programmable Bias, Extended CMVR	ICL7616DC	Maxim
										ICL7616DM	† Maxim
						10	70	0	Programmable Bias, Extended CMVR	ICL7612DC	Maxim
										ICL7612DM	† Maxim

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devic

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
5											(Cont'd)	
	0.1	0.02	5 *	—	—	50	85	—	Wideband Decompensated	PM157	† AD	
										LF357B	Motorola	
				2	30	25	80	1	JFET Input	LF157	† SGS-Thomson	
				2.5	5 *	25	80	1	JFET Input	LF155	† SGS-Thomson	
				2.5 *	5 *	50	85		Monolithic, JFET Input	LF355B	National	5
								0	Bipolar JFET	LF155	† National	
									Bipolar-JFET	LF255	National	
				5	7.5	25	80	1	JFET Input	LF156	† SGS-Thomson	
				5 *	7.5 *	50	85	0	Wideband-JFET	LF156	† National	
										LF256	National	10
										LF356B	National	
					7,5 *	50	85	0	Wideband JFET	PM156	† AD	
									Wideband-JFET	LF356B	Motorola	
										LF156HRH	‡ National	
				20 *	30	50	85	—	Wideband Decompensated	LF157	† National	15
										LF257	National	
										LF357B	National	
		0.025	25 *	70 *	350	1	50	2	Ultra Fast-FET	ELH0032	† Elantec	
			50	70	350		50		Ultra Fast FET	LH0032	Calogic	
										LH0032	National	20
			50 *	70 *	500 *	3	70	2		EL2006C	Elantec	
		0.04	15 *	2 *	10 *		95 *	0	High Voltage FET-Input	OPA445A	Burr-Brown	
		0.05	10 *	0.6	0.6	25	70	0	Low Power-BIFET	LF441	National	
			10	2	0.6	25	70		Low-Power J-FET Input	LF441C	Motorola	
			10 *	3 *	13 *	50	80	0	Bipolar-JFET	µA771BC	National	25
										µA771BM	† National	
				4 *	13 *	50	80	0	Precision-BIFET	MC35001B	† Motorola	
			80	150	400	10	60	3	Fast Settling, Wideband	**OPA600U**	**Burr-Brown (3460)**	
			100	150	400	10	60	3	Fast Settling, Wideband	**OPA600U/883B**	† **Burr-Brown (3460)**	
	0.10	0.025	25 *	70 *	350	1	50	2	Ultra Fast-FET	LH0032AC	† National	30
	0.15		50	20	500	20	70	1	Hybrid, Wideband, Fast Settling	AH0605	† OEI	
	0.2		5 *	2	5				High Voltage, High Current	OPA502	Burr-Brown	
		0.025	3 *	1 *	0.3 *	25	96	0	Precision Bipolar	LM11CL	National	
						50	110	0	Precision, Low Input Current	LM11L	Motorola	
		0.1	10	2.7	8	50	80			LF451C	National	35
			10 *	4 *	13 *	50	80	0	Precision-BIFET	MC34001B	Motorola	
			30	4 *	13 *	50	80	0	JFET Input, High Speed	LF351B	SGS-Thomson	
	0.25	0.05	8 *	0.6	40	100	80		High Speed, Fast Settling	**OP42G**	**AD (3526, 3528)**	
		0.17	8 *	90 *	325 *	6	60		Ultra High Speed	LT1191C	LinearTech	
										LT1191M	† LinearTech	40
	2		25 *	34 *	650 *	1.1			Precision Video Buffer	MAX405C	Maxim	
	3.5	4	15 *	0.80 *	0.50	94	75		Adjustable Reference	LM611BI	National	
	7.5	3	—	1 *	0.1	20	70	0	Multi-Purpose, Programmable	µA776M	† SGS-Thomson	
	10		100	50 *	300 *	70 *	80 *	0	Video with Multiplexer	MAX452C	Maxim	
										MAX453C	Maxim	45
										MAX454C	Maxim	
										MAX455C	Maxim	
		6	—	0.25 *	0.16 *	50	70	0	Programmable	LM4250C	† National	
	15	15	5 *	0.32	20	80	74	1		HA2622-2	† Harris	
										HA2625-5	Harris	50
										HA2625-9	Harris	
	20	3	—	1 *	2 *	100	80	0	High Voltage	SG1536	† Linfinity Micro	
										MC1536	† Motorola	
										LM1536	† National	
			40	1 *	1.5	60	80	0	Output 26V@10A	OPA501B	Burr-Brown	55
										OPA501S	† Burr-Brown	
				1*	1.5	98	80	0	Output 32V@10A	**PA51A**	† **Apex (3545)**	
										PA51M/883	**Apex (3545)**	
			100	0.02 *	2.5 *	100	80		High Voltage	LM143	National	
								1	High Voltage	LM144	† National	60
	25	25	5 *	12	4	80	74	0	Wideband, High Impedance	HA2602-2	† Harris	
										HA2605-5	Harris	
										HA2605-9	Harris	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
										(Cont'd)		
5	25	25	10 *	12 *	4	80	74	0	High Impedance	HA2602 HA2605	† Harris Harris	
			15 *	100	20	80	74	1	Wide Band, High Impedance, Gain ±5	HA2622 HA2625	† Harris Harris	
			30 *	70	20	80	100 *			1321	TeledyneC	5
	35	4	15 *	0.80 *	0.50	94	75		Adjustable Reference	LM611C LM611I LM611M	National National † National	
		7	40	1	1.35	100	80		High Current, High Power	OPA501V OPA501V/883B	† Burr-Brown † Burr-Brown	10
	50	15	—	—	0.8 *	50	70	0	Programmable	MC1776	SGS-Thomson	
				0.2	0.35	50	70	0	Programmable Low Power	MC1776	† Motorola	
	100	20	10	2.5 *	18 *	25	80	0	High Speed	OP01C OP01G	‡ AD † AD	
		25	20	0.8	0.25	25	70	0	Dual Matched	OP14B	† AD	15
				1.3	0.25	25	70	0		OP02D	AD	
		100	—	1 *	0.4 *	50	70	0	Programmable	XR146	† Exar	
	150	30	—	—	—	50	70	0	Single Supply	TL321I	TI	
	160	40		0.75 *	0.16	40	86			GC810	Gennum	
	200	25	10 *	20	135	15 *	80	1	High-Speed, High Output Current	HA2529	† Harris	20
			20 *	12	25	20	80	0	High Slew Rate	EHA2500	‡ Elantec	
				12 *	25	20	80	0	High Slew Rate	HA2500	† Harris	
		50	20 *	8 *	15 *	50	80	1	Four Addressable Inputs, Single Amplifier	HA2400 HA2404	† Harris Harris	
	500		100	50 *	300 *	70 *	80 *	0	Video with Multiplexer	MAX452M MAX453M MAX454M MAX455M	† Maxim † Maxim † Maxim † Maxim	25
		200	—	—	—	20	70	0	General Purpose	IR3741	Sharp	
					0.5 *	50	70	0	General purpose	LM741	SGS-Thomson	30
								1	Uncompensated 741	LM748	SGS-Thomson	
				1 *	0.3 *	50	70	1		µA748M	† TI	
			—	1	0.5	50	70	0	Bipolar, General Purpose	µA741I µA748I	TI TI	
				1 *	0.5	50	70	0	General Purpose Compensated	CA741	Harris	35
					0.5 *	50	70	0	General Purpose Compensated	µA741M	† TI	
			—	1 *	0.5	50	70	0	High Performance	µA741M	† SGS-Thomson	
								1	General Purpose	LM748M	† SGS-Thomson	
				1.0	0.5	50	94			LM741	Harris	
			3 *	0.5 *	0.25 *	25	70	3	General Purpose	LM709	† National	40
				1 *	0.5 *	50	70	0	General Purpose Compensated	AD741 PM741 SG741 MC1741 µA741M RM741	† AD AD † Linfinity Micro † Motorola † National † Raytheon	45
									General Purpose, Compensated	KA741	Samsung	
								1	General Purpose, Uncompensated	LM101 LM101	† National Rochester	
									Uncompensated 741	LM748 LM748C	† National National	50
				1	1	45 *	70	3		µA709M	† TI	
				1.5 *	0.5 *	20	70	0	General Purpose Compensated	LM741	† National	
				5 *	0.3 *	12	80	3	General Purpose	SFC2709M	† SGS-Thomson	
			4 *	30 *	0.7 *	20	70	2	Programmable	CA3094A CA3094B	† Harris † Harris	55
			10 *	0.5 *	35 *	100 *	90 *	1	High Slew Rate, High Performance	SE531	† Philips	
				1	0.5 *	200 *	90	0		µA741	Philips	
	750	250			15	10	74		High-Speed	LM715M	† National	
			6 *	65 *	15	15	74	3	High Speed High Gain	µA715M	† National	60
										(Continued)		

† Mil Temp Range (-55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
5											(Cont'd)	
	1000	300	20	30	15	50	90	0	Precision, Audio; High Linearity	MA332	AnalogSys	
				45	20		90		Audio Op-Amp	MA332C	AnalogSys	
									Audio Op-Amp	MA332M	† AnalogSys	
	1000 *	5000 *	50	—	8000	50	60	0	200 MHz –3db bandwidth, G = 1–40	CLC220AI	Comlinear	
									200 MHz –3db bandwidth, G = 1–40; settles to 0.02% in 15 ns.	CLC220AM	† Comlinear	5
	2000	400	—	38 *	25 *	0.6	76	1	Large Signal Wideband	CA3100	† Harris	
										L3100	† SGS-Thomson	
	2500			90	325	6			High Speed, Wide Band-Width	LT1191	† LinearTech	
	3000		10 *	90	1000 *		60		High-Speed, Current Feedback	**OP160G**	‡ **AD** (3530)	
		350	7 *	80	200	1000	83		High Speed	LM6162	National	10
										LM6262	National	
	5000		5 *	35	375		50		Current Feedback Amplifier, 100 MHz	LM6181AI	National	
										LM6181AM	† National	
		600		2	50		80			CA3080	Harris	
										CA3080E	Harris	15
										CA3080M	† Harris	
										CA3080S	Harris	
	5000 *	1000 *	20 *	90 *	180	10 *	70	0		EL2041C	Elantec	
	5000	20000	8	100	1000	N/A	60	0	Current-Feedback	**OPA603**	**Burr-Brown** (3459)	
	6000 *	3000 *	50	—	4000	50	60	0	100 MHz –3db bandwidth, G = 1–40	CLC200AI	Comlinear	20
									100 MHz –3dB bandwidth, G = 1–40; settles to 0.02% in 25 ns.	CLC200AM	† Comlinear	
	10000		25		4500*	10*	40*	0	150 MHz –3dB bandwidth, up to 4 A output.	**WA01A**	**Apex** (3544)	
		1000	40	1000	700 *	1000	50 *			EL2070C	Elantec	
	12000			70	500					CLM4124	Calogic	
	15000		30	300	900		45	0	Low Power, Current Feedback	**HFA1105**	**Harris** (3637)	25
									Low Power, Current Feedback, V Clamps	**HFA1135**	**Harris** (3637)	
									Low Power, I Feedback, V Clamps, Enable	**HFA1145**	**Harris** (3637)	
						1000	45	0	HFA1105 w/ Compensation Pin	**HFA1106**	**Harris** (3637)	
				350 *	1100 *	1000	45	0	Selectable Gain of 2, 1, or –1	HFA1115	† Harris	
		4000	20 *	150	100	15	74	2	Wideband, Fast Settling	HA5190	† Harris	30
	20000	—	10	—	800	250	70	1		NE5539	Philips	
			40	35	430		45	0	Fast Settling Video	CLC410AM	† Comlinear	
										CLC410A8D	† Comlinear	
				150	430		45	0	Fast Settling, Wideband	CLC400A8D	† Comlinear	
			100	100	2000		58	0	Wideband, Low Distortion	CLC560A8C	† Comlinear	35
				135	2900		54	0	Wideband, Low Distortion	CLC561A8C	† Comlinear	
		2000		220	600		85 *	0		**AD5539J**	**AD** (3529)	
		3000		120	330 *	250	70	1		SE5539	† Philips	
	22000		50	140	2000		46	0	Wideband, High Slew Rate	CLC404AM	† Comlinear	
										CLC404A8D	† Comlinear	40
	25000		50	150	2000		46	0	Wideband, High Slew Rate	CLC404	† Comlinear	
5.5		15			30 *	78 dB	75	1		TAE1453	Siemens	
		200			18 *	80 dB	75			TAA765	Siemens	
	25000		40	140	430	80	40		Wideband	Si582	Siliconix	
				150	430		40	0	Fast Video with Disable	CLC410	† Comlinear	45
6			1.3 *	0.075 *	0.010	100	62		Single Supply	LMC6041I	National	
				0.35 *	0.05	100	63		Low Power, CMOS	LPC661I	National	
	0.015	0.004	20 *	5	160	10	74	0		HA5195-5	Harris	
	0.025	0.002	15	1 *	1	75	70	0	High Performance FET	LH0022C	National	
	0.035	0.03	6 *	35 *	350		65		Video Difference	LT1194C	LinearTech	50
										LT1194M	† LinearTech	
	0.2	0.05	10 *	3 *	13 *	25	80	0	Low Noise, Bipolar JFET	TL071I	SGS-Thomson	
						35	80	0	Low Noise, Bipolar JFET	TL071M	† SGS-Thomson	
						50	80	0	Low Noise, Bipolar JFET	TL071AC	SGS-Thomson	
					13	50	80	0	Low Noise Bipolar JFET	TL071M	† TI	55
				4 *	13 *	35	80	0	Low Noise Bipolar JFET	TL071M	† Motorola	
						50	80	0	Low Noise Bipolar JFET	TL071AC	Motorola	
										TL071AC	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
6	0.2	0.1	—	3	13 *	50	70	0	Bipolar JFET	TL081A	Motorola	
										TL081AC	TI	
			10 *	1	3.5	4	80	0	BiFET, Adjustable, Low Power	TL066I	TI	
									BiFET, Low Power	TL061I	TI	
				1 *	3.5 *	4	80	0	Low Power, Bipolar JFET	TL061AC	SGS-Thomson	5
										TL061I	SGS-Thomson	
										TL061M	† SGS-Thomson	
				1	3.5	4	80	1	BiFET, Low Power	TL060I	TI	
				1 *	3.5 *	40	80	0	Low Power Bipolar JFET	TL061AC	TI	
										TL061M	† TI	10
								1	Low Power Bipolar JFET	TL060AC	TI	
				3	13	50	80	0	BiFET, General Purpose	TL081I	TI	
									BiFET, Low Noise	TL071I	TI	
				3 *	13 *	50	80	0	Bipolar JFET	TL081AC	SGS-Thomson	
										TL081I	SGS-Thomson	15
										TL081M	† SGS-Thomson	
								1	BiFET, General Purpose	TL080AC	TI	
			10	3	13	200	86		BIFET, General Purpose	TL081M	† TI	
			10 *	4 *	13 *	25	80	0	JFET Input	TL081M	† Motorola	
	0.3	0.1	10 *	1 *	3.5 *	4	80	0	Programmable Bipolar JFET	TL066AC	TI	20
	10	6	—	1 *	0.1	50	70	0	Multi-Purpose, Programmable	µA776C	SGS-Thomson	
	25	25	15 *	35 *	20	80	74	1	Wideband, General Purpose	AD507J	AD	
	30	30	15 *	4	2.5	100	74			HA2645-5	Harris	
				4 *	5 *	100	74	0	High Voltage	HA2645	Harris	
			65	1 *	1.8 *	63	74	0	±45Vs, ±10A, 97W.	**PA61**	**Apex (3545)**	25
										PA61M/883	**† Apex (3545)**	
				4	2.5	5	74	0	to ±41 V supply, 5 A output	**PA12H**	**Apex (3545)**	
				4 *	2.5	70	74	0	to ±45V supply, 5A output	**PA12**	**Apex (3545)**	
										PA12M/883	**† Apex (3545)**	
				4	2.5	316	100 *	0	High Current (10A), High Power	OPA511B	Burr-Brown	30
				6 *	2.5	70	74	0	to ±45V supply, 5A output	**PA10**	**Apex (3545)**	
										PA10M/883	**Apex (3545)**	
	50	25	—	—	0.8 *	20	70	0	Programmable	MC1776C	SGS-Thomson	
			15 *	1 *	0.2	50		0		MC3476	Motorola	
	75	20			0.6		74		Programmable Micropower	**NJM4250**	**NJR (3704)**	35
	100	20	20	125	400	200	60		Fast Settling, Wideband	**OPA600C**	**Burr-Brown (3460)**	
										OPA600T	**† Burr-Brown (3460)**	
	200	0.1	10 *	3	13	50	80	1	BiFET, Low Noise	TL070I	TI	
	250	50	—	1 *	0.5	25	80	0	To 500 mA, Single Supply	µA759C	National	
			10	1	0.5	25	70			LM759C	National	40
	400	0.1	10 *	3	13	25	80	1	BiFET, Low Power	TL080I	TI	
	500	200			0.5		70		Precision High-Speed	NJM741	NJR	
			—	—	0.5 *	20	70	0	General Purpose	LM741C	SGS-Thomson	
					3 *	80 *	80 *			NJM2107F	NJR	
				0.6	0.5		70			SG2173	† Linfinity Micro	45
			—	1	0.5	20	70	0	General Purpose, Compensated	KA741C	Samsung	
				1 *	0.5	20	70	0	High Performance	µA741C	SGS-Thomson	
								1	General Purpose	LM748C	SGS-Thomson	
						20–50	70	0	General Purpose Compensated	AD741C	AD	
										PM741C	AD	50
										CA741C	Harris	
										SG741C	Linfinity Micro	
										MC1741C	Motorola	
										µA741C	National	
										LM741C	National	55
										µA741C	TI	
					0.5 *	20–50	70	1	General Purpose	MC1748C	Motorola	
										µA748C	National	
										µA748C	TI	
				1.0	0.5	20	86			LM741C	Harris	60
			10 *	1 *	0.25	100	90	2	High Gain, Instrumentation, 50 mA Output	LH0020C	National	
					0.5 *	20	—	0	Automotive Temperature Range (–40°C to 85°C)	SA741C	Philips	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devic

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
6	500	200									(Cont'd)	
			10	1	0.5	200 *	90	0		µA741C	Philips	
			15 *	0.2 *	0.2 *	20	70	0	High Power	µA791	SGS-Thomson	
			30	1 *	1 *	100	70	0	1 amp Power	LH0021C	National	
			5 *	1 *	1	100	70	1	0.2 amp Power	LH0041C	National	
		300	10 *	12 *	50	25	70	0	High Speed, Fast Setting	AD518J	AD	5
	650	35	20	100	90	10	70	1	High Speed, Fast Settling	MAX408C	Maxim	
										MAX408M	† Maxim	
	700	200	2	0.5	18	25	70	0		SG3173	Linfinity Micro	
	1000	200	6	1 *	9 *	10	70	1	General Purpose	SFC2861AM	† SGS-Thomson	
		300	6 *	—	9 *	12	65	1	General Purpose, OC Output	SFC2761C	SGS-Thomson	10
	1200	500	5 *	4 *	100 *	10	70	2	Gated	ZN424	GEC Plessey	
	1500	200	10 *	0.5 *	35 *	20	70	1	High Slew Rate, High Performance	NE531	Philips	
	3500			350	350				High Speed, High Output Drive	LT1194	† LinearTech	
	5000	1500	3 *	500	200	5.5	80		High Speed	LM6365	National	
	6000	1900	10	4.5	200	0.35	70		High Slew Rate	LH4161C	National	15
	10000		60	95	1200		45	0	Wideband, Low Power	CLC406AM	† Comlinear	
										CLC406A8D	† Comlinear	
	12000		5	600	2500		60	0	Clamped Output	**HFA1130**	**† Harris (3637)**	
									G ± 1 or 2 Buffer	**HFA1110**	**† Harris (3637)**	
									Ultra-High Speed	HFA1100	† Harris	20
										HFA1120	**† Harris (3637)**	
	15000	4000	20 *	150 *	160	10	74	0	Wideband, Fast Settling	EHA5195	Elantec	
				150	160	15	74	2	Wideband, Fast Settling	HA5195	† Harris	
		6000	100	300	420	230	45	0		HFA0005	Harris	
		18000	50	350	1000	200	47	0		HFA0001	Harris	25
	20000		50	65	800		50	0	Fast Settling, High Gain	CLC401AM	† Comlinear	
										CLC401A8D	† Comlinear	
6.0	0.25	0.05	8 *	10 *	40	500	80	0	Ultra-low distortion	SSM2131	AD	
6.5	2000		25	125	450	1			Precision Video Buffer	MAX405	Maxim	
7	0.001	0.1	210 *	150	1300				Wide Bandwidth	**OPA622A**	**Burr-Brown** **(3460)**	30
	250	50		0.3		100 *	85 *			TA75S01F	Toshiba	
	400	75	5 *	—	—	3	60	0	150mA Output	IR91308	Sharp	
							63	0	250 mA Output, Electronic Shutdown	LM13080	National	
	2800 *	300	10 *	60	250	15	70	0		EL2044C	Elantec	
	3000	350	10 *	40	200	550	80		High Speed	LM6161	† National	35
										LM6261	National	
	6000	75	5 *	—	1.6	3	63	0	400 MHz, Electronic Shutdown	MA324	AnalogSys	
	10000		5 *	35	375		50		Current Feedback Amplifier, 100 MHz	LM6181I	National	
7.5	7	—	10 *	20 *	30 *	—	70	0	Unity Gain, Noninverting	SFC2310	SGS-Thomson	
		1	30	1 *	0.3 *	25	80	0	Micropower, Supply Current 800 µA	LM312	National	40
								1	Precision Bipolar	LM308	National	
										LM308	SGS-Thomson	
	250	50	6	1	7.5	15	70	1	High Performance	LM301A	TI	
			30		0.1	25	70			LM301A	LinearTech	
				1 *	0.5 *	25	70	0	General Purpose, Compensated	LM307	LinearTech	45
										SG307	Linfinity Micro	
										LM307	Motorola	
										LM307	National	
			30 *	1	0.5	25	70	0	High Performance	LM307	Rochester	
										LM307	TI	50
			30	1 *	0.5 *	25	70	1	General Purpose Uncompensated	SG301A	Linfinity Micro	
										LM301A	Motorola	
										LM301A	National	
										LM301A	SGS-Thomson	
	1000	500	5	1	1	100	70			LH4141C	National	55
	1500	250			10	10	74		High-Speed	LM715C	National	
			6	65 *	10	10	74	3	High Speed	µA715C	National	
		500		1	0.3 *	15	65	3	Bipolar, General Purpose	µA709C	TI	
			6 *	1 *	0.25 *	15	65	3	General Purpose	LM709C	National	
					0.5 *	20	65	1	General Purpose	LM201	National	60
	50000	5000		32	140		80	0	Track and Hold	**SHC605**	**Burr-Brown** **(3471)**	
8			1 *	1.3 *	1000	300	66			LMC6081I	National	
	0.2	0.05	25		2.5	40	80			LF355	LinearTech	
										LF356	LinearTech	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source		Line
											(Cont'd)		
8	2	1	15 *	35 *	50 *	2000	60		Video Driver, Processing	LT1195C	LinearTech		
	3		20000 *	60 *	500 *	10	70 *		Video	MAX404C	Maxim		
	40	10	100	20 *	2.5 *	70	70	1	High Voltage	LM344	National		
			200	0.02 *	2.5 *	70	90		High Voltage	LM343	National		
	200	25	20 *	1 *	50	10000	80	0	High Slew Rate	HA2510-2	† Harris		5
			20	10	100	10000	80		High Slew Rate	HA2520-2	† Harris		
			20 *	12	50	10	80	0	High Slew Rate	EHA2510	‡ Elantec		
				12 *	50	10	80	0	High Slew Rate	HA2510	† Harris		
				20 *	100	10	80	1	100 v/µs, Gain = 3	HA2520	† Harris		
				20	100	10	80	2	High Slew Rate	EHA2520	‡ Elantec		10
			30	20 *	100	10	80	1	High Speed, Fast Settling	AD509K	AD		
										AD509S	† AD		
	250	50	—	1	0.5 *	25	70	0	Power Op Amp	µA77000	National		
			10	1 *	0.5 *	25	70			LM77000C	National		
			20 *	12	20	15	74	0	High Slew Rate	EHA2502	‡ Elantec		15
										EHA2505	Elantec		
				12 *	20	15	74	0	High Slew Rate	HA2502	† Harris		
										HA2505	Harris		
	8000		20	100	600		60	0	Low Cost	HA5020	† Harris		
	12000	2000		190 *	1500	200	52		Voltage Feedback, Wideband	**AD9623A**	**AD**	**(3529)**	20
										AD9623S	**† AD**	**(3529)**	
	15000		25	80	0.002		50	0	Low Distortion	CLC207A8C	† Comlinear		
									Overdrive Protected	CLC205A8C	† Comlinear		
	18000		50	115	1200		48	0	High Speed, Programmable Supply Current	CLC505	† Comlinear		
	20000		25	60	0.003		50	0	Overdrive Protected	CLC206A8C	† Comlinear		25
	40000	15000	25 *	70 *	250	3	60 *	3	High Slew Rate	LH0024C	National		
	50000		50	55	500		45	0	Wideband, Closed-Loop	CLC110A8D	† Comlinear		
9	30		50	50	2300 *	20 *	46		High Speed Video, OP Amp with Disabler	CLC411I	Comlinear		
	250	50		4	6	50	100	0	Four Input Programmable Amplifier	EHA2405	Elantec		
			30 *	8 *	15 *	50	74	1	Four Addressable Inputs, single Amplifier	HA2405	Harris		30
										HA2406-5	Harris		
	3000	1500	6 *	120 *	200	1.3	80		High Speed	LM6364	National		
10				100	300					LT1228	LinearTech		
			10 *	60 *	400	55 dB	50		Video Driver	LT1206C	LinearTech		
			25	45	3000	40			Low Cost, 100Ma Output Current	CLC300AI	Comlinear		35
			35	25	4000	50			General Purpose	CLC200A8	† Comlinear		
				100	7000	50			General Purpose	CLC220A8	† Comlinear		
			50	80	6000	40			High Output Current	CLC103AM	† Comlinear		
	0.0006	0.0001	1.1 *	0.525 *	0.03 *	50	65	1	Programmable Low Power	TLC251Y	TI		
	0.001	0.001		0.1	0.1		60		Low Voltage	**NJU7001**	**NJR**	**(3705)**	40
				0.4	0.4		60		Low Voltage	NJU7021	NJR		
				1.5	3.5		60		Low Voltage	NJU7031	NJR		
	0.001 *	0.001 *	0.07 *	0.1 *	0.04 *	30	60	1	Programmable, Low Bias	TS271I	SGS-Thomson		
										TS271M	† SGS-Thomson		
			0.7 *	0.1 *	0.04 *	30	60	1	Programmable, Low Bias	TS271C	SGS-Thomson		45
							70	1	Programmable, Low Bias	TLC251C	TI		
										TLC271C	TI		
										TLC271M	† TI		
	0.002	0.001		0.5	0.5	18	85			CA5420	Harris		
	0.003	0.002	4 *	0.5 *	0.5 *	10	70	0	Low Supply Voltage	CA3420	† Harris		50
	0.005	0.001	0.7 *	2.2	5.3	7	70	0	LinCMOS, Programmable	TLC271I	TI		
	0.01	0.005		4	10	18	85			CA5130	Harris		
										CA5160	Harris		
	0.03		20	100	4000	1000	90	2	Module, Wideband, Fast Settling	9740	OEI		
		0.015	7	0.30	0.01	100	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD1706G	† AdvLinear		5
		0.025	7	0.7 *	0.7 *	20	60	0	CMOS, Rail-to-Rail	ALD1701G	† AdvLinear		
	0.05	0.02	30	5	15	32	86	1	High Voltage, FET input	OPA8780V	† Burr-Brown		
			50	5	15	32	86	1	High Voltage, FET input	OPA8780U	† Burr-Brown		
		0.020 *	30	5	15 *	20	86 *	0	High Voltage FET	3580J	Burr-Brown		
		0.025	4 *	0.063 *	0.03 *	10	70	0	Nanopower BiMOS	CA3440	Harris		6
		0.03	40	1.6 *	6	32	95	0	High Power	OPA541AP	Burr-Brown		
		0.05	50	0.04	30	95 dB	80		200 V, 50 A	**PA30**	**Apex**	**(3545)**	
				0.36	80		86			**PA05**	**Apex**	**(3545)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devic

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
10											(Cont'd)	
	0.050	0.03	7	0.7	1.1	32	60	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1703	† AdvLinear	
	0.1	0.03	10	—	10	3	90	1	FET Input, Low Noise	MA333	AnalogSys	
					35	100	90	1	JFET Input	MA334	AnalogSys	
										MA400	AnalogSys	
	0.10		25 *	140 *	1000			0	Buffer Amplifier	EL2005C	Elantec	5
	0.2	0.05	5 *	—	—	25	80	—	Wideband Decompensated	LF357	Motorola	
				2.5 *	5 *	25	80	0	Bipolar JFET	LF355	National	
				2.5	5 *	25	80	0	Bipolar JFET	LF355	Rochester	
				5	12 *	25	80	0	Wideband-JFET	LF356	Motorola	
				5 *	12 *	25	80	0	Wideband-JFET	LF356	National	10
				5	12 *	25	80	0	Wideband-JFET	LF356	Rochester	
				20 *	50 *	25	80		Monolithic, JFET Input	LF357	National	
			10 *	3 *	13 *	25	70	0	Low Noise, Bipolar JFET	TL071C	SGS-Thomson	
				4 *	13 *	15	80	0	Low Noise, Bipolar JFET	TL071	Motorola	
										TL070AC	TI	15
										TL070C	TI	
						25	80	0	Low Noise, Bipolar JFET	TL071C	TI	
		0.1			13		70			PA02D	Apex	
			10 *	3 *	8	25	70	0	JFET Input, Wide Bandwidth	LF351	TI	
			10	4	13	25	70			KF351	Samsung	20
			10 *	4 *	13	25	70	0	Bipolar JFET	LF351	Motorola	
					13 *	25	70	0	Bipolar JFET	MC35001	† Motorola	
									JFET Input, High Speed	LF351	SGS-Thomson	
									Precision BIFET	MC34001	Motorola	
			50	4.5	13	20	70	0	To ± 19 V supply, 5 A output	**PA02M/883**	**Apex (3545)**	25
				4.5 *	13	20	70	0	Wideband, High Output Current	**PA02**	**Apex (3545)**	
		0.10	10 *	3 *	13*	50	70	0	Bipolar JFET	µA771C	National	
		2	10 *	4 *	13 *	15	80	0	Low Noise, Bipolar JFET	TL075C	TI	
	0.20	0.1	10 *	4 *	13 *	25	70	0	Bipolar JFET	LF351	National	
	0.25			350 *	2000			0	Buffer Amplifier	EL2004	† Elantec	30
										EL2004C	Elantec	
		0.17	16 *	50 *	325 *	2.5	60		Ultra High Speed	LT1190C	LinearTech	
										LT1190M	† LinearTech	
	0.3		100	10	250	100	100	2	Hybrid, Wideband Operation, Low Noise	AH0014	† OEI	
	0.6	0.4	20 *	18 *	40 *	106 *	80		Fast Settling	LH4104G-MIL	† National	35
	1	0.25	10	5	10 *	50	85	0	High Output Current	LH0101/HR	† Maxim	
			10 *	5 *	10 *	50	85	0	2 A Power	ELH0101	† Elantec	
			10	5	10	50	85	0	2 A Power	LH0101	Maxim	
										LH0101C	Maxim	
										LH0101	† National	40
										LH0101C	National	
	2	0.5	50	0.024 *	20 *	94 dB	90		450 V, 200 mA	**PA87**	**† Apex (3544)**	
	3	1	0.1	0.4	0.1	5000	130			**OPA177E**	**Burr-Brown (3457)**	
	5*		25*	85*	3000*	50	88	0	85 MHz –3dB bandwidth, G = 1 to 40	CLC300A	Comlinear	
	10	1.5	30			25	80		Low Input Current	PM308	AD	45
	10µA	5µA	25	120	2000	3	60	0	Wideband, Current Mode Feedback	EL2030C	Elantec	
	25	20	20	18	32	100	70		Fast Settling	LH4104	† National	
										LH4104C	National	
	35	7	20 *	120	300	10	70	1	High Speed, 100mA Output, Gain ± 2	HA2542-2	† Harris	
										HA2542-5	Harris	50
	40	6		1	1		80	2		MIOP42106	† Micropac	
		10	—	1 *	2 *	70	70	0	High Voltage	SG1436	Linfinity Micro	
										MC1436	Motorola	
			65	1 *	1	446 *	110 *	0	High Current (5A), High Power	OPA511A	Burr-Brown	
					1.35	562 *	110 *	0	2 A Continuous	3573	Burr-Brown	55
					1.5	50	70	0	Output 28V@10A	**PA51**	**Apex (3545)**	
						500	70	0	to ± 30V supply, 5A output	**PA73**	**Apex (3545)**	
						562 *	70	0	Output 20V@10A	OPA501A	Burr-Brown	
										OPA501R	† Burr-Brown	
					1.8 *	35	70	0	± 30Vs, ± 5A, 67W.	**PA73M/883**	**† Apex (3545)**	60
	50	10	65	1	1.35	100	70		High Current, High Power	OPA501U	† Burr-Brown	
										OPA501U/883B	† Burr-Brown	
	250	50	20 *	20 *	80	7.5	74	1	High Speed, Fast Settling	AD509J	AD	
			25 *	1 *	40	7500	74	0	High Slew Rate	HA2512-2	† Harris	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
10	250	50	25	10	80	7500	74		High Slew Rate	HA2522-2	† Harris
			25 *	12	40	7.5	74	0	High Slew Rate	EHA2512	‡ Elantec
				12 *	40	7.5	74	0	High Slew Rate	HA2512	† Harris
				20 *	80	7.5	74	1	80 V/µs Gain = 3	HA2522	† Harris
				20	80	7.5	74	2	High Slew Rate	EHA2522	‡ Elantec
			30 *	1 *	40	7500	74	0	High Slew Rate	HA2515-5	Harris
										HA2515-9	Harris
				1.6 *	70 *	32	90 *	1	Fast Slewing	3507J	Burr-Brown
			30	10	80	7500	74		High Slew Rate	HA2525-5	Harris
										HA2525-9	Harris
			30 *	12	40	7.5	74	0	High Slew Rate	EHA2515	Elantec
				12 *	40	7.5	74	0	High Slew Rate	HA2515	Harris
					80	7.5	74	1	80 V/µs Gain = 3	HA2525	Harris
				20	80	7.5	74	2	High Slew Rate	EHA2525	Elantec
		200		15	70	25	70	0	High Performance	LM318	TI
	500	200			50	25	70		Precision High-Speed	**NJM318**	**NJR (3704)**
				0.6	0.5		70			SG2172	Linfinity Micro
										SG3172	Linfinity Micro
			—	15 *	50	25	70	0	Precision, High Speed	LM318	National
										LM318	SGS-Thomson
			5 *	1 *	25	25	60	1	0.5 A, Wideband	LH0061C	National
	750	—	—	—	—	14	—	1	Telephone Channel Amplifier	LS045	SGS-Thomson
	1000	100			2	100	80			TCA365A	Siemens
					4	100	80			TCA2365A	Siemens
			15*	0.8*	1	100 *	60	0	Output 3.5A peak	ULN3751Z	Allegro Micro
		200	—	—	8 *	10 *	70 *	0	Output Current to 3A	L165	SGS-Thomson
		300	6 *	—	9 *	5.6	60	1	General Purpose, OC output	SFC2861C	SGS-Thomson
	1000 *	5000 *	50	150	6000	5	60	0	150 MHz –3db bandwidth, G = 1–40	CLC103AI	Comlinear
	1200	300	6	1 *	9 *	5.6	65	1	General Purpose, High Voltage	TAA861	SGS-Thomson
	2000	500	25 *	5.5 *	8 *		70	0	Thermal Protection with Parole Circuit	LM675	National
	5000 *		30 *	50	300	70	50		Current Mode Amplifier	EL2020C	Elantec
	5500		7 *	85	625 *	20	50		Current Mode Amplifier	EL2130C	Elantec
	12000	2000		170 *	1400	400	30 *		Voltage Feedback, Wideband	**AD9624A**	**AD (3529)**
										AD9624S	**† AD (3529)**
	14000	2000		160 *	1150	102	47		Voltage Feedback, Wideband	**AD9622A**	**AD (3529)**
										AD9622S	**† AD (3529)**
	20000		50		4500	10	40	0	150 MHz–3dB bandwidth, up to 4 A output.	**WA01**	**Apex (3544)**
		6000	20	400 *	350	15 *	60	—	Wideband, Fast Settling	HA2540-2	† Harris
			20 *	600 *	550	15 *	60	—	High Slew Rate, Wideband	HA2539-2	† Harris
	50000	20000	25	1	250	4	60			LH4124C	National
11.5	4100	2000	50	100	800		40		150 MHz GBWP, Current Mode Feedback	EL2071C	Elantec
										EL2171	Elantec
									150 MHz GBWP, Current Mode Feedback	EL2171C	Elantec
12	0.035	0.03	20 *	9 *	350		60		Video Difference	LT1193C	LinearTech
										LT1193M	† LinearTech
	50	15	65	1 *	1.5	500	70	0	to ± 28V supply, 5A adjustable output	**PA01**	**Apex (3545)**
	60	60		4	4		74	2		MIOP42109	† Micropac
	90	25	—	1 *	2 *	50	50	0	High Voltage	MC1436C	Motorola
	650	120		100	100	10	60	2		VA708J	† VTC
	16000	2000		130 *	850	70	46		Voltage Feedback, Wideband	**AD9621A**	**AD (3529)**
										AD9621S	**† AD (3529)**
13	4000	1500	7 *	75	200	800	76		High Speed	LM6362	National
14	2500			50	325	8			High Speed, Wide Band-Width	LT1190	† LinearTech
15	0.01	0.1	10 *	100 *	3500 *	59	55		Current Feedback	LT1228C	LinearTech
										LT1228M	† LinearTech
				140 *	500	59	55		Video Current	LT1227C	LinearTech
										LT1227M	† LinearTech
	0.05	0.03	25 *	0.044 *	1.6 *	80	70	0		ICL7611D	Harris
										ICL7612D	Harris
				0.48 *	0.16 *	10	70	1	Low Power	ICL7614DC	Maxim
										ICL7614DM	† Maxim

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devic

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
15	0.05	0.03	25 *	1.4 *	1.6 *	6	70	0	CMOS, Low Power, Programmable Low Bias	ICL7611DC	Maxim	
										ICL7611DM	† Maxim	
	0.050	0.030	8 *	4 *	10 *	50	70	0	MOSFET, Single Supply	CA3160	† Harris	
				4.5 *	9 *	20	70	0	MOSFET, Single Supply	CA3140	† Harris	
			10 *	4 *	10 *	50	70	1	MOS FET Single Supply, Strobe	CA3130	† Harris	5
			25 *	1	1.6	80	70	0	Low Power	ICL7611C	Maxim	
									Low Power, Extended CMVR	ICL7612C	Maxim	
										ICL7616C	Maxim	
	0.065	0.005	35	15 *	50	25	70	0	Precision, High Speed, FET	LH0062C	National	
		0.01	20 *	100 *	50	25	70	1	Wideband, High Slew Rate	HA5162-5	Harris	10
	0.2	0.1	10 *	3 *	13 *	50	70	0	Bipolar JFET	µA771LC	National	
				4 *	13 *	25	70	0	Bipolar JFET	TL081C	National	
	0.4	0.2	—	3	13 *	25	70	0	Bipolar JFET	TL081	Motorola	
										TL081C	SGS-Thomson	
			10 *	1 *	3.5 *	3	70	0	Low Power, Bipolar JFET	TL061C	SGS-Thomson	15
										TL061C	TI	
									Programmable Bipolar JFET	TL066C	TI	
								1	Low Power, Bipolar JFET	TL060C	TI	
			10	3	13	25	70	0	BIFET, General Purpose	TL081C	TI	
			10 *	3 *	13 *	25	70	1	Bipolar JFET	TL080C	TI	20
				4 *	13 *	25	80	0	JFET Input	TL081C	Motorola	
	0.5	0.05	50	70	350		50		Ultra Fast FET	LH0032C	National	
	2.5	2	17 *	35 *	50 *	1500	55		Video Driver, Processing	LT1195M	† LinearTech	
	25	10			30		70			TCA312A	Siemens	
										TCA315A	Siemens	25
										TCA322A	Siemens	
										TCA325A	Siemens	
	50	25	12 *	—	—	2	60	1	High Output Current	SFC2315	SGS-Thomson	
		30	25	1	1.6	80	70	0	Low Power, dual 1458	GLC9458	GoldStar	
	100			100 *	250	560	55		Video Driver	LT1252C	LinearTech	30
		20	100	125	400	200	60		Fast Settling, Wideband	**OPA600B**	**Burr-Brown (3460)**	
										OPA600S	**† Burr-Brown (3460)**	
	350	150		170	330	1.0	60		Wideband	CA3450	Harris	
	700	200	2	60	9	30	65		Supply Voltage ± 80V	LM12CL	National	
	750	300		15 *	50	20	70		High Speed	LM318	LinearTech	35
	1000	50	10	0.2	1.6 *		90 *		Dual Power Op Amp	SG3272	Linfinity Micro	
		300	2	0.06	9	40	70		Supply Voltage ± 100V	LM12	† National	
				60	9	30	70		Supply Voltage ± 80V	LM12L	† National	
	6000	1200	10	1	120	10	70			LH4106C	National	
	10000	2000	10 *	40	100	4	75	0	Video Op Amp	**HA2544**	**† Harris (3637)**	40
	15000	2000	0.04	3.2	100	3500	75		Video	**HA2544-2**	**† Harris (3637)**	
										HA2544-5	**Harris (3637)**	
	20000	6000	20 *	400 *	350	10	60		Wideband, Fast Settling	EHA2540-5	Elantec	
			20	400 *	350	10	60	—	Wideband, Fast Settling	HA2540-5	Harris	
										HA2540-9	Harris	45
										HA2540C-5	Harris	
										HA2540C-9	Harris	
			20 *	600 *	550	10	60		High Slew Rate, Wideband	EHA2539-5	Elantec	
								—	High Slew Rate, Wideband	HA2539-5	Harris	
										HA2539-9	Harris	50
	50000	25000		37	700	150	45		Ultra High Slew Rate	HFA0001/883	† Harris	
			100 *	22 *	420 *	150	45			HFA0005-9	Harris	
20				10	70	200		4	High Speed Video Amp.	MAX450C	Maxim	
	0.025	0.01	10 *	1 *	1.5	50	70	0	Low Cost FET Input	LH0042	† National	
	0.05	0.005	15 *	1 *	1	25	70	0	Low Cost FET	LH0042C	National	55
	0.1	—	25	1 *	3	50	80	0	Low Cost FET Input	AD503K	AD	
										AD503S	† AD	
	0.3	—	100	10 *	250 *	80	80		FET Input	AH0008	† OEI	
	1	2		10	70	200		4	High Speed Video Amp.	MAX451C	Maxim	
	650	120	40	40 *	38	1	60	0	Fast Settling	VA706J	VTC	60
	1000	200	—	—	14 *	10 *	70 *	0	High Efficiency Output Current to 4A	L465A	SGS-Thomson	
		300	2	60	9	20	65		Supply Voltage ± 100V	LM12C	National	
		400			8	100	70			CS365	Cherry Semi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Single Units (Cont'd)

(Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
20	5000 *		20 *	95 *	750 *	20	50		Current Mode Amplifier	EL2120C	Elantec
	5000	1500	10 *	3	250 *	2000	72		High Slew Rate	LM6313	National
				35	200	400	72		High Speed	LM6361	National
	50000		50	200	1000	10	50	2	Module, Wideband, Very Fast Settling	9826	† OEI
25	-2		0.3	0.6	0.1	5000	120		Low Offset Voltage	OP77E	Calogic
	0.001		125 *	290 *	140		50 *		Wide BandWidth, Current Feedback	**OPA623A**	**Burr-Brown (3459)**
	0.2	0.1	0.6		0.1	300	110			LT1012AC LT1012AM	LinearTech † LinearTech
	4	1.5	0.3	0.4	0.1	5000			Precision	**OPA77E**	**Burr-Brown (3457)**
							130		Precision	**OPA177F**	**Burr-Brown (3457)**
				0.6	0.3	5000	120		Low Offset Voltage	OP77A OP77E	Raytheon Raytheon
	5	1	0.3	15	2.5	10000	126	0	High Output Current, Comp. for G >50	**OP50A** **OP50E**	**† AD (3529)** **† AD (3529)**
	500	200	25	30	200		50	0	100 mA Output Current	LH4101C	National
	18000	2000	0.04	3.2	100	3000	70		Video	**HA2544C-5**	**Harris (3637)**
	40000		120	80	0.003		40	0	Fast Settling, Wideband	CLC200A8C	† Comlinear
30	0.05	0.05	65	1.6	40		84	1	Monolithic, High Voltage	**PA41** **PA42**	**Apex (3544)** **Apex (3544)**
	20000		100	150	900	5.6	54	2	Hybrid, Wideband, Fast Settling	AH9914	† OEI
	50000	20000	100	300	1	4	90	1	Wideband	9914A	OEI
	100000	50000	50 *	350 *	1000	150	42		Ultra High Slew Rate	HFA0001-5	Harris
							45		Ultra High Slew Rate	HFA0001-9	Harris
			100 *	22 *	420 *	150	42			HFA0005-5	Harris
35	0.05	0.05	65	1.6	40		94	2		**PA41A** **PA42A**	**Apex (3544)** **Apex (3544)**
40	12	500	100	160	2000	10	70	0	AGC + Amplifier	CLC520	† Comlinear
50	0.015	—	75	1 *	3	20	70	0	Low Cost FET Input	AD503J	AD
60	-2.8		0.6	0.6	0.1	2000	116		Low Offset Voltage	OP77B OP77F	Calogic Calogic
	0.05	0.05	130	1.6	5		94	2		**PA41M**	**Apex (3544)**
	5.6	2.8	0.6	0.4	0.1	2000			Precision	**OPA77F**	**Burr-Brown (3457)**
				0.6	0.3	2000	116		Low Offset Voltage	OP77B OP77F	Raytheon Raytheon
			1.2	0.4	0.1	2000	115		Precision	**OPA177G**	**Burr-Brown (3457)**
90	0.15		0.6		75	0.995			High Speed Buffer	LT1010M	† LinearTech
100	-2.8		1.2	0.6	0.1	2000	116		Low Offset Voltage	OP77G	Calogic
	5.6	2.8	0.6	0.4	0.1	2000			Precision	**OPA77G**	**Burr-Brown (3457)**
			1.2	0.6	0.3	2000	116		Low Offset Voltage	OP77G	Raytheon
	10	3	1	15	2.5	7500	110	0		**OP50B** **OP50F**	**AD (3529)** **AD (3529)**
	30000		500		5000				High Speed	**WB05**	**Apex (3544)**
120	28000		300	80	1450		59	0	Voltage Controlled Gain	CLC520AM CLC520A8D	† Comlinear † Comlinear
150	15	3	2		5	700	90			OP90E	Maxim
			2.5		5	700	90			OP90A	† Maxim
250	20	5	5		5	500	80			OP90F	Maxim
450	25	5	5		5	400	80			OP90G	Maxim
500	500	150	5	200	45	475	108	0	Wide-Bandwidth, Low-Noise, Precision	**OP61A**	**‡ AD (3529)**
750	600	200	7	200	45	425	100	0	Wide-Bandwidth, Low-Noise, Precision	**OP61F**	**‡ AD (3529)**
1000	600	200	7	200	45	425	100	0	Wide-Bandwidth, Low-Noise, Precision	**OP61G**	**AD (3529)**
25000	16	10	0.3	60	15	20000	130	0	Low Noise, Wideband, Precision	MA367	AnalogSys
	20	15	0.6	60	17	10000	130	0	Ultra Low Distortion	MA362	AnalogSys
	40	35	0.6	120	28	1000	114	1	Precision, Low Noise, High Speed	HA5147A-2 HA5147A-5	† Harris Harris
100000	80	75	1.8	120	28	700	100	1	Precision, Low Noise, High Speed	HA5147-2 HA5147-5	† Harris Harris

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Device

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
±1.5	250		10	0.3	1.2	100	85	0	±5V single to ±20V supply, 3.0A output.	**PA21A**	**† Apex (3545)**	
	1000		15	0.3	1.2	100	85	0	+5V single to ±20V supply, 2.5A output.	**PA21**	**Apex (3545)**	
									+5V single, to ±20V supply, 2.5A output.	**PA21M**	**† Apex (3545)**	
0.005	0.05		0.05		4 *	1000		0		LTC1051C	LinearTech	
										LTC1051M	† LinearTech	5
	0.1	0.2	0.05	2.5	3	140 dB	120	0		LTC1151	LinearTech	
0.007	20		1		8	2			Low Noise, High Speed	LT1126AC	LinearTech	
	55		1		3	2000			Low Noise, High Speed	LT1124AC	LinearTech	
0.01			0.05	0.2			110		Dual Micropower, Zero Drift	LTC1047	LinearTech	
	0.02		0.01		0.2 *	1000				LTC1047C	LinearTech	10
0.015	0.09	0.02	0.15	1.5	2.5	1000	110	0	Auto-Zeroed	TC913A	TeledyneC	
										TC913AC	TeledyneC	
0.025 *	90	90	1	7	1.7	5	100		Low Noise, High Speed	TLE2227AC	TI	
										TLE2227C	TI	
				50	6	5	100		Low Noise, High Speed	TLE2237AC	TI	15
										TLE2237C	TI	
0.03		2.5	1	0.9 *	0.3					**AD708**	**AD (3526)**	
	0.12	0.04	0.25	1.5	2.5	1000	100	0	Auto-Zeroed	TC913B	TeledyneC	
							110	0	Auto-Zeroed	TC913BC	TeledyneC	
	1	1	0.3	0.9 *	0.3 *	10 *	130			**AD708S/883B**	**† AD (3526)**	20
	4	3	0.3	1.5	0.1	5	110			RC4277	Raytheon	
0.05	0.028	0.015		0.45	0.12	450	115		Precision, Low Power	LT1112AC	LinearTech	
										LT1112AM	† LinearTech	
	0.1	0.05	0.6			2000				**OP297**	**AD (3526)**	
		0.1	0.6	0.5 *	0.05	2000000	120	0	Low Power, Precision	**OP297A**	**‡ AD (3526)**	25
										OP297E	**‡ AD (3526)**	
	0.11	0.05	0.6	3		400	110		Picoamp Input Current	**AD706**	**AD (3526)**	
		0.11	0.6	0.8 *	0.15 *	400	114			**AD706B**	**AD (3526)**	
										AD706K	**AD (3526)**	
	0.12	0.12	0.6	0.8 *	0.15 *	400	114			**AD706T**	**AD (3526)**	30
	1	1	0.3	0.9 *	0.3 *	10 *	130			**AD708S**	**AD (3526)**	
			0.4	0.9 *	0.3 *	10 *	130			**AD708B**	**AD (3526)**	
	10	10		6 *	1.4	1000	110		Low Noise, Precision	**OP270A**	**† AD (3526, 3529)**	
									Low noise, Precision	**OP270E**	**AD (3526, 3529)**	
0.06	3	2.8	0.9	0.4	0.1	400	110	0	Ultra Low Offset Matched	LT1002AC	LinearTech	35
										LT1002AM	† LinearTech	
0.07	5	0.25	2.2		0.13	105	90			LT1178AC	LinearTech	
	8	0.25	1.8	0.2	0.04	20	97	0	Single Supply	LT1078AC	LinearTech	
										LT1078AM	† LinearTech	
0.075	0.028	0.015		0.45	0.12	650	110		Precision, Low Power	LT1112C	LinearTech	40
										LT1112M	† LinearTech	
	2	1	0.5	0.5 *	0.1	3	120	0	Low Power	**OP200A**	**† AD (3526)**	
										OP200E	**AD (3526)**	
0.08	40	35	1	5	1.7	250	114	0		OP227A	LinearTech	
										OP227E	LinearTech	45
										OP237A	LinearTech	
										OP237E	LinearTech	
0.1	0.15	0.15	2.0	0.5 *	0.05	1500000	114	0	Low Power, Precision	**OP297F**	**‡ AD (3526)**	
	0.2	0.15	1.5	0.8 *	0.15 *	200	110			**AD706A**	**AD (3526)**	
										AD706J	**AD (3526)**	50
	2.5	2	1	0.9 *	0.3 *	10 *	120			**AD708A**	**AD (3526)**	
										AD708J	**AD (3526)**	
	4.5	4.2	1.3	0.4	0.1	350	110	0	Ultra Low Offset Matched	LT1002C	LinearTech	
										LT1002M	† LinearTech	
	15	15		6 *	1.4	800	100		Low Noise, Precision	**OP270F**	**AD (3526, 3529)**	55
	30		1.5		8	1.5			Low Noise, High Speed	LT1126C	LinearTech	
	70		1.5		2.7	1500			Now Noise, High Speed	LT1124C	LinearTech	
0.12	0.25	0.25	1.5		0.1	250	112	0	Low Noise	LT1024AC	LinearTech	
	6	0.35	3		0.13	80	86			LT1178C	LinearTech	
	10	0.35	2.5	0.2	0.04	20	94	0	Single Supply	LT1078C	LinearTech	60
										LT1078M	† LinearTech	
	55	50	1.5	5	1.7	250	106	0		OP227B	LinearTech	
										OP227F	LinearTech	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
0.15	-20	0.8	2	1 *	0.2	1.5	100	0		LT1013AC	TI
										LT1013AI	TI
										LT1013AM	† TI
	4	2	1.5	0.5 *	0.1	2	115	0	Low Power	**OP200F**	**AD (3526)**
	7	6	1.8	1.2 *	0.25 *	120	100	0	Ultra Low Offset Voltage, Low Drift	OP07C	‡ AD
										µA714C	National
	15	3	2	0.02 *	5K	500	90	0	Precision	**OP290E**	ℓ **AD (3526)**
			2.5	0.02 *	5K	225	85	0	Precision	**OP290A**	ℓ† **AD (3526)**
	20	0.8	2	1 *	0.2	1500	100	0	Precision	LT1013AC	LinearTech
										LT1013AM	† LinearTech
				3 *	0.4	1500	100	0		**OPA1013A**	**Burr-Brown (3457)**
		2	2	100 *	—	500	96	0	Low Power, Single/Dual Supply	**OP220A**	† **AD (3526)**
										OP220E	**AD (3526)**
	50	3	2	1	0.7		100			TLE2022BC	TI
										TLE2022BI	TI
	80	3	1.5	—	0.2	1500	95	0	Low Power, Precision Matched	**OP221A**	† **AD (3526)**
										OP221E	**AD (3526)**
	600	200	0.2 *	3 *	1 *	200 *	86 *	0		**OP213A**	**AD (3526, 3529)**
										OP213G	**AD (3526, 3529)**
0.17	55		1		2.3	1000			Low Noise, High Speed	LT1124AM	† LinearTech
					7.2	1000			Low Noise, High Speed	LT1126A	LinearTech
0.175	60		1		1.7	400			Low Noise	OP270A	LinearTech
0.18	80	75	2	5	1.7	200	106	0		OP227C	LinearTech
										OP227G	LinearTech
										OP237C	LinearTech
										OP237G	LinearTech
0.2	0.01	0.01	7	0.7	0.7	300	90	0	CMOS, Rail to Rail Single/Dual 5V	ALD2711A	† AdvLinear
	0.2	0.2	2.0	0.5 *	0.05	1200000	114	0	Low Power, Precision	**OP297G**	‡ **AD (3526)**
	0.4	0.3	2		0.1	180	108	0	Low Noise	LT1024C	LinearTech
	0.7	0.35	1.5		0.1	250	112	0	Low Noise	LT1024AM	† LinearTech
	5	3.5	2	0.5 *	0.1	2	110	0	Low Power	**OP200G**	**AD (3526)**
					0.15 *	1000	110			HA5232A-5	Harris
										HA5232A-9	Harris
	20	20		6 *	1.4	800	100		Low Noise, Precision	**OP270G**	**AD (3526, 3529)**
0.25		0.15	20	13	75					**AD746**	**AD (3512, 3528)**
	± 150	± 80	1 *	28 *	4.5 *		115		Low Noise, Low Voltage	MAX412C	Maxim
	0.035	0.002	2.5	1 *	3 *	250	80	—	Ultra Low Drift BiFET	AD647L	AD
	0.050	0.010	5	3	16				High Speed BiFET	**AD712C**	**AD (3512, 3526)**
	20	5	5	0.02 *	5K	350	80	0	Precision	**OP290F**	ℓ **AD (3526)**
	70		1.5		2	700			Low Noise, High Speed	LT1124M	† LinearTech
	150 *	2 *	5 *	8 *	20 *	200 *	86		Precision Biploar/JFET	**OP285E**	**AD (3512)**
										OP285F	**AD (3512)**
	150	80	1 *	28 *	4.5 *		130		Low Noise, Low Voltage	MAX412M	† Maxim
			1	80	4.5		115		Low Noise, Voltage Precision	MAX412	† Maxim
0.3	-30	1.5	2.5	1 *	0.2	1.2	97	0		LT1013C	TI
										LT1013I	TI
	1.3	0.5	2		0.1	180	108	0	Low Noise	LT1024M	† LinearTech
	10	10		6.5*	6.5	500	105	0	High Speed, Low Noise	**OP271A**	† **AD (3526, 3512, 3529)**
				6.5 *	6.5	500	105	0	High Speed, Low Noise	**OP271E**	**AD (3526, 3512, 3529)**
	15	15		6.5 *	6.5	300	95	0	High Speed, Low Noise	**OP271F**	**AD (3526, 3512, 3529)**
		16	3	8 *	18	1000	86	0	High Speed, Precision	**OP249E**	**AD (3512, 3526)**
	25	2.5	5	100 *	—	300	90	0	Low Power, Single/Dual Supply	**OP220B**	† **AD (3526)**
										OP220F	**AD (3526)**
	30	1.5	2.5	1 *	0.2	1200	97	0	Precision	LT1013C	LinearTech
										LT1013M	† LinearTech
										LT1013M	† TI
				3 *	0.35 *	1500	114	0	Single Supply, Precision	**OPA1013C**	**Burr-Brown (3457)**
									Single-Supply, Precision	**OPA1013D**	**Burr-Brown (3457)**
										OPA1013M	† **Burr-Brown (3457)**

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Band-width MHz	Slew Rate V/μs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.3											(Cont'd)	
	40	15	0.5	35	25	2500	95	0		HA5222	† Harris	
	50	3	2 *	2.8 *	0.7	1500	96	0	Low Power, Precision	TLE2022BM	† TI	
	55	4	2	1	0.7		97			TLE2022AC	TI	
										TLE2022AI	TI	
	100	5	2	—	0.2	1000	90	0	Low Power, Precision Matched	**OP221B**	**† AD (3526)**	5
										OP221F	**AD (3526)**	
0.35			1 *	0.1 *	20000	400	75		Micropower	LMC6062AI	National	
										LMC6062AM	† National	
				1.3 *	1200	400	75		Precision, Low Offset	LMC6082AI	National	
										LMC6082AM	National	10
0.4	±350	±200	1 *	28 *	4.5 *		105		Low Noise, Low Voltage	MAX412E	Maxim	
0.45	0.05	0.04	7	3.5	10	150	86			LT1057AC	LinearTech	
										LT1057AM	† LinearTech	
	25	5	1.2 *	0.02 *	5K	300	80	0	Precision	**OP290G**	**ℓ AD (3526)**	
	55	4	2 *	2.8 *	0.7	1000	93	0	Low Power Precision	TLE2022AM	† TI	15
0.5	0.001 *	0.0005 *	0.5 *	1.9 *	1.8	300	80		Low Noise	TLC2202AC	TI	
										TLC2202AI	TI	
										TLC2202BC	TI	
										TLC2202BI	TI	
										TLC2202BM	† TI	20
	0.001	0.0005 *	0.5 *	1.9 *	2	90	80	0	Low Noise, Precision	TLC2202AM	† TI	
	0.004	0.003	2.8	2 *	2 *	500	96			**OPA2111BM**	**Burr-Brown (3457, 3459)**	
	0.005	0.001	0.7 *	0.1	0.05	30	70	0	LinCMOS, Low Bias	TLC27L7I	TI	
			2 *	0.6	0.6	20	70	0	LinCMOS, Medium Bias	TLC27M7I	TI	
			5 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC277I	TI	25
		0.003	5	5					Precision FET	**OPA2107B**	**Burr-Brown (3457, 3459)**	
		0.004 *	5	2	3.5		80			**AD822B**	**AD (3526)**	
	0.01	0.01	7	0.7	0.7	300	90	0	CMOS, Rail to Rail Single/Dual 5V	ALD2711B	† AdvLinear	
	0.035	0.002	5	1 *	3 *	250	80	—	Ultra Low Drift BiFET	AD647K	AD	
										AD647S	† AD	30
										AD647S/883B	† AD	
		0.005 *	5 *	1 *	3 *	300 *	80	0	Dual 542	AD642L	AD	
			5	2 *	3 *	250	80	0	Dual 544	AD644L	AD	
			15	2 *	3 *	250	80	0	Dual 544	AD644S	† AD	
	0.1	0.05	5	30	12	50		0	Low Input Offset JFET	MC33282	Motorola	35
	0.15	0.075	10	13 *	50	175	82	0		**AD746B**	**AD (3512, 3528)**	
	0.2	0.1	10 *	3	13	50		0	BiFET, General Purpose	TL287I	TI	
	1.5μA	200	3	500	350	40	90	1	Wideband	EL2223C	Elantec	
			20	60	200	6	80	0	Wideband	EL2224C	Elantec	
	2	0.2	5			80	96		Dual 108 Type	LH2108A	National	40
				1 *	0.3 *	40	96	1	Dual 108A	PM2108A	† AD	
						80	96	1	Dual 108A	LH2108A	† LinearTech	
	7	1	5			80	96		Dual 108 Type	LH2308A	National	
	10	10	5	0.5 *	0.15 *	250	100			HA5232-5	Harris	
										HA5232-9	Harris	45
	15	2	10 *	0.08 *	0.04 *	500	86	0	Rail to Rail	**OP295G**	**AD (3526)**	
	20	0.1	10	3	13	50	80	0	Bipolar JFET	TL287C	TI	
	35	15	0.7 *	0.1 *	0.04	500*	88			TLC27L7M	† TI	
			2 *	0.7 *	0.6	280*	88			TLC27M7M	† TI	
			5 *	2.3	4.5	40K *	82			TLC277M	† TI	50
	60	5	2	1	0.7		95			TLE2022C	TI	
										TLE2022I	TI	
	80	50	2.5	10 *	7	1000	94	0		**SSM2139**	**AD (3529)**	
	120	7	3	—	0.2	800	80	0	Low Power, Precision Matched	**OP221C**	**† AD (3526)**	
										OP221G	**AD (3526)**	55
	2800	50	10	100	275	3000	90	0	Gain of 2 Stable, Voltage Mode	EL2245C	‡ Elantec	
				120	375	1500	90	0	Unity Gain Stable, Voltage Mode	EL2244C	‡ Elantec	
	5000	700		9	125	50	94			CA3280A	Harris	
0.500	10	10	5.0	0.5	0.15	1	100	0	OP200 Replacement	HA5232	Harris	
	25	25	5	8 *	18	1000	80	0	High Speed, Precision	**OP249A**	**AD (3512, 3526)**	60
0.6	0.0007 *	0.0001 *	1 *	0.11 *	47	500	75			TLC1078C	TI	
										TLC1078I	TI	
			1.4 *	0.11 *	47	500	75			TLC1078M	† TI	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.6	40	4	10	100 *	—	500 *	76	0	Low Power, Single/Dual Supply	**OP220C**	(Cont'd) † **AD (3526)**	
										OP220G	**AD (3526)**	
	60	5		1.7 *	0.5 *		85			TLE2022Y	TI	
0.7	25	25	6	8 *	18	500	80	0	High Speed, Precision	**OP249F**	**AD (3526, 3512)**	
	60	5	2 *	2.8 *	0.7	800	91	0	Low Power Precision	TLE2022M	† TI	5
0.75	–0.0015	100	1.7 *	6	30	100	85		Low Noise, High Speed	TLE2142AC	TI	
										TLE2142AI	TI	
										TLE2142AM	† TI	
	0.008	0.006	6	2 *	2 *	316	90			**OPA2111AM**	**Burr-Brown (3457, 3459)**	
									Low Noise	**OPA2111S**	† **Burr-Brown (3457, 3459)**	10
	0.2	0.04	10	10 *	50	200	88	0	Fast Settling, Precision	**OP42E**	**AD (3526, 3528)**	
	20	20		6.5 *	6.5	300	95	0	High Speed, Low Noise	**OP271G**	**AD (3526, 3512, 3529)**	
	50	2	8	0.8	0.5	100	90	0	Dual Matched	OP04A	† AD	
										OP04E	AD	
										OP14A	† AD	15
										OP14E	AD	
	80	50	0.5 *	35 *	15		86			HA5222-9	Harris	
			2.5	30	15		106		Low Noise, Wideband	HA5222/883	† Harris	
	100	100	0.5 *	35 *	15		86			HA5222-5	Harris	
0.8			1 *	0.1 *	15000	200	66		Micropower	LMC6062I	National	20
				1.3 *	1000	200	66		Precision, Low Offset	LMC6082I	National	
	–30	1.5		1 *	0.2	1.2	97	0		LT1013Y	TI	
			2.5	1 *	0.2	1.2	97	0		LT1013DM	† TI	
			5	1 *	0.2	1.2	97	0		LT1013DC	TI	
										LT1013DI	TI	25
	0.0007 *	0.0001 *	1.4 *	0.1 *	0.05 *	50	65	0	LinCMOS, Low Bias Precision	TLC2767M	† TI	
	0.075	0.05	12	3.0	8	100	82			LT1057C	LinearTech	
										LT1057M	† LinearTech	
	0.2	0.1	8 *	3 *	13	50	75	0	JFET	TL052AM	† TI	
			25	3 *	13	50	75	0	JFET	TL052AC	TI	30
										TL052AI	TI	
	30		5		0.2	1200			Precision	LT1013	LinearTech	
0.875	–0.0015	100		6		100	80		Low Noise, High Speed	TLE2142Y	TI	
0.95	0.1	0.1	2 *	2.18 *	3.6 *	35 *	75 *			TLC2272AC	TI	
1	0.001 *	0.0005 *	0.5 *	1.9 *	1.8	300	80		Low Noise	TLC2202C	TI	35
										TLC2202I	TI	
	0.004 *	0.002 *	6 *	2 *	2	30	72	0	JFET Low Power, High Drive	TLE2062BM	† TI	
	0.01	0.004 *	10	2	3.5		80			**AD822A**	**AD (3526)**	
										AD822S	**AD (3526)**	
		0.005	10	1	1	300	82		Precision Low Power BiFET	**AD648B**	**AD (3526)**	40
										AD648K	**AD (3526)**	
										AD648T	† **AD (3526)**	
		0.008	10	5	18		80		Precision FET	**OPA2107A**	**Burr-Brown (3457, 3459)**	
										OPA2107S	† **Burr-Brown (3457, 3459)**	
		0.01	7	0.7	0.7	300	90	0	CMOS, Rail to Rail Single/Dual 5V	ALD2711	† AdvLinear	45
	0.035	0.005 *	10	1 *	3 *	300 *	80 *	0	Dual 542	AD642K	AD	
										AD642S	† AD	
				2 *	3 *	250	80	0	Dual 544	AD644K	AD	
	0.05	0.025	10	0.8	0.8	50	80	0	Low Power-BIFET	LF442A	National	
		0.03	30	1.6	6	32	95	0		OPA2541B	Burr-Brown	50
										OPA2541S	† Burr-Brown	
	0.075	0.005	10	1 *	3 *	100	76	—	Ultra Low Drift BiFET	AD647J	AD	
		0.025	10	3/4	20	200	80		Precision High Speed BiFET	**AD712B**	**AD (3512, 3526)**	
				3.4	20	200	80		Precision High Speed BiFET	**AD712K**	**AD (3512, 3526)**	
										AD712T	† **AD (3512, 3526)**	55
	0.1	0.05	10	3.0	10	100	80			LF412AC	LinearTech	
										LF412AM	† LinearTech	
						150	100 *			OP215A	† LinearTech	
										OP215E	LinearTech	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
1	0.1	0.05	10								(Cont'd)	
				13 *	10	150	86	0	Dual JFET	OP215A	† AD	
									Precision JFET	OP215E	AD	
	0.2	0.04	10	10 *	45	200	86	0	Fast Setling, Precision	**OP42A**	**‡ AD (3526, 3528)**	
		0.1	10	3	10	50	80	0	Wideband JFET	LF412A	National	
			10 *	3	13	50		0	BiFET, General Purpose	TL288I	TI	5
				8 *	30 *	50	—	0		MC34082A	Motorola	
				16 *	55 *	50	—	—	Decompensated	MC34083A	† Motorola	
	0.25	0.125	20	13 *	45	150	78	0		**AD746S**	**AD (3512, 3528)**	
	2	0.8	6	1.8	3.4 *	15	65			TLE2062BC	TI	
	4	2	6	1.8	3.4 *	15	65			TLE2062BI	TI	10
	20	10		4	9	1			High Speed, Low Power	**OP282**	**AD (3512, 3527)**	
	40	5	10	0.15 *		300	86 *	0	Micropower, Precision	**OP220H**	**AD (3526)**	
	350	50	5 *	9 *	15	175	80	0	Bipolar/JFET Audio	**OP275G**	**AD (3526, 3512, 3529)**	
	500	600	—	2 *	50 *	20	80	0	Transconductance Amplifier	LM13700A	National	
	1000	180	2	37	11	150		0	Low Noise	MC33077	Motorola	15
1.0	0.001	0.0005 *	0.5 *	1.9 *	2	90	80	0	Low Noise, Precision	TLC2202M	† TI	
1.2	–0.0015	100	1.7 *	6	30	100	85		Low Noise, High Speed	TLE2142C	TI	
										TLE2142I	TI	
										TLE2142M	† TI	
1.35	0.004	0.002	1 *	1.5 *	0.7	48	67		CMOS, Rail-to-Rail	LMC6482AI	National	20
1.5	0.15	0.1	0.7 *	0.1	0.04	500*	88			TLC27L7C	TI	
			2	0.7	0.6	280*	88			TLC27M7C	TI	
			5 *	2.3	4.5	40	88			TLC277C	TI	
	0.2	0.1	6 *	3 *	13	50	75	0	JFET	TL052I	TI	
			8 *	3 *	13	50	75	0	JFET	TL052C	TI	25
			9 *	3 *	13	50	75	0	Bipolar JFET	TL052M	† TI	
			9.7 *	1 *	2	4	70	0	Low Power Bipolar JFET	TL032M	† TI	
	0.25	0.125	20	13 *	45	150	78	0		**AD746A**	**AD (3512, 3528)**	
				13*	45	150	78	0		**AD746J**	**AD (3512, 3528)**	
	350	50		14	50	150	90		Fast Settling	LM6118	† National	30
										LM6218A	National	
	500	10	5	70	90	500	100		Wideband, Single Supply	EL2243C	Elantec	
2			30	105	1300	10			Low Power, Dual Amp	CLC412I	Comlinear	
	-50	10	15	1 *		50	70	0		LM158A	TI	
	0.001 *	0.001 *	0.7 *	—	0.04 *	10	70	0		TLC27L2BC	TI	35
			2 *	—	0.6 *	10	70	0	LinCMOS, Medium Bias	TLC27M2BC	TI	
				1 *	0.6 *	30	65	0	LinCMOS, Medium Bias	TS27M2BC	SGS-Thomson	
			5 *	—	4.5 *	10	70	0		TLC272BC	TI	
			5	3.5 *	5.5 *	10	65	0	LinCMOS, High Bias	TS272BC	SGS-Thomson	
		0.005 *	0.7	0.11	0.05	30	70	0	LinCMOS, Low Power, Low Bias Mode	TLC25L2BC	TI	40
			2	0.635	0.62	20	70	0	LinCMOS, Low Power, Medium Bias Mode	TLC25M2BC	TI	
		0.01 *	0.7 *	0.1 *	0.04 *	60	65	0	LinCMOS, Low Bias	TS27L2BC	SGS-Thomson	
	0.004 *	0.002 *	6 *	2 *	2	30	72	0	JFET Low Power, High Drive	TLE2062AM	† TI	
	0.005	0.001	0.7 *	0.1	0.5	30	70	0	LinCMOS, Low Bias	TLC27L2BI	TI	
			2 *	0.6	0.6	20	70	0	LinCMOS, Medium Bias	TLC27M2BI	TI	45
			5	2.2	5.3	10		0	LinCMOS, High Bias	TLC252BC	TI	
			5 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC272BI	TI	
	0.01	0.005	20	60	300	180	80	0		MAX457	Maxim	
	0.015	0.012	15	2 *	2 *		82		Low Noise	**OPA2111K**	**Burr-Brown (3457, 3459)**	
	0.02	0.01	20	1	1	300	76		Precision Low Power BiFET	**AD648A**	**AD (3526)**	50
										AD648J	**AD (3526)**	
										AD648S	**† AD (3526)**	
	0.03	0.015	7	0.30	0.01	100	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD2706A	† AdvLinear	
		0.025	7	0.4	0.7 *	15	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD2701A	† AdvLinear	
	0.05	0.03	10 *	0.044 *	1.6 *	86	76	0		ICL7621A	Harris	55
				1	1.6	80 *	70	0	Low Power, Dual 747	ICL7622AC	Maxim	
										ICL7622AM	† Maxim	
									Low Power, Dual 1458	ICL7621AC	Maxim	
										ICL7621AM	† Maxim	
		0.1	20	3	10	50	80	0	Dual 0351A	LF353A	SGS-Thomson (Continued)	60

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance * Typical Value ° Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
2											(Cont'd)	
	0.075	0.075 *	20 *	1 *	3 *	200 *	76 *	0	Dual 542	AD642J	AD	
				2	3 *	100	76	0	Dual 544	AD644J	AD	
	0.1			3	8	100			Low Offset Voltage, JFET Input	LT1057	LinearTech	
		0.05	10 *	3 *	13 *	50	80	0	Bipolar JFET	µA772AC	National	
									Bipolar-JFET	µA772AM	† National	5
	1		100 *	70 *	300 *	65 *	66 *	0		MAX457C	Maxim	
	2	0.2	15	1 *	0.3 *	50	85	1	Dual 108	PM2108	AD	
									Dual 108	LH2108	† LinearTech	
		0.8	6	1.8	3.4 *	15	65			TLE2062AC	TI	
	4	2	6	1.8	3.4 *	15	65			TLE2062AI	TI	10
	5	0.6	18	50	75		110	0		VA2703	† VTC	
										VA2713	† VTC	
	5µA	4µA	10	50	600	2	63	0	Wideband, Current Mode Feedback	EL2232C	Elantec	
	10	10	4	3 *	1 *	200 *	100 *	0		SE5512	† Philips	
	20	10		4	9	1			Precision, Low Power	**OP482**	**AD (3512, 3527)**	15
	25	25	25	8 *	18	500	76	0	High Speed, Precision	**OP249G**	**AD (3512, 3526)**	
	45	5				100	85			IR9358	Sharp	
	50	10		7.0	±3		90		Dual Power Op Amp	MA912	AnalogSys	
			15	1		50	70		Low Power	LM158A	National	
				1 *	—	50	70	0	Low Power, Single Supply	CA158A	† Harris	20
										LM158A	† SGS-Thomson	
	75	5	10	0.8	0.5	50	90	0	Dual Matched	OP04C	AD	
										OP14	† AD	
										OP14C	AD	
		10	15	0.4	10	25	80			LH2101A	† National	25
				1 *	0.5 *	50	80	1	Dual LM101A High Performance	LH2101A	Raytheon	
	100	20	10	5.7 *	16 *	220	100 *	0	Precision Bipolar JFET	OP215B	† AD	
									Precision Bipolar-JFET	OP215F	AD	
	200	75	3 *	8 *	1	100	86	0	Low Noise, High Performance	HA5102-2	† Harris	
										HA5102-5	Harris	30
										HA5102-9	Harris	
				60 *	12	100	86	1	Wideband	HA5112-2	† Harris	
										HA5112-5	Harris	
										HA5112-9	Harris	
	300	400	15	35	200	2	80		High Speed, Low Power	**AD827**	**AD** (3530)	35
	400	200		10 *	8 *	2000	80			RM5532	† Raytheon	
										RM5532A	† Raytheon	
	500	10	7	30	40	300	95	0	Wideband, Single Supply	EL2242C	Elantec	
		50	10 *	3.5 *	13 *	50	80	1	High Performance, Single Supply	MC33072A	Motorola	
										MC34072A	Motorola	40
										MC35072A	† Motorola	
	750	150	2 *	16 *	5		100 *			MC33078	Motorola	
	800	200	—	10 *	13	50	80	1	Dual 5534	SE5532	† Philips	
										SE5532A	† Philips	
	5000	600		2 *	50 *		80		Transconductance Amplifiers	LM13600A	National	45
	8200	0.3	15 *	35	200	3.5 *	95 *	0		**AD827J**	**AD** (3530)	
	9500	0.3	15 *	35	200	3.5 *	95 *	0		**AD827A**	**AD** (3530)	
										AD827S	**AD** (3530)	
										AD827S/883B	† **AD** (3530)	
2.5	0.1	0.05	5 *	3	8	50	80		Precision, JFET	LT1058	LinearTech	50
		0.1	2 *	2.18 *	3.6 *	35 *	75 *			TLC2272C	TI	
						50 *	85 *			TLC2272Y	TI	
3			1.3 *	0.01 *	0.015	200	68		Low Power	LMC6042AI	National	
				0.35 *	0.07	200	70		CMOS, Rail-to-Rail, Single 5V	LPC662AI	National	
				1.4 *	1.1 *	200	70		CMOS, Rail-to-Rail Single 5V Supply	LMC662AI	National	55
	–80	15	7	0.6	0.2	50	70	0	Bipolar, High Gain, Low Power	LM258A	TI	
	0.01			0.004	3	100	60		Unity Gain Stable, Single Supply	MAX407C	Maxim	
										MAX407E	Maxim	
										MAX407M	† Maxim	
	0.02	0.02	1.3 *	0.35 *	0.07	200	70		CMOS, Rail-to-Rail, Single 5V	LPC662AM	† National	60
										LPC662AM/883	† National	
				1.4 *	1.1 *	200	70		CMOS, Rail-to-Rail Single 5V Supply	LMC662AM	† National	
										LMC662AM/883	† National	
	0.03	0.005		3	13	200	76			IR9082	Sharp	
	0.075	0.025	20	3	20	150	76		Precision High Speed BiFET	**AD712A**	**AD (3512, 3526)**	65
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
3	0.075	0.025	20	3	20	150	76		Precision High Speed BiFET		(Cont'd)	
										AD712J	**AD (3512, 3526)**	
										AD712S	† **AD (3512, 3526)**	
	0.1 *	0.004 *	8 *	20 *	25 *	100 *	100 *	0	Dual FET-Input, Audio	**OPA2604A**	**Burr-Brown (3458)**	
	0.1	0.05	5 *	3	8	40	78		Precision, JFET	LT1057I	LinearTech	
	0.2	0.05	10 *	3 *	13 *	50	80	0	Low Noise, Bipolar JFET	TL072BC	SGS-Thomson	5
				4 *	13 *	50	80	0	Low Noise, Bipolar JFET	TL072BC	Motorola	
		0.1	7 *	2.7	8	25	70	0	BiFET, Low Offset	LF412	TI	
			10 *	1 *	3.5 *	4	80	0	Low Noise, Bipolar JFET	TL062BC	TI	
									Low Power, Bipolar JFET	TL062BC	SGS-Thomson	
				2 *	2	4	80	0	Low Power, JFET	TL062BC	Motorola	10
				3 *	13	50	80	0	Bipolar JFET	TL082B	SGS-Thomson	
					15 *	50	80	0	Bipolar JFET	TL082B	Motorola	
										TL082BC	TI	
									Bipolar-JFET	TL082BC	SGS-Thomson	
										TL288C	TI	15
										TL288M	† TI	
				8 *	30 *	25	—	0		MC34082	Motorola	
				16 *	55 *	25	—	—	Decompensated	MC34083	Motorola	
										MC34083	† Motorola	
			20	0.7	8	25	70	0	Wideband JFET	LF412	National	20
				3.0	8	50	82			OP215C	† LinearTech	
										OP215G	LinearTech	
	0.5	0.05	10 *	4 *	7	20	70		High Speed JFET	**OP282G**	**AD (3512, 3527)**	
	25	4	15 *	0.8 *	0.55	100	80		With Dual Comparators and Adjustable Reference	LM613AI	National	
	80	15	15	1		50	70		Low Power	LM258A	National	25
				1 *	—	50	70	0	Low Power, Single Supply	CA258A	Harris	
										LM258A	SGS-Thomson	
		30	15	0.4	0.3	50	80	0	Dual 741	LM747A	† National	
										LM747E	National	
				0.44	0.3	50	80	0	Dual 741	µA747AM	† National	30
										µA747EC	National	
	100	20	10						Dual Independent Op Amps	SG2101A	† Linfinity Micro	
		30	20	1		25	65		Low Power	LM358A	National	
				1 *	—	25	65	0	Low Power, Single Supply	CA358A	Harris	
					0.3 *	25	65	0		LM358A	Philips	35
			30	—	—	25	65	0	Low Power, Single Supply	LM358A	SGS-Thomson	
	200	50			4	20	70			NJM4565	NJR	
	500	50	2	2.5	1.2	50	80	0		MC33178	Motorola	
			10 *	3.5	8	25	80	1	High Performance, Single Supply	XR34072A	Exar	
		200			3		70		Low Noise	**NJM2041**	**NJR** (3704)	40
	750	400	3 *	—	2 *	20	70	3	Audio Preamp	µA749C	National	
	1000		10	150	1400	2000	55	0	Unity Gain Stable, Curent Mode	EL2260C	‡ Elantec	
		200		5.5	7		80		Low Noise	**NJM2065**	**NJR** (3704)	
				14 *	6 *	100 *	100 *	0		NJM2043	NJR	
	3000		10 *	150	1400	2000	55	0	Unity Gain Stable, Curent Mode	EL2260	Elantec	45
	5000	700	5 *	9 *	125 *	50	80	1	Transconductance Amp	CA3280	Harris	
3.5	25	4	15 *	0.8 *	0.55	100	80		With Dual Comparators and Adjustable Reference	LM613AM	† National	
	300	50	5 *	1.5	1 *	—	86	0	High Performance	LS204	SGS-Thomson	
	500	100		13	50	100	80		Fast Settling	LM6218	National	
	1000		8	90	1000		62	0	Current Feedback Operational Amplifier	**OP260A**	‡ **AD (3512, 3530)**	50
		-	8	90	1000		62	0	Current Feedback Operational Amplifier	**OP260E**	**AD (3512, 3530)**	
3.7	0.004	0.002	1 *	1.5 *	0.63	30	62		CMOS, Rail-to-Rail	LMC6482I	National	
3.8	0.001	0.005	1 *	1.5 *	0.54	25	60		CMOS, Rail-to-Rail	LMC6482M	† National	
3.9	1.8	0.65	20		10	50	76		JFET Input	LF412C	LinearTech	
4		10			1	85 dB	80	1		TAF2453	Siemens	55
		100			0.5	85 dB	80			TAA2762	Siemens	
	0.004 *	0.002 *		0.04 *	2.6	30	72			TLE2062Y	TI	
			6 *	2 *	2	30	72	0	JFET Low Power, High Drive	TLE2062M	† TI	
	0.015	0.01		4	10	14	83			CA5260A	Harris	
	0.1	0.05	5 *	3	8	40	78		Precision, JFET	LT1058I	LinearTech	60
	0.175	0.1	25	8	30	85	80		High Speed JFET	TLE2082AC	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
4	0.175	0.1	25	8	30	85	80		High Speed JFET		(Cont'd)	
										TLE2082AI	TI	
										TLE2082AM	† TI	
	2	0.8	6	1.8	3.4 *	15	65			TLE2062C	TI	
		1	10 *	3	10 *	25	70	2	Wideband	MC34182	Motorola	
	4	2	6	1.8	3.4 *	15	65			TLE2062I	TI	5
	200	50	20	5.4 *	15 *	200	96 *	0	Precision Bipolar JFET	OP215C	† AD	
									Precision Bipolar-JFET	OP215G	AD	
	250		10	0.014	0.5		60			**PA25A**	**† Apex (3545)**	
	500	75	10 *	4.5 *	13 *	25	70	1	High Performance, Single Supply	MC33072	Motorola	
										MC34072	Motorola	10
										MC35072	† Motorola	
		600	—	2 *	50 *	20 *	80	0	Transconductance Amplifier	LM13700	† National	
	700	100	25	—	9 *	18	70	0	General Purpose, OC Output	TEC1761M	† SGS-Thomson	
	800	150		10 *	8 *	100 *	100 *	0		**NJM5532**	**NJR (3704)**	
				10	9	25	70	0	Low Noise	NE5532	TI	15
										NE5532A	TI	
										NE5532AI	TI	
				10 *	9 *	25	70	0	Low Noise	NE5532I	TI	
		200		10 *	8 *	1000	80			RC5532	Raytheon	
										RC5532A	Raytheon	20
	1500	300							Low Noise	BA10358	ROHM	
			—	10 *	13 *	25	70	1	Dual 5534	XR5532	Exar	
										XR5532A	Exar	
										XR5533	Exar	
										XR5533A	Exar	25
										NE5532	Philips	
										NE5532A	Philips	
										NE5533	† Philips	
						100 *	100 *			**NJM5534**	**NJR (3704)**	
			5		100				Low Noise	BA15532	ROHM	30
			5 *	10 *	13 *	25	70	3	Can be compensated with 1 capacitor, but reduces BW and slew rate.	NE5533A	Philips	
	5000	600		2 *	50 *		80		Transconductance Amplifier	LM13600	National	
		1000			50		80		Transconductance Amp.	NJM13600	NJR	
										NJM13700	NJR	
	6000	800	10	4.5	200	0.3	74		High Slew Rate	LH4162A	† National	35
4.5	4	2	10 *	3	10 *	25	70	2	Wideband	MC33182	Motorola	
	100	2		1.8	2.1	50	80		Low Power, Single Supply	MC33172	Motorola	
										MC35172	† Motorola	
5	-100	30	7	0.6	0.2	25	65	0	Bipolar, High Gain, Low Power	LM358A	TI	
	-150	30	7	0.6	0.2	50	70	0	High Gain, Low Power Bipolar	LM258	TI	40
	-1500	50	10 *	3.5	8	25	70			TL33072	TI	
										TL34072	TI	
										TL35072	TI	
	0.0007	0.0001	1 *	0.11	0.05	50	65	0	LinCMOS, Low Bias	TLC252AC	TI	
	0.001 *	0.001 *	0.7 *	—	0.04 *	10	70	0		TLC27L2AC	TI	45
				0.1 *	0.04 *	60	65	0	LinCMOS, Low Bias	TS27L2AC	SGS-Thomson	
			2 *	—	0.6 *	10	70	0		TLC27M2AC	TI	
			2	1 *	0.6 *	30	65	0	LinCMOS, Medium Bias	TS27M2AC	SGS-Thomson	
			5 *	—	4.5 *	10	70	0		TLC272AC	TI	
				3.5 *	5.5 *	10	65	0	LinCMOS, High Bias	TS272AC	SGS-Thomson	50
		0.005 *	2	0.635	0.62	20	70	0	LinCMOS, Low Power, Medium Bias Mode	TLC25M2AC	TI	
	0.005	0.001	0.7 *	0.1	0.05	30		0	LinCMOS, Low Bias	TLC25L2AC	TI	
							70	0	LinCMOS, Low Bias	TLC27L2AI	TI	
			2 *	0.6	0.6	20	70	0	LinCMOS, Low Bias	TLC27M2AI	TI	
			5 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC272AI	TI	55
	0.03	0.015	7	0.30	0.01	100	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD2706B	† AdvLinear	
		0.02		4	10	50	94			CA3260A	Harris	
			6 *	4 *	10 *	50 *	70	0	Dual 3160	CA3260	Harris	
		0.025	7	0.4	0.7 *	15	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD2701B	† AdvLinear	
	0.04	0.02	15 *	4.5 *	9 *	20	70	0	Dual 3140A, MOS FET	CA3240A	Harris	60
	0.05	0.03	15 *	0.044 *	1.6 *	80	70	0		ICL7621B	Harris	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units											(Cont'd)	
5	0.05	0.03	15 *								(Cont'd)	
				1	1.6	80	70	0	Low Power, Dual 1458	ICL7621BC	Maxim	
										ICL7621BM	† Maxim	
									Low Power, Dual 747	ICL7622BC	Maxim	
										ICL7622BM	† Maxim	
	0.1	0.05	7 *	0.6	0.6	25	70	0	Low Power-JFET	LF442	National	5
			10	2	0.6	25	70		Low Power JFET Input	LF442C	Motorola	
			10 *	2 *	6 *	25		0	Low Power JFET Input	LF422C	Motorola	
		0.07	10 *	4 *	13 *	25	80	0	JFET Input	MC34002B	Motorola	
		0.1	10 *	3 *	13 *	50	80	0	Bipolar JFET	µA772BC	National	
										µA772BM	† National	10
	0.2	0.1		2.7	8	50	80		Wide Bandwidth	LF453C	National	
			10 *	4 *	13 *	25	70	0	Bipolar JFET	MC35002B	† Motorola	
			30	4 *	13 *	50	80	0	Dual 0351B	LF353B	SGS-Thomson	
	7.5	3	3 *	1 *	15 *	200	70	0	Multi-Purpose Programmable	µA776M	† National	
	10	10	—	1	1	100	100	0	Low Noise	NE5517	Philips	15
										NE5517A	Philips	
	20	20	5	3 *	1 *	200 *	100 *	0		NE5512	Philips	
										SA5512	Philips	
	25	4	15 *	0.8 *	0.50	94	75		With Dual Comparators and Adjustable Reference	LM613M	† National	
	30	12	20		10	30	80		JFET Input	LF412M	† LinearTech	20
	35	4	15 *	0.8 *	0.50	94	75		With Dual Comparators and Adjustable Reference	LM613C	National	
										LM613I	National	
	100	25	10	0.8	0.25	50	70	0	Dual Matched	OP04B	† AD	
			20	0.8	0.25	25	70	0	Dual Matched	OP14D	AD	
		40	—	0.8 *	0.5 *	4	60	0	Low Power	TL022M	† TI	25
		50	20	0.8	0.25	25	70	0	Dual Matched, High Performance	OP14B	AD	
	150	30	7 *	1		50	70		Low Power	LM158	National	
										LM258	National	
				1 *	—	50	70	0	Half LM124	CA158	† Harris	
										CA258	Harris	30
										LM158	† Motorola	
										LM158	† Philips	
										LM258	Philips	
										SE532	† Philips	
										LM158	† SGS-Thomson	35
										LM158	† TI	
					0.3 *	100 *	85	0		LM124	Philips	
			7	1	0.3 *	100 *	85	0		LM224	Philips	
	200	80	—	0.8 *	0.5 *	1	60	0	Low Power	TL022C	TI	
		100			1.2	100	70		Single-Supply	**NJM3404A**	**NJR (3704)**	40
	250	50	7 *	1		50	65		Low Power	LM392	National	
		80			0.5		60		Low Power	NJM022	NJR	
					1		60		Low Power	**NJM022B**	**NJR (3704)**	
			—	0.8 *	0.5 *	1	60	0	Low Power	IR9022	Sharp	
	500	50	10 *	1 *	0.6 *	50	70	0	Single Supply	MC3558	† Motorola	45
		75	10 *	3.5	8	20	70	1	High Performance, Single Supply	XR34072	Exar	
		200	—	1 *	0.5 *	50	70	0	Dual 741	SFC2747M	† SGS-Thomson	
					0.8 *	50	70	0	Dual 741	LM1458M	† SGS-Thomson	
				1.3	1		80		High Output	NJM3414	NJR	
										NJM3415	**NJR (3704)**	50
			—	2	0.8	20	70	0	Low noise	LS4558N	† SGS-Thomson	
					1.5 *	50	70	0	Dual Wideband 741	RM4558	† TI	
			—	2.5 *	1.5 *	20	70	0	Dual Wideband 741C	KA4558	Samsung	
				2.5	1.5	50	70	0	Dual Wideband 741	MC4558	† SGS-Thomson	
					1.5 *	50	70	0	Dual Wideband 741	GL4558	† GoldStar	55
										MC4558A	Motorola	
				3	1.5	50	70	0	3 MHz Min. BW	RM4559	† TI	
			2–15 *	1 *	0.5 *	25	70	0	Dual 741	LM1558	† National	
						50	70	0	Dual 741	CA1558	† Harris	
										MC1558	† Motorola	60
										MC1747	† Motorola	
										µA747M	† National	
										MC1558	† Philips	
										RM747	† Raytheon	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
5	500	200	2–15 *	1 *	0.5 *	50	70	0	Dual 741		(Cont'd)	
										MC1558	† SGS-Thomson	
										µA747-1M	† TI	
										µA747M	† TI	
										MC1558	† TI	
				3 *	0.25	25	70	3	Dual MC1709	MC1537	† Motorola	5
			4 *	3 *	1 *	300 *	100 *	0		NE4558	Philips	
			5						Low Noise	BA15218	ROHM	
			10 *	1	0.5 *	200 *	70	0		µA747C	Philips	
					0.8 *	100 *	90 *	0		SA1458	Philips	
			15 *	1 *	0.5 *	50	70	0	Dual 741	LM747	† National	10
	1000	200	—	0.12	7 *	30	80	0	Low Noise, High Speed	LM833	National	
			2 *	15 *	7 *	25	100 *	0	Low Noise, Audio	LM833	Motorola	
	2000	-	8	90	1000		62	0	Current Feedback Operational Amplifier	**OP260F**	**AD (3512, 3530)**	
	15000		30	350 *	1100 *		45	0	Current Feedback, Disable Controls	HFA1245	Harris	
									Low Power, Current Feedback	HFA1205	Harris	15
						1000	45	0	Selectable Gain of 2, 1, or –1	HFA1212	† Harris	
										HFA1412	† Harris	
	45000	3000		600			80			SG3049	‡ Linfinity Micro	
5.5		15			1	80 dB	75	1		TAE2453	Siemens	
		200			0.5	80 dB	75			TAA2765	Siemens	20
6			1.3 *	0.01 *	0.010	100	62		Low Power	LMC6042I	National	
				0.35 *	0.05	100	63		CMOS, Rail-to-Rail, Single 5V	LPC662I	National	
				1.4 *	1.1 *	100	63		CMOS, Rail-to-Rail Single 5V Supply	LMC662C	National	
										LMC662E	National	
	0.2	0.05	10 *	3 *	13 *	35	80	0	Low Noise, Bipolar JFET	TL072M	† SGS-Thomson	25
						50	80	0	Low Noise, Bipolar JFET	TL072AC	SGS-Thomson	
										TL072I	SGS-Thomson	
									Low Noise Bipolar JFET	TL072M	† TI	
				4 *	10	35	70	0	Low Noise Bipolar JFET	TL072M	† Motorola	
					13 *	50	80	0	Low Noise Bipolar-JFET	TL072AC	Motorola	30
										TL072AC	TI	
		0.1	10 *	1	3.5	4	80	0	BiFET, Low Power	TL062I	TI	
				1 *	3.5 *	4	80	0	Low Power Bipolar JFET	XR062A	Exar	
									Low Power, Bipolar JFET	TL062AC	SGS-Thomson	
										TL062I	SGS-Thomson	35
										TL062M	† SGS-Thomson	
									Low Power Bipolar JFET	TL062AC	TI	
									Low Power Bipolar-JFET	TL062M	† TI	
				2 *	2	4	80	0	Low Power JFET	TL062AC	Motorola	
									Low-Power J-FET	TL062M	† Motorola	40
				3	13	50	80	0	BiFET, General Purpose	TL082I	TI	
									BiFET General Purpose	TL083I	TI	
									BiFET, Low Noise	TL072I	TI	
				3 *	13 *	50	80	0	Bipolar JFET	XR082	Exar	
										XR082M	† Exar	45
										XR083	Exar	
										XR083M	† Exar	
										TL082A	Motorola	
					13	50	80	0	Bipolar JFET	TL082A	SGS-Thomson	
					13 *	50	80	0	Bipolar JFET	TL082AC	SGS-Thomson	50
										TL082I	SGS-Thomson	
										TL082M	† SGS-Thomson	
										TL082AC	TI	
										TL082M	† TI	
										TL083AC	TI	55
				4 *	13 *	25	80	0	JFET Input	TL082M	† Motorola	
	0.3				4 *	70 *	60	0	Single Supply, 1 V min	NJM2100	NJR	
	10	6	3 *	1 *	15 *	50	70	0	Multi-Purpose Programmable	µA776C	National	
	70	200			0.15	100dB	70			LA6515	Sanyo	
	100	10	3 *	0.4 *	0.8	20	70			HA5142-9	Harris	60
							77			HA5142-2	† Harris	
										HA5142-5	Harris	
				0.4	1	100 *	77	0	Ultra-Low Power	HA5142	Harris	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ♀ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
6											(Cont'd)	
	250	50	7*	1*	0.6*	25	65	0	Half LM244/324	LM258	Motorola	
										LM358	Motorola	
										NE532	Philips	
		75	10*	1*	0.6*	20	70	0	Single Supply, I/O Operates to Ground	µA798C	National	
	500	120		8	3		70		High Current	**NJM4556**	**NJR** **(3704)**	5
		200				20	60			MC1458N	Samsung	
							70			NJM4562	NJR	
			—	—	—	20	70	0	General Purpose	IR91458	Sharp	
					1*		90			BA715	ROHM	
					1.1	100 dB	90			LA6458	Sanyo	10
					2	20	70			**NJM4558**	**NJR** **(3704)**	
										NJM4559	NJR	
					4	20	70			**NJM4560**	**NJR** **(3704)**	
			—	1*	0.5*	20	70	0	Dual 741C	LM1458	National	
										LM747C	National	15
										MC1458	Samsung	
				1	0.5	20	70	0	General Purpose	MC1458	TI	
			—	1*	0.5*	20–50	70	0	Dual 741C	XR1458	Exar	
										MC1458	Motorola	
										MC1747C	Motorola	20
										µA747C	National	
										MC1458	Philips	
										µA747C	TI	
						25	70	0	Dual 741	SFC2747C	SGS-Thomson	
						86 dB	70	0	Dual NJM741	NJM1458	NJR	25
					0.8*	20	70	0	Dual 741	LM1458C	SGS-Thomson	
				1.0	0.5	20	86			LM1458	Harris	
			—	2	0.5*	20	70	0	Dual Wideband 741C	MC4558C	Motorola	
					1	20	70	0	Dual Wideband 741	MC4558C	SGS-Thomson	
				2*	1*	20	70	0	Dual Wideband 741C	KA4558C	Samsung	30
				3*	1	20	70	0	Low Noise	XR4739	Exar	
					1*	20	70	0	Low Noise	IR94558	Sharp	
					1	20	70	0	Wideband 741	XR4558	Exar	
										RC4558	Raytheon	
										RC4558	TI	35
					1.1	20	70	0	Wideband 741	RC4558Y	TI	
				3	1.5	20	70	0	3 MHz Min. Bandwidth	RC4559	Raytheon	
									3 MHz Min Bandwidth	RC4559	TI	
				6*	2*	20	70	0	Low Noise	IR94559	Sharp	
				10*	2.8*	20	70	0	Wideband 741	XR4560	Exar	40
				15*	5*	20	70	0	High Slew Rate	IR3F02	Sharp	
			3		150				Low Noise	BA4558	ROHM	
			4*	3*	1*	300*	100*	0		SA4558	Philips	
										SE4558	† Philips	
			6*	0.8*	0.3	20	70	0	Dual 741C	MC1458	SGS-Thomson	45
	650	35	20	100	90	10	70	1	High Speed, Fast Settling	MAX428C	Maxim	
										MAX428M	† Maxim	
	1000	300	6*	—	9*	10	65	0	General Purpose, OC Output	TEC1761C	SGS-Thomson	
	2800	500		41	0.5		86			CA1458	Harris	
	6000	1900	10	4.5	200	0.35	70		High Slew Rate	LH4162C	National	50
6.3	0.002	0.001	1.3	1.4	0.7	150	62	0		LMC662AC	National	
7	-100	30	15*	0.4*	0.15	25	65	0	High Temperature	TL2828Y	TI	
										TL2828Z	TI	
	-250	50	7	0.6	0.2	15	65	0		LM358Y	TI	
	-250	50	7*	0.6	0.2	25	65	0	Low Power, High Gain Bipolar	LM358	TI	55
			7	0.6	0.2	100*	50	0	Bipolar, High Gain, Low Power	LM2904	TI	
										LM2904Q	TI	
	0.175	0.1		8	30	85	80		High Speed JFET	TLE2082Y	TI	
			25	8	30	85	80		High Speed JFET	TLE2082C	TI	
										TLE2082I	TI	60
										TLE2082M	TI	
	100	30	—	—	—	25	65		Selectable Gain of 10, 100, 400	KA358A	Samsung	
	200	50				25	65	0	Single Supply	TL321C	TI	
	250	50				25	65		Selectable Gain of 10, 100, 400	KA358	Samsung	
											(Continued)	

† Mil Temp Range (–55° to 125°C)
‡ High Rad Resistance
*Typical Value
°Behavioral Model Available
ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
7	250	50									(Cont'd)	
						100 *	50			KA2904	Samsung	
						100	85		Single-Supply	**NJM2904**	**NJR (3704)**	
				0.3 *		100 *	85 *			TA75W01FU	Toshiba	
				1.0		25	88			LM358	Harris	
						100	100			LM2904	Harris	5
			7 *	—	—	100 *	50	0	Single Supply	LM2904	SGS-Thomson	
			7	0.2	0.25	25	65	0	Dual Internal Compensation	GL358A	GoldStar	
			7 *	1		25	50	0	Low Power	LM2904	National	
										LM2924	National	
							65		Low Power	LM358	National	10
				1 *	—	25	65	0	Half LM224	LM358	SGS-Thomson	
									Low Power, Single Supply	CA358	Harris	
					0.3 *	25	65	0		LM2904	Philips	
										LM358	Philips	
										SA532	Philips	15
						100 *	70 *	0		AU2904	Philips	
			7	1	0.3 *	100 *	70	0		LM2902	Philips	
										LM324	Philips	
			7 *	1 *	0.6	100 *		0		LM2904	Motorola	
	259	50				100	65			LA6358	Sanyo	20
	300	100			0.15	85 dB	80			LA6517	Sanyo	
	1200	250		1			100			CA2904	Harris	
	3000	.	8	90	1000		62	0	Current Feedback Operational Amplifier	**OP260G**	**AD (3512, 3530)**	
7.5	250	50	30	0.4	10	15	70			LH2301A	National	
	1500	500	1.5 *	1 *	0.25 *	15	65	3	Matched Dual MC1709C	MC1437	Motorola	25
8	-500	75	10 *	1	0.6	20	70	0	Low Power	TL322I	TI	
	500	75	10 *	1 *	0.6 *	20		0	Split Supplies	MC3358	Motorola	
9			2.3 *	1.4 *	1.1 *	100	63		Low Power	LMC6032I	National	
			2.5 *	0.35 *	0.11 *	100	63		Low Power	LMC6022I	National	
10		100			2 *	70 dB	70			TCA2465	Siemens	30
	0.0006 *	0.0001 *	1.1 *	0.085 *	0.03 *	50	65	0		TLC25L2Y	TI	
			1.7 *	0.525 *	0.43 *	25	65	0		TLC25M2Y	TI	
			1.8 *	1.7 *	3.6 *	5	65	0		TLC252Y	TI	
	0.0007 *	0.0001 *	2 *	2.2 *	3.6 *	10	65	0		TLC252C	TI	
	0.001	0.001		0.1	0.5		60		Low Voltage	**NJU7002**	**NJR (3705)**	35
				0.4	0.4		60		Low Voltage	NJU7022	NJR	
				1.5	3.5		60		Low Voltage	NJU7032	NJR	
	0.001 *	0.001 *	0.7 *	—	0.04 *	10	70	0		TLC27L2M	† TI	
				0.1 *	0.04 *	60	65	0	LinCMOS, Low Bias	TS27L2C	SGS-Thomson	
										TS27L2I	SGS-Thomson	40
										TS27L2M	† SGS-Thomson	
			2 *	—	0.6 *	10	70	0		TLC27M2M	† TI	
				1 *	0.6 *	30	65	0	LinCMOS, Medium Bias	TS27M2C	SGS-Thomson	
										TS27M2I	SGS-Thomson	
										TS27M2M	† SGS-Thomson	45
			5 *	—	4.5 *	10	70	0		TLC272C	TI	
										TLC272M	† TI	
				3.5 *	5.5 *	10	65	0	LinCMOS, High Bias	TS272C	SGS-Thomson	
										TS272I	SGS-Thomson	
										TS272M	† SGS-Thomson	50
		0.005 *	0.7	0.11	0.05	30	70	0	LinCMOS, Low Power, Low Bias Mode	TLC25L2C	TI	
			2	0.635	0.62	20	70	0	LinCMOS, Low Power, Medium Bias Mode	TLC25M2C	TI	
	0.005	0.001 *	0.7 *	0.1	0.04 *	20		0	LinCMOS, Low Bias	TLC27L2C	TI	
		0.001	0.7 *	0.1	0.05	30	70	0	LinCMOS, Low Bias	TLC27LI	TI	
										TLC27L2I	TI	55
		0.001 *	2 *	0.6	0.6 *	20		0	LinCMOS, Medium Bias	TLC27M2C	TI	
		0.001	2 *	0.6	0.6	20	70	0	LinCMOS, Medium Bias	TLC27M2I	TI	
			5 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC272I	TI	
	0.03	0.015	7	0.30	0.01	100	65	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD2706	† AdvLinear	
		0.03	7	0.7 *	0.7 *	10	60	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD4701	† AdvLinear	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Dual Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
10											(Cont'd)	
	0.05	0.03	7	0.7 *	0.7 *	10	60	0	CMOS, Rail-to-Rail, Single/Dual 5V Supply	ALD2701	† AdvLinear	
			40	1.6	6		95	0		OPA2541A	Burr-Brown	
	0.1	0.03	10	3	10	40	90	1	JFET Input	MA336	AnalogSys	
		0.1	10 *	4 *	13 *	25		0	JFET Input	MC35002	† Motorola	
							80	0	JFET Input	MC34002	Motorola	5
	0.2			3	13	25		0	BiFET, General Purpose	LF353	TI	
		0.05			13	3	70		JFET Input	**NJM072B**	**NJR (3704)**	
			10 *	4 *	13 *	25	70	0	Low Noise Bipolar FET	TL072C	Motorola	
									Low Noise Bipolar-FET	TL072C	SGS-Thomson	
										TL072C	TI	10
						50	80	0	Low Noise Bipolar JFET	TL072BC	TI	
		0.1	10 *	3 *	13 *	50	70	0	Bipolar JFET	µA772C	National	
				4 *	13 *	25	70	0	Dual 351	LF353	SGS-Thomson	
									Dual 351, Wide Band	LF353	Motorola	
										LF353	National	15
		0,05			20	3	70		JFET Input	NJM072	NJR	
	0.4	0.2			20		70		JFET	**NJM2082**	**NJR (3704)**	
	3 µA	1.5 µA	50 *	100 *	100	180000	70	0	Video Op Amp	EL2211C	Elantec	
	500	50	7	1	0.6	20		0	Low Crossover Distortion	MC3458	Motorola	
			10 *	1 *	0.6 *	20	70	0	Low Power	IR3F01	Sharp	20
		75	10 *	1 *	0.6 *	20	70	0	Low Power	TL322C	TI	
	700	300	—	1 *	0.5 *	20	60	0	Dual 741C	MC1458C	Samsung	
			6 *	0.8 *	0.3	20	60	0	Dual 741C	MC1458C	SGS-Thomson	
			15 *	1.1 *	0.5 *	20	60	0	General Purpose	MC1458C	Motorola	
	1000		15 *	0.014	0.5		60			**PA25**	**† Apex (3545)**	25
									12-Pin SIP	**PA26**	**† Apex (3545)**	
		100		1.2	2*	70	66	0		L2720	SGS-Thomson	
										L2722	SGS-Thomson	
										L2724	SGS-Thomson	
										L2726	SGS-Thomson	30
12	1000	400	5		150				Low Noise	BA4560	ROHM	
15				100	300				Fast Slew Rate	LT1229	LinearTech	
										LT1230	† LinearTech	
	0.01	0.1	10 *	100 *	2500 *	59	55		Current Feedback	LT1229C	LinearTech	
										LT1229M	† LinearTech	35
	0.015	0.01		4	10	10	80			CA5260	Harris	
	0.05	0.03	15 *	4.5 *	9 *	20	70	0	Dual 3140A, MOS FET	CA3240	Harris	
			25 *	0.044 *	1.6 *	80	70	0	Low Power, Dual 1458	ICL7621D	Harris	
				0.48 *	0.16 *	10	70	0	Low Power	ICL7621DM	† Maxim	
				1 *	1.6	80 *	70	0	Low Power, Dual 1458	ICL7621DC	Maxim	40
									Low Power, Dual 747	ICL7622DC	Maxim	
	0.2	0.1	10 *	3 *	13 *	50	70	0	Bipolar JFET	µA772LC	National	
		0.2	10 *	2 *	2	3	70	0	Low Power JFET	TL062C	Motorola	
	0.4	0.2			3.5	3	70		JFET Input	**NJM062**	**NJR (3704)**	
					13	3	70		JFET Input	NJM082B	NJR	45
					20	3	70		JFET Input	NJM082	NJR	
			10 *	1 *	3.5 *	3	70	0	Low Power Bipolar JFET	TL062C	SGS-Thomson	
									Low Power Bipolar-JFET	TL062C	TI	
				3 *	13 *	25	70	0	Bipolar JFET	XR082C	Exar	
					13	25	70	0	Bipolar JFET	TL082	SGS-Thomson	50
					13 *	25	70	0	Bipolar JFET	TL082C	SGS-Thomson	
									Bipolar-JFET	XR083C	Exar	
										TL082C	Motorola	
										TL082C	TI	
										TL083C	TI	55
				4 *	8 *	25	70	0	Bipolar JFET	TL082C	National	
	100			90 *	250 *	560	55		Cable Driver	LT1253C	LinearTech	
										LT1254C	LinearTech	
15 *	2500	250	—	0.35 *	1 *	3 *	70 *	0	Output current to 1A	L272	SGS-Thomson	
										L272M	SGS-Thomson	60
19	650	120		110	100	5	60	2		VA2708	† VTC	
20	0.05	0.1	15 *	0.5	0.6	2	45	0	Low Power	HI8575	† Holt	
	3 µA	1.5 µA	100 *	60 *	85	160000	64	0	Video Op Amp	EL2210C	Elantec	
	850	100	40	40 *	38	1	58	0		VA2706J	VTC	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source
Dual Units											**(Cont'd)**
30	5000		35 *	150 *					Wide-Bandwidth, Transconductance	**OPA2662A**	**Burr-Brown (3460)**
60	2500	250		0.35*	1*	60	75*	0		L272D	SGS-Thomson
75	10	5	1.3	1.5	0.3	400	100		Dual Low Noise	RC4207F	Raytheon
150	20	10	0.7 *	1.5	0.3	250	94		Dual Low Noise	RC4207G	Raytheon
300	0.01			1	1.8 *		86		Precision Low-Power BiFET	**AD648C**	**AD (3526)**
410	0.2	0.1	10		13	425	70		JFET Input	**NJM353**	**NJR (3704)**
Triple Units											
5	0.05	0.03	10 *	1	1.6	80 *	70	0	Low Power	ICL7631BC	Maxim
										ICL7631BM †	Maxim
								1	Low Power	ICL7632BC	Maxim
										ICL7632BM †	Maxim
6	0.03	0.01				50		0		TL8023	TLSI
10	0.05	0.03	20 *	1	1.6	80	70	0	Low Power	ICL7631CC	Maxim
										ICL7631CM †	Maxim
								1	Low Power	ICL7632CC	Maxim
										ICL7632CM †	Maxim
20	0.05	0.03	30 *	1	1.6	80	70	0	Low Power	ICL7631EC	Maxim
								1	Low Power	ICL7632EC	Maxim
				1.4 *	1.6 *	10	70	0	CMOS, Low Power, Programmable Bias	ICL7631EM †	Maxim
										ICL7632EM †	Maxim
Quad Units											
	200			2.5 *	0.5 *	1.2				LM2900	National
										LM3900	National
—	200			2.5	0.5	1.2		0	Single Supply, Bipolar Norton Amplifier	LM3900	TI
	300			2.5 *	0.5 *	1.2				LM3301	National
				4 *	0.5 *	2		0		LM3900	Motorola
0.005	0.05		0.05		4 *	1000				LTC1053C	LinearTech
0.015	0.09	0.02	0.15	1.5	2.5	500	110	0	Auto-Zeroed	TC914A	TeledyneC
										TC914AC	TeledyneC
0.03	0.12	0.04	0.25	1.5	2.5	300	100	0	Auto-Zeroed	TC914B	TeledyneC
										TC914BC	TeledyneC
0.05	0.028	0.015		0.45	0.12	450	115		Precision, Low Power	LT1114AC	LinearTech
										LT1114AM †	LinearTech
0.09	20		1		3	2000			Precision, Low Noise, High Speed	LT1125AC	LinearTech
					8	2			Precision, Low Noise, High Speed	LT1127AC	LinearTech
0.1	0.2	0.15	1	0.8 *	0.1 *	2000 *	104	0		**AD704T/883B †**	**AD (3526)**
	1.0	0.2		1.0	0.3	2000	115			**OP400A †**	**AD (3526)**
										OP400E	**AD (3526)**
	5	0.25	2.2		0.13	105	90			LT1179AC	LinearTech
	25	25	1.2	4 *	0.75	1500	115			HA5134A-2 †	Harris
										HA5134A-5	Harris
				4	0.75	1500	115	0	Precision, Wideband	HA5134A †	Harris
0.12	8	0.25	1.8	0.2	0.04	20	97	0	Single Supply	LT1079AC	LinearTech
										LT1079AM †	LinearTech
0.14	30		1.5		2.7	1500			Low Noise, High Speed	LT1125C	LinearTech
					8	1.5			Precision, Low Noise, High Speed	LT1127C	LinearTech
0.15	0.2	0.15	1.0	0.8	0.15	300	132	0		**AD704K**	**AD (3526)**
									Picoampere Input Current, Bipolar	**AD704B**	**AD (3526)**
	0.25	0.2	1.0	.8	0.15	200	132	0	Picoampere Input Current, Bipolar	**AD704T**	**AD (3526)**
	3	1	1.2		0.1	2000	120	0	Low Offset, Low Power	**OP400/883 †**	**AD (3526)**
	6	0.35	3		0.13	80	86			LT1179C	LinearTech
	10	0.35	2.5	0.2	0.04	20	94	0	Single Supply	LT1079C	LinearTech
										LT1079M †	LinearTech
	600	200	0.2 *	3 *	1 *	200 *	86 *	0		**OP413A**	**AD (3526)**
										OP413G	**AD (3526)**
0.17	55		1		2.3	1000			Low Noise, High Speed	LT1125AM †	LinearTech
0.18	20	0.8	2	1 *	0.2	1500	100	0	Precision	LT1014AC	LinearTech
										LT1014AM †	LinearTech

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.19	55		1		7.2	1000			Low Noise, High Speed	LT1127A	LinearTech	
0.2	5	3.5	2	0.5 *	0.15 *	1000	110			HA5234A-5	Harris	
										HA5234A-9	Harris	
	50	50	2	4 *	0.75	1200	100			HA5134-2	† Harris	
										HA5134-5	Harris	5
				4	0.75	1200	100	0	Precision, Low Noise	HA5134	† Harris	
0.25	±150	±80	1 *	28 *	4.5 *		115		Low Noise, Low Voltage	MAX414C	Maxim	
	0.3	0.3	1.5	0.8	0.15	200	132	0	Picoampere Input Current, Bipolar	**AD704A**	**AD (3526)**	
										AD704J	**AD (3526)**	
	20	20	10	0.3	0.2	1	80	0	Instrumentation Amplifier	INA258W	† Burr-Brown	10
			15	0.3	0.2	1	80	0	Instrumentation Amplifier	INA258V	† Burr-Brown	
			45	0.3	0.2	1	80	0	Instrumentation Amplifier	INA258U	† Burr-Brown	
	70		1.5		2	700			Low Noise, High Speed	LT1125M	† LinearTech	
0.29	70		1.5	65 *	7	700	112		Low Noise, High Speed	LT1127	LinearTech	
0.3	3.0	0.5		1.0	0.3	1000	115			**OP400B**	**† AD (3526)**	15
										OP400F	**AD (3526)**	
	7	3.5	2.5	0.5	0.15 *	1500	110		Low Power	**OP400H**	**AD (3526)**	
	7.0	3.5	2.5	1	0.3	7000	110	0	Low Offset, Low Power	**OP400G**	**AD (3526)**	
	30	1.5	2.5	1 *	0.2	1200	97	0	Precision	LT1014C	LinearTech	
										LT1014M	† LinearTech	20
	1000	200	15	10		100	80		Low Noise	LM837	National	
0.4	±350	±200	1 *	28 *	4.5 *		105		Low Noise, Low Voltage	MAX414E	Maxim	
										MAX414M	† Maxim	
	25	10	2		1.4	1000	110			**OP470A**	**† AD (3526, 3529)**	
										OP470E	**AD (3526, 3529)**	25
0.45	0.05	0.04	10	3.5	10	150	84			LT1058AC	LinearTech	
										LT1058AM	† LinearTech	
0.5		0.15	20	4	20					**AD713**	**AD (3526, 3512)**	
	0.075	0.035	15	4 *	20 *	400 *	94 *	0		**AD713T**	**AD (3526, 3512)**	
										AD713T/883B	**† AD (3526, 3512)**	30
			20	4 *	20 *	400 *	94 *	0		**AD713B**	**AD (3526, 3512)**	
										AD713K	**AD (3526, 3512)**	
	0.1	0.05	5	30	12	50		0	Low Input Offset JFET	MC33284	Motorola	
	10	10	5	0.5 *	0.15 *	250	100			HA5234-5	Harris	
										HA5234-9	Harris	35
	15	2	10 *	0.08 *	0.04 *	500	86	0	Rail to Rail	**OP495G**	**AD (3526)**	
		3	5	0.02	0.005	700	90	0		**OP490E**	**ℓ AD (3526)**	
									Low Voltage	**OP490A**	**† AD (3526)**	
	50	4	2	2.8 *	0.8 *		97			TLE2024BC	TI	
										TLE2024BI	TI	40
	300	20	10	1.5	0.7	100	100	0	Symmetrical, Matched	OP09A	† AD	
										OP09E	AD	
										OP11A	† AD	
										OP11E	AD	
	1000		9	200	450	0.97		0	Low Power Video Amplifier	CLC114	† Comlinear	45
	2800	50	10	100	275	3000	90	0	Gain of 2 Stable, Voltage Mode	EL2445C	‡ Elantec	
				120	325	1500	90	0	Unity Gain Stable, Voltage Mode	EL2444C	‡ Elantec	
0.6	50		2		1.4	400			Low Noise	OP470A	† LinearTech	
									Precision, Low Noise	OPA70A	LinearTech	
0.7	50	4	2 *	2.8 *	0.7	1000	93	0	Low Power Precision	TLE2024BM	† TI	50
0.75	0.028	0.015		0.45	0.12	650	110		Precision, Low Power	LT1114C	LinearTech	
										LT1114M	† LinearTech	
	20	5	4 *	0.02	0.005	500	80	0		**OP490F**	**AD (3526)**	
	55	5	2	2.8 *	0.8 *		94			TLE2024AC	TI	
										TLE2024AI	TI	55
0.750	10	10	5.0	0.5	0.15	1	100		OP400 Replacement	HA5234	Harris	
0.8	0.004	0.002	1 *	1.3 *	0.8	150	72		CMOS, Precision	LMC6084AI	National	
	0.075	0.05	15	3.0	8	100	80			LT1058C	LinearTech	
										LT1058M	† LinearTech	
	25	10	4	6.5 *	6.5	500	105	0	Low Noise	**OP471A**	**† AD (3526, 3512, 3529)**	60
										OP471E	**AD (3526, 3512, 3529)**	
	50	20	4		1.4	800	100			**OP470F**	**AD (3526, 3529)**	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
0.9	0.004	0.002	1 *	0.1 *	10000	150	72		CMOS, Precision, Micropower	LMC6064AI	National	
0.95	55	5	2 *	2.8 *	0.7	800	90	0	Low Power Precision	TLE2024AM †	TI	
1	0.1	0.1	1 *	1.3 *	0.6	150	72		CMOS, Precision	LMC6084AM †	National	
	1µA	500	10	200	350	40	80	1	Wideband	EL2423C	Elantec	
	25	5	4 *	0.02	0.005	400	80	0		**OP490G**	**AD (3526)**	5
	60	6	2	2.8 *	0.8 *		92			TLE2024C	TI	
										TLE2024I	TI	
		10	5		100	100	100			BA14741	ROHM	
		30	2 *	6 *	1.4	400	100		Low Noise	**OP470G**	**AD (3526, 3529)**	
	100 *		3.5 *	2.7 *	150	25	76	0	High Speed	**OP467G**	**AD (3526, 3512, 3529)**	10
1.1	60	6		1.7 *	0.5 *		80			TLE2024Y	TI	
1.15	0.0007 *	0.0001 *	1 *	0.11 *	47	500	75			TLC1079C	TI	
										TLC1079I	TI	
			1.4 *	0.11 *	47	500	75			TLC1079M †	TI	
1.2	0.0007	0.0001	1 *	0.11	0.05	50	65	0	LinCMOS, Low Bias	TLC27L9C	TI	15
	0.0007 *	0.0001 *	1.4 *	0.11	0.05 *	50	65	0	LinCMOS, Low Bias Precision	TLC2769M †	TI	
	0.0007	0.0001	2 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC279C	TI	
										TLC279I	TI	
										TLC279M †	TI	
			2.1 *	0.635	0.62	25	65	0	LinCMOS, Medium Bias	TLC27M9C	TI	20
	0.0007 *	0.0001 *	2.1	0.635	0.62	25	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M9I	TI	
	0.1	0.1	1 *	0.1 *	8000	150	70		CMOS, Precision, Micropower	LMC6064AM †	National	
	60	6	2 *	2.8 *	0.7	400	88	0	Low Power Precision	TLE2024M †	TI	
1.3	0.004	0.002	1 *	0.1 *	7000	80	63		CMOS, Precision, Micropower	LMC6064I	National	
				1.3 *	0.7	150	63		CMOS, Precision	LMC6084I †	National	25
1.35	0.004	0.002	1 *	1.5 *	0.7	48	67		CMOS, Rail-to-Rail	LMC6484AI	National	
1.5	–0.0015	100	1.7 *	6	30	100	85		Low Noise, High Speed	TLE2144AC	TI	
										TLE2144AI	TI	
										TLE2144AM †	TI	
	0.1		15		9	120			Lowest Offset, JFET Input	LT1056	LinearTech	30
	0.15	0.075	5 *	4 *	20 *	400 *	88 *	0		**AD713J**	**AD (3526, 3512)**	
										AD713S	**AD (3526, 3512)**	
										AD713S/883B †	**AD (3526, 3512)**	
							94 *	0		**AD713A**	**AD (3526, 3512)**	
	0.2	0.1	10.9 *	1.1 *	2	5	75	0	Low Power, JFET	TL034AM †	TI	35
			20 *	2.7 *	10	50	75	0	JFET	TL054AM †	TI	
			23 *	2.7 *	10	50	75	0	JFET	TL054AC	TI	
										TL054AI	TI	
			25	1.1 *	2	5	75	0	Low Power, JFET	TL034AC	TI	
										TL034AI	TI	40
	50	20	7	6.5 *	6.5	300	95	0	Low Noise	**OP471F**	**AD (3526, 3512, 3529)**	
1.8	–0.0015	100		6		100	80		Low Noise, High Speed	TLE2144Y	TI	
	60	30	4 *	6.5 *	6.5	175	95	0	High Speed, Low Noise	**OP471G**	**AD (3526, 3512, 3529)**	
2			20	120	1500	10			Quad Amp, High Speed	CLC415-8 †	Comlinear	
										CLC415I	Comlinear	45
			30	55	1000	10			Quad Amp, Low Power	CLC414-8 †	Comlinear	
										CLC414I	Comlinear	
	–50	10		0.6 *	0.3 *	50	70	0		LM124A †	TI	
	0.0007	0.0001	1 *	0.1	0.04	50	65	0	LinCMOS, Low Input Offset and Bias Currents	TLC27L4BC	TI	
			2 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC274BI	TI	50
	0.0007 *	0.0001 *	2.1	0.635	0.62	25	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M4BI	TI	
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	60	65	0	LinCMOS, Low Bias	TS27L4BC	SGS-Thomson	
	0.001	0.001	0.7 *	0.1	0.05	30	70	0	LinCMOS, Low Bias	TLC27L4BI	TI	
	0.001 *	0.001 *	1	0.1	0.04	30	77	0	LinCMOS, Low Power, Low Bias Mode	TLC25L4BC	TI	
			2 *	1 *	0.6 *	30	65	0	LinCMOS, Medium Bias	TS27M4BC	SGS-Thomson	55
	0.001	0.001	5	2.3	4.5	10	77	0	Low Input Offset and Bias Currents	TLC274BC	TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC254BC	TI	
	0.001 *	0.001 *	5 *	3.5 *	5.5 *	10	65	0	LinCMOS, High Bias	TS274BC	SGS-Thomson	
	0.004 *	0.002 *	6 *	2 *	2.6 *	30	72	0	JFET Low Power, High Drive	TLE2064BM †	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
2											(Cont'd)	
	0.02	0.02	7	0.2	0.17	300	65	0	Rail-to-Rail, CMOS, Micropower	ALD4706A	AdvLinear	
	0.03	0.025	7	0.4	0.7 *	15	65	0	CMOS, Rail-to-Rail	ALD4701A	† AdvLinear	
	0.2	2	10 *	4 *	13 *	50	80	0	High Speed, JFET Input	TDB0347A	SGS-Thomson	
	2	0.8	6	1.8 *	3.4 *		65			TLE2064BC	TI	
	4		10	450	2000	0.98		0	Closed Loop Buffer	CLC115	Comlinear	5
		1	7 *	0.1 *	50000 *	70	85		Micropower	LP124	National	
		2	6	1.8 *	3.4 *		65			TLE2064BI	TI	
	10	10	4 *	3 *	1 *	200 *	100 *	0		SE5514	† Philips	
2*	11*	0.3*	15	2	0.45	40	80		With Adjustable Reference	LM614AC	National	
2	30	5			0.6		85		Single Power Supply	M5223	Mitsubishi	10
										M5224	Mitsubishi	
					2		76		Low Noise	M5128A	Mitsubishi	
									Low Noise BiFET	M5238	Mitsubishi	
	45	5	5		100	100	100			BA10324A	ROHM	
	50	10	7 *	1 *	—	50	70	0	Low Power	LM124A	† SGS-Thomson	15
			20	1		25	70		Low Power	LM124A	† National	
	80	15	7 *	1 *	—	50	70	0	Low Power	LM224A	SGS-Thomson	
	500	50	10 *	3 *	8	50	80	0	High Performance Bipolar	MC33074A	Motorola	
										MC34074A	Motorola	
										MC35074A	† Motorola	20
				3.5 *	10 *	50	80	0	High Performance Bipolar	XR34074A	Exar	
	1500		20	160	1500	1 to 10	50	0	Wideband	CLC415	† Comlinear	
2 *	4000 *		10 *	120 *	2000 *		56 *	0	Closed Loop	CLC115AM	† Comlinear	
										CLC115A8D	† Comlinear	
2.4	-0.0015	100	1.7 *	6	30	100	85		Low Noise, High Speed	TLE2144C	TI	25
										TLE2144I	TI	
										TLE2144M	† TI	
2.5	20	1.5	10	0.15	0.05	600000	83	0	Micropower	**OP420F**	‡ **AD** (3527)	
				0.15 *	0.05 *	6000000	83	0	Micropower	**OP420B**	‡ **AD** (3527)	
	50	5	10	750 *	0.25 *	400 *	100	0	Quad Micropower OP–21	**OP421B**	† **AD** (3527)	30
										OP421F	**AD** (3527)	
	75	10		0.8 *	0.4 *	50	80	0	Quad 741	PM148	AD	
										PM248	AD	
	200	40	5 *	1.8	0.8	30	90	0	High Performance	LS404	SGS-Thomson	
		75	3 *	8 *	1	100	86	0	Low Noise, High Performance	HA5104-2	† Harris	35
										HA5104-5	Harris	
										HA5104-9	Harris	
				60 *	12	100	86	1	Wideband	HA5114-2	† Harris	
										HA5114-5	Harris	
										HA5114-9	Harris	40
	500	50	15	1.5	0.7	100	100	0	Symmetrical, Matched	OP09B	† AD	
										OP09F	AD	
										OP11B	† AD	
										OP11F	AD	
	750	150	2 *	16 *	5		100 *			MC33079	Motorola	45
3			1.3 *	0.1 *	0.015	200	68		Micropower	LMC6044AI	National	
				0.35 *	0.11 *	200	70		Low Power	LPC660AI	National	
	-80	2		0.6 *	0.3 *	50	70	0		LM224A	TI	
	-100	30	—	0.6	0.3	25	65	0	Bipolar, General Purpose	LM324A	TI	
	0.02	0.02	1.3 *	0.35 *	0.11 *	200	70		Low Power	LPC660AM	† National	50
										LPC660AM/883	† National	
				1.4 *	0.8	200	70		CMOS, Rail-to-Rail, Single 5V Supply	LMC660AI	National	
										LMC660AM	National	
										LMC660AM/883	† National	
	0.03	0.005		3	13	200	76			IR9084	Sharp	55
	0.2	0.05	10 *	4 *	13 *	25	70	0	Low Noise Bipolar JFET	TL074BC	TI	
		0.1	10 *	1 *	3.5 *	4	80	0	Low Power Bipolar JFET	TL064BC	TI	
						44	80	0	Low Power, Bipolar JFET	TL064BC	SGS-Thomson	
				2 *	2	4	80	0	Low Power JFET	TL064BC	Motorola	
				3 *	3	50	80	0	JFET	TL084B	SGS-Thomson	60
										TL084BC	SGS-Thomson	
										TL084BC	TI	
	80	15	20	1		25	70		Low Power	LM224A	National	
	100	30	30			25	65			KA324A	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units											**(Cont'd)**	
3	100	30	30								(Cont'd)	
				—	—	100	65	0	High Gain, Single Supply	LM324A	SGS-Thomson	
				1		15	65		Low Power	LM324A	National	
	200	20		2.5	0.5	1		0	Norton Amplifier, Bipolar	LM2900	TI	
		30	5	2.5	1.6 *	50	80			HA4741-2	† Harris	
			5 *	3	1.6 *	50	80	0	Quad 741	XR4741M	† Exar	5
				3.5 *	1.6 *	50	80	0	Quad 741	HA4741	† Harris	
										RC4741	† Raytheon	
				19 *	8 *	25	80	0	Uncompensated 4156	RC4157	Raytheon	
	500	50	2	2.5	1.2	50	80	0		MC33179	Motorola	
	1000	300		0.6	1	40			General Purpose, Radiation Hardened	HS5104RH	‡ Harris	10
	3000		10 *	150	1400	2000	55	0	Unity Gain Stable, Current Mode	EL2460C	‡ Elantec	
	15000		5 *	28	350	70 dB	53		Current Feedback Video	**HA5024**	**Harris (3637)**	
										HA5025	**Harris (3637)**	
3.5	25	4	15 *	0.8 *	0.55	100	80		Adjustable Reference	LM614AI	National	
										LM614AM	† National	15
3.7	0.004	0.002	1 *	1.5 *	0.63	30	62		CMOS, Rail-to-Rail	LMC6484I	National	
3.8	0.01	0.005	1 *	1.5 *	0.54	25	60		CMOS, Rail-to-Rail	LMC6484M	† National	
4		10			1	85 dB	80	1		TAF4453	Siemens	
	0.004 *	0.002 *	6 *	2 *	2.6 *	30	72	0	JFET Low Power, High Drive	TLE2064AM	† TI	
	0.2	0.1	10.9 *	1.1 *	2	4	70	0	Low Power Bipolar JFET	TL034M	† TI	20
			11.6 *	1.1 *	2	5	75	0	Low Power, JFET	TL034I	TI	
			12 *	1.1 *	2	5	75	0	Low Power, JFET	TL034C	TI	
			20 *	2.7 *	10	50	75	0	Bipolar JFET	TL054M	† TI	
			23 *	2.7 *	10	50	75	0	JFET	TL054C	TI	
			24 *	2.7 *	10	50	75	0	JFET	TL054I	TI	25
	0.5	0.05	10 *	4 *	7	20	70		High Speed JFET	**OP482G**	**AD (3512, 3527)**	
	2	0.8	6	1.8 *	3.4 *		65			TLE2064AC	TI	
	4	2	6	1.8 *	3.4 *		65			TLE2064AI	TI	
	10	2	10 *	0.1 *	50000 *	40	80		Micropower	LP324	National	
	20	4	10 *	0.1 *	50000 *	40	80		Micropower	LP2902	National	30
	90 *	20	4 *	2	0.5	90	100 *		Low Voltage, High Performance	NE5234	Philips	
		30	4 *	2	0.5	90	100 *		Low Voltage, High Performance	SA5234	Philips	
	125	12	15	750 *	0.25 *	200	96 *	0	Quad, Micropower OP–21	**OP421C**	**† AD (3527)**	
										OP421G	**AD (3527)**	
4.0	30	2.5	15	0.15 *	0.05	400000	80	0	Micropower	**OP420G**	**‡ AD (3527)**	35
4.5	100	2		1.8	2.1	50	80		Low Power, Single Supply	MC33174	Motorola	
										MC35174	† Motorola	
	500	75	10 *	3 *	10	25	70	0	High Performance Bipolar	MC33074	Motorola	
										MC34074	† Motorola	
										MC35074	Motorola	40
				4.5 *	10 *	25	70	0	High Performance Bipolar	XR34074	Exar	
5	-150	30		0.6	0.3	50	70	0	Bipolar, General Purpose	LM224	TI	
	-1500	50	10 *	3.5	8	25	70			TL33074	TI	
										TL34074	TI	
										TL35074	TI	45
	0.0007	0.0001	2 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC274AI	TI	
			2.1 *	0.635	0.62	25	65	0	LinCMOS, Medium Bias	TLC27M4AC	TI	
	0.0007 *	0.0001 *	2.1	0.635	0.62	25	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M4AI	TI	
	0.001	0.001	0.7	0.1	0.04	20	77	0	Low Input Offset and Bias Currents	TLC27L4AC	TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25L4AC	TI	50
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	60	65	0	LinCMOS, Low Bias	TS27L4AC	SGS-Thomson	
	0.001	0.001	0.7 *	0.1	0.05	30	70	0	LinCMOS, Low Bias	TLC27L4AI	TI	
			2	0.7	0.6	20	77	0	Low Input Offset and Bias Currents	TLC27M4BC	TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25M4BC	TI	
	0.001 *	0.001 *	2 *	1 *	0.6 *	30	65	0	LinCMOS, Medium Bias	TS27M4AC	SGS-Thomson	55
	0.001	0.001	5	2.3	4.5	10	70	0	Low Input Offset and Bias Currents	TLC274AM	† TI	
							77	0	Low Input Offset and Bias Currents	TLC274AC	TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC254AC	TI	
	0.001 *	0.001 *	5 *	3.5 *	5.5 *	10	65	0	LinCMOS, High Bias	TS274AC	SGS-Thomson	
	0.005			0.1	0.05				LinCMOS, Low Bias	TLC27L9I	TI	60
		0.001	2 *	0.6	0.6	20	70	0	LinCMOS, Medium Bias	TLC25M4AC	TI	
	0.02	0.02	7	0.2	0.1	300	65	0	Rail-to-Rail Micropower	ALD4706B	† AdvLinear	
	0.03	0.025	7	0.4	0.7 *	15	65	0	CMOS, Rail-to-Rail	ALD4701B	† AdvLinear	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
5											(Cont'd)	
	0.05	0.025	10	1 *	1 *	50	80	0	Low Power BIFET	LF444A	National	
		0.03	10 *	1	1.6	80 *	70	0	High Bias	ICL7641BC	Maxim	
			15 *	1	1.6	80	70	0	Low Power	ICL7641B	Harris	
										ICL7642BC	Maxim	
										ICL7642BM	† Maxim	5
				1.4 *	1.6 *	20	76	0	High Bias	ICL7641BM	† Maxim	
	0.1	0.05	10 *	4 *	13 *	50	80	0	Precision BIFET	MC35004B	† Motorola	
		0.1	10 *	3 *	13 *	50	80	0	Bipolar JFET	µA774BC	National	
										µA774BM	† National	
	0.2	0.05	10 *	10 *	40 *	50		0	High Speed, JFET Input	MC34084A	Motorola	10
									High-Speed, JFET Input	MC35084A	† Motorola	
				20 *	80 *	50		0	Decompensated MC34084 for Gain >2	MC34085A	Motorola	
									Decompensated MC35084 for Gain >2	MC35085A	† Motorola	
		0.1	10 *	2.2	8	50	80		Wide Band, JFET Input	LF147	National	
									Wideband, JFET Input	LF347B	National	15
			10	3	13	50	80	0	BiFET, High Performance	LF347B	TI	
			10 *	4 *	13 *	50	80	0	Precision BIFET	MC34004B	Motorola	
									Wideband, Quad 351B	LF347B	Motorola	
		4	10 *	4 *	13 *	50	80	0	High Speed, JFET Input	TDB0347B	SGS-Thomson	
	20	20	5 *	3 *	1 *	200 *	100 *	0		NE5514	Philips	20
	35	4	15	0.8 *	0.5	94	75		Adjustable Reference	LM614C	National	
			15 *	0.8 *	0.50	94	75		Adjustable Reference	LM614BI	National	
										LM614I	National	
										LM614M	† National	
	100	20		0.8	0.4 *	100	80		Programmable	LM146	National	25
			—	0.8	0.4 *	1000	70	0	High Gain, Programmable	LM146	† SGS-Thomson	
		25	—	1 *	0.5 *	50	70	0	High Gain, Programmable	LM148	† SGS-Thomson	
										TDC0149	† SGS-Thomson	
									Quad 741 with Standard npn Input Stage	LM148	‡ National	
										LM148	† Raytheon	30
									Quad 741 with Standard NPN Input Stage	LM148	† TI	
				4 *	2 *	50	70	0	Wideband Quad 741 for Gains >5	LM149	‡ National	
		40	—	0.8 *	0.5 *	4	60	0	Low Power	TL044M	† TI	
	150	30	7 *	—	—	100	70	0	High Gain, Single Supply	LM124	† SGS-Thomson	
				1		25	70		Low Power	LM124	† National	35
										LM224	National	
				1 *	—	50	70	0	Low Power	LM224	SGS-Thomson	
									Low Power, Single Supply	LM258	SGS-Thomson	
					0.6 *	50	85 *	0	Low Power	LM124	† Motorola	
		100		0.6 *	0.3 *	50	70	0	Bipolar General Purpose	LM124	† TI	40
	200	100			1.2	100	70		Single-Supply	**NJM3403A**	**NJR (3704)**	
	250	80	—	0.8 *	0.5 *	1	60	0	Low Power	TL044C	TI	
	300	50			1.6	20	70		Single-Supply	NJM4741	NJR	
			5	2.5						HA4741-9	Harris	
					1.6 *	25	80			HA4741-5	Harris	45
			5 *	3	1.2	25	80	0	Noise 2 µV Max	RC4156	Raytheon	
				3.5 *	1.6 *	25	80	0	Quad 741	XR4741C	Exar	
	500	50	—	2 *	1.6 *	20	70	0	Low Noise, Low Power	XR4212M	† Exar	
			7 *	1 *	0.6 *	50	70	0	Low Power	MC3503	† SGS-Thomson	
			10		0.6	50	70			LM3503	† National	50
			10 *	1 *	0.6 *	—	70	0	Low Power, Single Supply	TDC3403	† SGS-Thomson	
			10	1	0.6	200	90	0	Low Power	MC3503	Philips	
		200	—	3 *	1.5 *	50	70	0	Quad 741, High Gain	XR4136M	† Exar	
										µA4136M	† National	
									Quad 747, High Gain	RM4136	† TI	55
			—	3.5	1.5	96	110	0	Programmable	TAB1042	GEC Plessey	
										TAB1043	GEC Plessey	
			4 *	1.5	0.7	50	70	0	Quad Matched 741	OP11C	† AD	
										OP11G	AD	
			15 *	1	0.5 *	50	70	0	Quad 741	MC4741	† Motorola	60
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Bandwidth MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
5										(Cont'd)		
	2000	150		1			94			CA124	Harris	
	5000		30	70	200		48	0	Low Power, Video	CLC114AM	† Comlinear	
										CLC114A8D	† Comlinear	
	13000		50	95	1200		45	0	Wideband	CLC415AM	† Comlinear	
										CLC415A8D	† Comlinear	5
	15000		30	350 *	1100 *	1000	45	0		HFA1405	† Harris	
5.5		15			1	80 dB	75	1		TAE4453	Siemens	
6			1.3 *	0.1 *	0.010	100	62			LMC6044I	National	
				0.35 *	0.11 *	100	63		Low Power	LPC660I	National	
				1.4 *	0.8	100	63		CMOS, Rail-to-Rail, Single 5V Supply	LMC660C	National	10
										LMC660E	National	
	0.004 *	0.002 *	6 *	2 *	2.6 *	30	72	0	J-FET Low Power, High Drive	TLE2064M	† TI	
	0.04 *	0.002 *		0.04 *	2.6	30	72			TLE2064Y	TI	
	0.2	0.05	10 *	3 *	13 *	35	80	0	Low Noise, Bipolar JFET	TL074M	† SGS-Thomson	
						50	80	0	Low Noise, Bipolar JFET	TL074I	SGS-Thomson	15
									Low Noise Bipolar JFET	TL074M	† TI	
				4 *	13 *	25	70	0	Low Noise Bipolar-JFET	TL074AC	TI	
						50	80	0	Low Noise Bipolar JFET	TL074BC	Motorola	
										TL074BC	SGS-Thomson	
									Low Noise Bipolar-JFET	TL074AC	Motorola	20
										TL074AC	SGS-Thomson	
		0.1	10 *	1	2.5	4	80	0	BiFET, Low Noise	TL064I	TI	
				1 *	3.5 *	4	80	0	Low Power, Bipolar JFET	TL064AC	SGS-Thomson	
										TL064I	SGS-Thomson	
										TL064M	† SGS-Thomson	25
									Low Power Bipolar-JFET	TL064AC	TI	
				2 *	2	4	80	0	Low Power J-FET	TL064M	† Motorola	
									Low Power JFET	TL064AC	Motorola	
				3	13	50	80	0	BiFET, General Purpose	TL084I	TI	
										TL084I	TI	30
									BiFET, Low Noise	TL074I	TI	
				3 *	13 *	50	80	0	Bipolar JFET	XR084	Exar	
										XR084M	† Exar	
										TL084A	Motorola	
										TL084A	SGS-Thomson	35
										TL084I	SGS-Thomson	
										TL084M	† SGS-Thomson	
										TL084AC	TI	
										TL084M	† TI	
									Indiv. Program	XR096	Exar	40
										XR096M	† Exar	
									Programmable, Bipolar - JFET	XR094	Exar	
										XR094M	† Exar	
										XR095	Exar	
										XR095M	† Exar	45
	0.6	0.2		10 *	5 *	80 dB	70	0	Hex Op-Amp	NJM2097	NJR	
	2	0.8	6	1.8 *	3.4 *		65			TLE2064C	TI	
	4	2	6	1.8 *	3.4 *		65			TLE2064I	TI	
	100	10	3 *	0.4 *	0.8	20	70			HA5144-9	Harris	
							77			HA5144-2	† Harris	50
										HA5144-5	Harris	
				0.4	1.5	100 *	77	0	Ultra Low Power	HA5144	Harris	
	200	0.1	10 *	3 *	13 *	50	80	0	High Speed, JFET Input	TL084AC	SGS-Thomson	
		50		1 *		25	70	0		LM248	TI	
			—	1	0.5	25	70	0	Bipolar, Low Power, Precision µA741	MC3403	TI	55
									Bipolar, Precison (u)A741	LM348	TI	
				1 *	0.5 *	25	70	0	High Gain, Programmable	LM348	SGS-Thomson	
										TDB0149	SGS-Thomson	
									Quad 741 with Standard npn Input Stage	GL348	GoldStar	
										LM248	Motorola	60
										LM348	Motorola	
										µA248C	National	
										LM248	National	
										LM348	National	
				1.0 *	0.5 *	25	70	0	Quad 741	KA348	Samsung	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units											(Cont'd)	
6	200	50									(Cont'd)	
			—	4 *	2 *	25	70	0	Wideband Quad for Gains >5	LM349	National	
	250	20	25	750 *	0.25 *	200 *	90 *	0	Quad OP–21	**OP421H**	**AD** (3527)	
		50	7 *	1 *	0.6 *	25		0	Low Power	LM324	Motorola	
		100		0.5	0.4 *	50	70		Programmable	LM246	National	
										LM346	National	5
								0	Programmable	XR246	Exar	
			—	0.5	0.4 *	1000	70	0	High Gain, Programmable	LM346	SGS-Thomson	
	500	50	—	1 *	1.2 *	25	70	0	LM324 with Improved Output	RC3403A	† Raytheon	
				2	1.6	5	70	0	Quad 741	XR4212C	Exar	
		100	—	1	0.4 *	20	70	0	346 with Separate Bias Resistor for each pair	XR346	Exar	10
										XR346-2	Exar	
		200			1	20	70			**NJM2058**	**NJR** (3704)	
					2	20	70			NJM2059	NJR	
			—	1 *	0.5 *	20	70	0	Quad 741	MC4741C	Motorola	
				3 *	1 *	20	60–70	0	Quad 741	XR4136C	Exar	15
										µA4136C	National	
										RC4136	Raytheon	
				3	1.7	20	70	0	High Performance Quad µA741	RC4136	TI	
				3 *	1.7 *	20	70	0	High Performance Quad µA741	RV4136	TI	
				3	2	20	70	0	High Performance Bipolar	TL136C	TI	20
				10	4	20	70			**NJM2060**	**NJR** (3704)	
			10	3 *	1 *	20	70			LM4136	National	
	650	35	20	100	90	10	70	1	High Speed, Fast Settling	MAX448C	Maxim	
										MAX448M	† Maxim	
	5000		60	40	800		45	0	Low Power	CLC414AM	† Comlinear	25
										CLC414A8D	† Comlinear	
6.0	40	6.0	25	0.15 *	0.05	200000	76	0	Micropower	**OP420H**	‡ **AD** (3527)	
7						25	65	0	Quad Internal Compensation	GL324A	GoldStar	
	–100	30	15 *	0.4 *	0.2	25	65	0		TL2829Y	TI	
										TL2829Z	TI	30
	–250	50		0.6 *	0.3 *	15	65	0		LM324Y	TI	
	–250	50		0.6	0.3	25	65	0	General Purpose	LM324	TI	
						100	50	0	Extended Temperature Range LM324	LM2902	TI	
										LM2902Q	TI	
	250	50				25	65			LA6324	Sanyo	35
					13	3	65		Single-Supply	NJM324	NJR	
				1.0		20	86			LM324	Harris	
			7 *	—	—	100 *	50	0	Single Supply	LM2902	SGS-Thomson	
						100	65	0	High Gain, Single Supply	LM324	SGS-Thomson	
				1		15	50		Low Power	LM2902	National	40
							65		Low Power	LM324	National	
				1 *	0.3 *	25	65	0	Automotive Temperature Range (–40°C to 85°C)	SA534	Philips	
				1	0.3	100		0		AU2902	Philips	
			30			25	65			KA324	Samsung	
	500	50	—	—	0.6 *	10	70	0	General Purpose	IR3702	Sharp	45
	2000	250		1			86			CA324	Harris	
							88			CA224	Harris	
	15000	2000	10	45	160	1	70	0	Video Mux Input	**HA2444**	**Harris** (3637)	
		4000		45 *	120		70		Selectable, Four Channel Video	**HA2444-5**	**Harris** (3637)	
										HA2444-9	**Harris** (3637)	50
8		75				20	70			KA3303	Samsung	
	–500	75	10 *	1	0.6	20	70	0	Low Power, Bipolar	MC3303	TI	
	500	50	10 *	1 *	0.6 *	20	70			LM3403	National	
		75	10 *	1 *	0.6 *	20		0		MC3303	Motorola	
							70			LM3303	National	55
								0	Single Supply: I/O Operates to Ground	TDF3403	SGS-Thomson	
			10	1	0.6	200	90	0	Low Power	MC3303	Philips	
9			2.3 *	1.4 *	1.1 *	75	63		Low Power	LMC6034I	National	
	0.2	0.05	10 *	4 *	10	35	70	0	Low Noise Bipolar JFET	TL074M	† Motorola	
		0.1	2.5 *	0.35 *	0.11 *	100	63		Low Power	LMC6024I	National	60
			10 *	1 *	3.5 *	4	80	0	Low Power Bipolar JFET	TL064M	† TI	
			10	2	6	4		0	Low Power JFET Input	TL064V	Motorola	
			10 *	4 *	13 *	25	80	0	JFET Input	TL084M	† Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
9											(Cont'd)	
	500	150	7	1	0.3		70		Low Power Quad	LM324A	† Philips	
10		50				20	70			KA3403	Samsung	
	0.0006 *	0.0001 *	1.1 *	0.085 *	0.03 *	50	65	0		TLC25L4Y	TI	
			1.7 *	0.525 *	0.43 *	25	65	0		TLC25M4Y	TI	
			1.8 *	1.7 *	3.6 *	5	65	0		TLC254Y	TI	5
	0.0007 *	0.0001 *	1.4 *	0.11 *	0.05 *	50	65			TLC27L9M	† TI	
	0.0007	0.0001	2 *	2.2	5.3	10	70	0	LinCMOS, High Bias	TLC274I	TI	
			2.1 *	0.635	0.6	25	65	0	LinCMOS, Low Input Offset and Bias Currents	TLC27M4C	TI	
	0.0007 *	0.0001 *	2.1 *	0.635 *	0.62 *	25	65			TLC27M9M	TI	
			2.1	0.635	0.62	25	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M4I	TI	10
	0.001	0.001		0.1	0.5		60		Low Voltage	**NJU7004**	**NJR (3705)**	
				0.4	0.4		60		Low Voltage	NJU7024	NJR	
				1.5	3.5		60		Low Voltage	NJU7034	NJR	
			0.7 *	0.01	0.05	30	70	0	LinCMOS, Low Bias	TLC27L4I	TI	
			0.7	0.1	0.04	20	77	0	Low Input Offset and Bias Currents	TLC27L4C	TI	15
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25L4C	TI	
						30	70	0	Low Input Offset and Bias Currents	TLC27L4M	† TI	
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	60	65	0	LinCMOS, Low Bias	TS27L4C	SGS-Thomson	
										TS27L4I	SGS-Thomson	
										TS27L4M	† SGS-Thomson	20
	0.001	0.001	2	0.7	0.6	20	70	0	Low Input Offset and Bias Currents	TLC27M4M	† TI	
							77	0	Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25M4C	TI	
	0.001 *	0.001 *	2 *	1 *	0.6 *	30	65	0	LinCMOS, Medium Bias	TS27M4C	SGS-Thomson	
										TS27M4I	SGS-Thomson	
										TS27M4M	† SGS-Thomson	25
	0.001	0.001	5	2.3	4.5	10	70	0	Low Input Offset and Bias Currents	TLC274C	TI	
										TLC274M	† TI	
							77	0	Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC254C	TI	
	0.001 *	0.001 *	5 *	3.5 *	5.5 *	10	65	0	LinCMOS, High Bias	TS274C	SGS-Thomson	
										TS274I	SGS-Thomson	30
										TS274M	† SGS-Thomson	
	0.02	0.02	7	0.2	0.1	300	60	0	Rail-to-Rail Micropower	ALD4706	† AdvLinear	
	0.05	0.03	20 *	0.044 *	1.6 *	80	70	0		ICL7641C	Harris	
										ICL7642C	Harris	
				1 *	1.6 *	80	70	0	Low Power	ICL7641CM	† Harris	35
										ICL7642CC	Maxim	
										ICL7642CM	† Maxim	
				1.4 *	1.6 *	10	70	0	High Bias	ICL7641CC	Maxim	
										ICL7641CM	† Maxim	
	0.1	0.03	10	3	10	40	90	1	JFET Input	MA374	AnalogSys	40
		0.05	10 *	1 *	1 *	25	70	0	Low Power, BIFET	LF444	National	
			10	2	0.6	25	70		Low Power JFET Input	LF444C	Motorola	
	0.2	0.05			13	3	70		J-FET Input	**NJM074**	**NJR (3704)**	
			10 *	3 *	13 *	25	70	0	Low Noise, Bipolar JFET	TL074C	SGS-Thomson	
				4 *	13 *	25	70	0	Low Noise Bipolar-JFET	TL074C	Motorola	45
										TL074C	TI	
										TL075C	TI	
				10 *	40 *	25		0	High Speed, JFET Input	MC34084	Motorola	
									High-Speed, JFET Input	MC35084	† Motorola	
				20 *	80 *	25		0	Decompensated MC34084 for Gain >2	MC34085	Motorola	50
									Decompensated MC35084 for Gain >2	MC35085	† Motorola	
		0.1				100	80		Quad JFET input	KF347	Samsung	
			10 *	3	13	25	70	0	BiFET, General Purpose	LF347	TI	
				3 *	13 *	50	70	0	Bipolar JFET	µA774C	National	
				4 *	13 *	25	70	0	Bipolar JFET	MC34004	Motorola	55
									Bipolar JFET, Quad 351	LF347	Motorola	
									Bipolar-JFET	MC35004	† Motorola	
									Bipolar-JFET, Quad 351	LF347	National	
		4	10 *	4 *	13 *	25	70	0	High Speed, JFET Input	TDB0347	SGS-Thomson	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Quad Units (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift µV/°C	Band-width MHz	Slew Rate V/µs	Voltage Gain V/mV	CMRR dB	Comp.	Comments	Device	Source	Line
10											(Cont'd)	
	3 µA	1.5 µA	50 *	100 *	100	180000	70	0	Video Op Amp	EL2411C	Elantec	
	200	100			20		70		Single-Supply	NJM2900	NJR	
										NJM3900	NJR	
	250	50		3	4	40000	74	1	Digitally Selectable Four Channel	HA2406-5	Harris	
										HA2406-9	Harris	5
	500	50				100	85		Single-Supply	NJM2902	NJR	
				1 *	0.6 *			0	Differential Low Power	LM2902	Motorola	
			—	1 *	0.6 *	20	70	0	Low Power	IR93403	Sharp	
			10 *	1 *	0.6 *	—	70	0	Low Power, Single Supply	MC3403	SGS-Thomson	
		200		23		100	50			KA2902	Samsung	10
			7 *	1			86			LM2902	Harris	
	650	120		110	100	5	60	2		VA4708	† VTC	
11	2	1	10 *	3	10 *	25	70	2	Wideband	MC34184	Motorola	
11.5	4	2	10 *	3	10 *	25	70	2	Wideband	MC33184	Motorola	
15				100	300					LT1230	LinearTech	15
	0.01	0.1	10 *	100 *	2500 *	59	55		Current Feedback	LT1230C	LinearTech	
										LT1230M	† LinearTech	
	0.2	0.1	10 *	3 *	13 *	50	70	0	Bipolar-JFET	µA774LC	National	
		0.2	10 *	2 *	2	3	70	0	Low Power JFET	TL064C	Motorola	
	0.4	0.2			3.5	3	70		JFET Input	**NJM064**	**NJR** **(3704)**	20
					13	3	70		JFET Input	NJM084	NJR	
			10 *	1 *	3.5 *	3	70	0	Low Power Bipolar-JFET	TL064C	SGS-Thomson	
										TL064C	TI	
				3 *	13 *	25	70	0	Bipolar JFET	XR084C	Exar	
									Bipolar-FET	TL084	Motorola	25
										TL084	SGS-Thomson	
										TL084C	TI	
										TL085C	TI	
									Indiv. Program.	XR096C	Exar	
									Programmable Bipolar JFET	XR094C	Exar	30
									Programmable Bipolar-JFET	XR095C	Exar	
				25 *	13 *	25		0	JFET Input	TL084C	Motorola	
	400	0.2	10 *	3 *	13 *	25	70	0	High Speed, JFET Input	TL084C	SGS-Thomson	
	650	120	40	40 *	38	1	60	0		VA4706J	VTC	
	4000	2000	50 *	60 *	150	10	87 *	0		EL2424C	Elantec	35
20	0.01	0.005		10	4		55			CA5470	Harris	
	0.05	0.03	30 *	0.044 *	0.016 *	10	70	0	Low Bias	ICL7642M	† Maxim	
					1.6 *	80	70	0		ICL7641E	Harris	
										ICL7642E	Harris	
				1	1.6	80	70	0	Low Power	ICL7641EC	Harris	40
										ICL7642EC	Maxim	
				1.4 *	1.6 *	10	70	0	High Bias	ICL7641EC	Maxim	
										ICL7641EM	† Maxim	
	3 µA	1.5 µA	100 *	60 *	85	160000	64	0	Video Op Amp	EL2410C	Elantec	
25	1	0.200	20 *	1.4 *	2.5 *	90 dB *	80 *	0	Low Power	HI8573	† Holt	45
30	0.05	0.1	15 *	1 *	0.8 *	1 *	70 *	0	Low Power	MC14573	Motorola	
	1.0	0.2		0.8*	1.0 *	1000		0	Telecom	MC143404	Motorola	
					1.5 *	200		0	Telecom	MC143403	Motorola	
100	0.45	0.40	0.5	0.5	0.15 *	2000	120	1	Precision	**OP497A**	**† AD** **(3526)**	
150	0.60	0.60	1	0.5	0.15 *	1500	114	1	Precision	**OP497B**	**† AD** **(3526)**	50
			1.0	0.5	0.15 *	1500	114	1		**OP497F**	**AD** **(3526)**	
300	0.60	0.60	1.5	0.5	.15 *	1200	114	1		**OP497G**	**AD** **(3526)**	
					0.15 *	1200	114	1	Precision Picoampere Input Current	**OP497C**	**† AD** **(3526)**	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   •Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Optoelectronic Devices

Function	Device	Source	Line
CCD 1/2H Delay Line (for NTSC)	CXL5002	Sony	
CCD Driver	CXB0026AM	Sony	
CCD, Image Sensor, Linear, 1760 Bit with Amp	µPD3742	NEC	
CCD, Image Sensor, Linear, 2088 Bit with Amp	µPD3733	NEC	
CCD, Image Sensor, Linear, 2592 Bit	µPD3594	NEC	5
CCD, Image Sensor, Linear, 2660 Bit with Amp	µPD3734	NEC	
CCD, Image Sensor, Linear, 5000 Bit	µPD35H71	NEC	
CCD, Image Sensor, (2160 x 1)	HML1210	Hualon Micro	
CCD Imaging Block	IUO22AK-30A	Sony	
	IUO22AK-40A	Sony	10
	IUO24AK-30A	Sony	
	IUO24AK-40A	Sony	
CCD Signal Processor	CXL1501	Sony	
	CXL1502	Sony	
	CXL1503	Sony	15
	CXL1505	Sony	
	CXL1517	Sony	
	CXL1518	Sony	
CCD Signal Processor for Skew Compensation	CXL1008	Sony	
CCD Signal Processor for Time Base Corrector (TBC)	CXL1009	Sony	20
CCD 1H Delay Line (for NTSC)	CXL1504	Sony	
	CXL5001	Sony	
	CXL5502	Sony	
	CXL5504	Sony	
	CXL5507	Sony	25
CCD 1H Delay Line (for NTSC) with PLL	CXL5005	Sony	
CCD 1H Delay Line (for PAL)	CXL5003	Sony	
	CXL5505	Sony	
	CXL5506	Sony	
	CXL5508	Sony	30
CCD 1H/2H Delay Line (for NTSC)	CXL5509	Sony	
CCD 1H/2H Delay Line (for PAL)	CXL1506	Sony	
FDDI Fiber Optic Postamplifier	**NE5224**	**Philips** (3722)	
	SA5224	**Philips** (3722)	
Fiber Optic Postamplifier	**NE5225**	**Philips** (3722)	35
	SA5225	**Philips** (3722)	
Fiber Optic Receiver Amplifier	LH0082C	National	
Image Rotator	6125A	OEI	
Image Sensor, Area, Linear Self-Scanning	RA0100A	EG&G-Reticon	
	RA0128N	EG&G-Reticon	40
Image Sensor Array, Parallel Output	RA1662N	EG&G-Reticon	
Image Sensor Array, Solid State (38x12 matrix)	RA3812P	EG&G-Reticon	
Image Sensor Array, Solid State (64x64 matrix)	RA6464N	EG&G-Reticon	
Image Sensor Array, Solid State (256x256 matrix)	RA0256B	EG&G-Reticon	
Image Sensor Array, Solid State (256x256 matrix)	RA1441A	EG&G-Reticon	45
Image Sensor, CC Photodiode	RL0256D	EG&G-Reticon	
	RL0512D	EG&G-Reticon	
	RL1024D	EG&G-Reticon	
	RL1282D	EG&G-Reticon	
	RL1284D	EG&G-Reticon	50
	RL1288D	EG&G-Reticon	
	RL2048D	EG&G-Reticon	
Image Sensor, CCD (2/3 inch, 756H x 581V)	ICX024BL-3	Sony	
	ICX024BN-3	Sony	
Image Sensor, CCD (2/3 inch, 768H x 493V)	ICX022BL-3	Sony	55
	ICX022BN-3	Sony	
Image Sensor, CCD (1/3 inch Color 512H x 492V)	LZ2313A1	Sharp	
	LZ2313B1	Sharp	
	LZ23132	Sharp	
Image Sensor, CCD (1/3 inch Color 512H x 582V)	LZ2323A1	Sharp	60
	LZ2323B1	Sharp	
	LZ23232	Sharp	
Image Sensor, CCD (1/3 inch, 500H x 582V)	ICX045ALA	Sony	
	ICX045BKA	Sony	
Image Sensor, CCD (1/3 inch, 510H x 492V)	ICX044ALA	Sony	65
	ICX044BKA	Sony	
Image Sensor, CCD (1/3 inch 512H x 492V)	LZ2314	Sharp	
	LZ23142	Sharp	
Image Sensor, CCD (1/3 inch 512H x 582V)	LZ2324	Sharp	
	LZ23242	Sharp	70
Image Sensor, CCD (1/2 inch Color 512H x 492V)	LZ2113	Sharp	
Image Sensor, CCD (1/2 inch Color 512H x 582V)	LZ2123	Sharp	
Image Sensor, CCD (1/2 inch, 500H x 582V)	ICX027BKA	Sony	
	ICX027CKA	Sony	
Image Sensor, CCD (1/2 inch, 510H x 492V)	ICX026BKA	Sony	75
	ICX026BLA	Sony	
	ICX026CKA	Sony	
Image Sensor, CCD (1/2 inch 512H x 492V)	LZ2114	Sharp	
Image Sensor, CCD (1/2 inch 512H x 582V)	LZ2124	Sharp	
Image Sensor, CCD (1/2 inch, 752H x 582V)	ICX039ALA	Sony	80
Image Sensor, CCD (1/2 inch, 768H x 494V)	ICX027BLA	Sony	
	ICX038ALA	Sony	
Image Sensor, CCD (1/6 inch 275H x 250V) Frame Transfer	LC9946	Sanyo	
Image Sensor, CCD (1/6 inch 275H x 306V) Frame Transfer	LC9945	Sanyo	
Image Sensor, CCD (1/6inch, 180Hx260V frame transfer)	LC9943	Sanyo	85
Image Sensor, CCD (1/3 inch Color 532H x 500V)	LC9984	Sanyo	
Image Sensor, CCD (1/3 inch Color 532H x 600V)	LC9985	Sanyo	
Image Sensor, CCD (1/3 inch 532H x 600V)	LC9934	Sanyo	
	LC9935	Sanyo	
Image Sensor, CCD (400 x 200 pixels)	RA1200J	EG&G-Reticon	90
Image Sensor, CCD (420 elements x 2 chips)	TCD127AC	Toshiba	
Image Sensor, CCD (432 elements x 4 chips)	TCD128AC	Toshiba	
Image Sensor, CCD (882 elements x 5 chips)	TCD118AC	Toshiba	
Image Sensor, CCD (896 elements x 3 colors x 4 chips)	TCD112DC	Toshiba	
Image Sensor, CCD (960 elements x 3 colors x 5 chips)	TCD126C	Toshiba	95
Image Sensor, CCD (960 elements x 5 chips)	TCD120AC	Toshiba	
Image Sensor, CCD (976 elements x 3 colors x 5 chips)	TCD116DC-1	Toshiba	
Image Sensor, CCD (1012 elements x 4 chips)	TCD119AC	Toshiba	
Image Sensor, CCD, 1024 Elements	TCD132D	Toshiba	
Image Sensor, CCD, 2048 Elements	TCD133D	Toshiba	100
Image Sensor, CCD (2048 pixels)	ILX503	Sony	
	ILX503A	Sony	
Image Sensor, CCD (2048 pixels) with Shutter Function	ILX703A	Sony	
Image Sensor, CCD (2088 pixels)	ILX509	Sony	
Image Sensor, CCD (2592 pixels)	ILX505	Sony	105
	ILX505A	Sony	
Image Sensor, CCD, (2700 elements x 3 lines)	TCD2250C	Toshiba	
Image Sensor, CCD (5000 elements x 3 lines)	TCD140AC	Toshiba	
Image Sensor, CCD (5000 pixels)	ILX101	Sony	
	ILX501	Sony	110
	ILX504B	Sony	
	ILX506	Sony	
Image Sensor, CCD (5184 pixels)	ILX502A	Sony	
Image Sensor, CCD (7824 pixels)	ILX507	Sony	
Image Sensor, CCD (7926 pixels)	ILX508	Sony	115
Image Sensor, CCD (1/3 inch, EIA TV standard, 400)	LC9931B	Sanyo	
Image Sensor, Circular, Self Scanning	R00064N	EG&G-Reticon	
	R00720B	EG&G-Reticon	
Image Sensor Driver, CCD Linear	µPD16504	NEC	
Image Sensor, High-Speed CCD Imager	RA2048J	EG&G-Reticon	120
Image Sensor, Line Array	TC102-1	TI	
	TC103-1	TI	
	TC104-1	TI	
	TC106	TI	
Image Sensor, Linear Self-Scanning	RL0064A	EG&G-Reticon	125
	RL0128G	EG&G-Reticon	
	RL0128L	EG&G-Reticon	
	RL0128S	EG&G-Reticon	
	RL0128SAF	EG&G-Reticon	
	RL0128SAX	EG&G-Reticon	130
	RL0256G	EG&G-Reticon	
	RL0512G	EG&G-Reticon	
	RL0512S	EG&G-Reticon	
	RL0512SAX	EG&G-Reticon	
	RL1024G	EG&G-Reticon	135
	RL1024H	EG&G-Reticon	
	RL1024S	EG&G-Reticon	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Optoelectronic Devices (Cont'd)

Function	Device	Source	Line
Image Sensor, Linear Self-Scanning (Cont'd)			
	RL1728H	EG&G-Reticon	
	RL2048H	EG&G-Reticon	
	RL4096	EG&G-Reticon	
	RL512SAF	EG&G-Reticon	
Image Sensor, Linear Self-Scanning (64 elements)			
	RL0064T	EG&G-Reticon	5
	RL0064TB	EG&G-Reticon	
Image Sensor, Linear Self-Scanning (128 elements)			
	RL0128T	EG&G-Reticon	
	RL0128TB	EG&G-Reticon	
Image Sensor, Linear Self-Scanning (256 elements)			
	RL0256T	EG&G-Reticon	
	RL0256TB	EG&G-Reticon	10
Image Sensor, Linear Self-Scanning (512 elements)			
	RL0512T	EG&G-Reticon	
	RL0512TB	EG&G-Reticon	
Image Sensor, Linear Self-Scanning (1024 elements)			
	RL1024SAX	EG&G-Reticon	
Image Sensor, Linear, 128 Element			
	TCD104D	Toshiba	
Image Sensor, Linear (520 elements x 3 colors)			
	TCD136C-2	Toshiba	15
Image Sensor, Linear, 1024 Element			
	TCD107D	Toshiba	
	TCD107D-5	Toshiba	
Image Sensor, Linear, 2048 Elements			
	TCD131D	Toshiba	
Image Sensor, Matrix (525h x 492v)			
	MB8037A	Fujitsu	
	MB8038A	Fujitsu	20
Image Sensor/Multiplexer, Digital (32 elements)			
	RL0032M	EG&G-Reticon	
Image Sensor/Multiplexer, Digital (64 elements)			
	RL0064M	EG&G-Reticon	
Image Sensor/Multiplexer, Digital (128 elements)			
	RL0128M	EG&G-Reticon	
Image Sensor/Multiplexer, Digital (256 elements)			
	RL0256M	EG&G-Reticon	
Image Sensor, Photodiode (256 pixels, random access)			
	RL0256S	EG&G-Reticon	25
Image Sensor, Photodiode (512 pixels, random access)			
	RL0512SR	EG&G-Reticon	
Image Sensor, Photodiode (1024 pixels, random access)			
	RL1024SR	EG&G-Reticon	
Image Sensor, Solid State (128 elements)			
	RL0128SB	EG&G-Reticon	
Image Sensor, Solid State (256 elements)			
	RL0256SB	EG&G-Reticon	
Image Sensor, Solid State (512 elements)			
	RL0512SB	EG&G-Reticon	30
Image Sensor, Solid State (1024 elements)			
	RL1024SB	EG&G-Reticon	
Image Sensor Timing Pulse Generator			
	TC17G014AF-0042	Toshiba	
Image Sensor, Dual, CC Photodiode			
	RL0512R	EG&G-Reticon	
	RL1024R	EG&G-Reticon	
Image Sensor, 128x1, CCD			
	TC102	TI	35
Image Sensor, 1840 Elements			
	TCD1100D	Toshiba	
Image Sensor, 2048 Bit CCD Linear			
	µPD35H73	NEC	
Image Sensor, 2048 Elements			
	TCD142D	Toshiba	
Image Sensor, 2048x1, CCD			
	TC103	TI	
Image Sensor, 2160 Elements			
	TCD1200D	Toshiba	40
Image Sensor, 2592 Bit CCD Linear			
	µPD35H74	NEC	
Image Sensor, 2592 Elements			
	TCD143D	Toshiba	
Image Sensor, 2700 Elements			
	TCD1250D	Toshiba	
Image Sensor, 3456x1, CCD			
	TC104	TI	
Image Sensor, 3648 Elements			
	TCD1300D	Toshiba	45
Image Sensor, 5000 Elements			
	TCD141ARC	Toshiba	
	TCD141C	Toshiba	
Image Sensor, 5340 Elements			
	TCD1500C	Toshiba	
Image Sensor, 192x165, CCD			
	TC210	TI	
	TC211	TI	50
Image Sensor, 2952x1, CCD			
	TC106-1	TI	
Image Sensor, 754x488, CCD			
	TC240	TI	
	TC241	TI	
Light-to-Frequency Converter			
	TSL220	TI	
Open Fiber Control System			
	S2034	AMCC	55
	S2035	AMCC	
Opto Sensor, Integrated, 64 x 1			
	TSL213	TI	
	TSL214	TI	
Opto Sensor, Integrated, 128 x 1			
	TSL215	TI	
Opto Sensor, Integrated, 192 x 1			
	TSL216	TI	60
Optocoupler	TIL102	TI	
Optocoupler, AC/DC to Logic Interface			
	ICPL3700	Isocom	
Optocoupler, High DC Transfer Ratio			
	MCT2	TI	
Optoisolator, AC Input/Darlington, I/O Isolation 7500V			
	IL755-1	Siemens	
	IL755-2	Siemens	65
	IL755B-1	Siemens	
	IL755B-2	Siemens	
	IL766-1	Siemens	
	IL766-2	Siemens	
	IL766B-1	Siemens	70
	IL766B-2	Siemens	
Optoisolator, AC Input/Transistor, I/O Isolation 2500V			
	H11AA1	Isocom	
	IS604	Isocom	
	H11AA1	Motorola	
	H11AA2	Motorola	75
	H11AA3	Motorola	
	H11AA4	Motorola	
	H11AA1	Siemens	
	IL250	Siemens	
	IL251	Siemens	80
	IL252	Siemens	
	IL256	Siemens	
	SFH620-1	Siemens	
	SFH620-2	Siemens	
	SFH620-3	Siemens	85
	SFH6206-1	Siemens	
	SFH6206-2	Siemens	
	SFH6206-3	Siemens	
	SFH628-2	Siemens	
	SFH628-3	Siemens	90
	SFH628-4	Siemens	
	SFH6286-2	Siemens	
	SFH6286-3	Siemens	
	SFH6286-4	Siemens	
		(Continued)	
Optoisolator, AC Input/Transistor, I/O Isolation 5000V (Cont'd)			
	TLP620	Toshiba	95
	TLP626	Toshiba	
Optoisolator, Darlington Output, I/O Isolation 2500V			
	TLP570	Toshiba	
	TLP571	Toshiba	
	TLP572	Toshiba	
Optoisolator, Darlington Output, I/O Isolation 1500V			
	TIL119	Isocom	100
Optoisolator, Darlington Output, I/O Isolation 2500V			
	H11B1	Isocom	
	ISPD60	Isocom	
	ISPD61	Isocom	
	ISPD62	Isocom	
	MOC221	Motorola	105
	MOC222	Motorola	
	MOC223	Motorola	
	IL221	Siemens	
	IL222	Siemens	
	IL223	Siemens	110
	TLP523	Toshiba	
Optoisolator, Darlington Output, I/O Isolation 3550V			
	MCA255	Isocom	
Optoisolator, Darlington Output, I/O Isolation 5000V			
	ISPD63	Isocom	
	ISPD64	Isocom	
	ISPD65	Isocom	115
	IS660	Isocom	
	IS661	Isocom	
	IS662	Isocom	
	TLP371	Toshiba	
	TLP372	Toshiba	120
	TLP627	Toshiba	
Optoisolator, Darlington Output, I/O Isolation 7500V			
	MOC8050	Isocom	
	H11B1	Motorola	
	H11B2	Motorola	
	H11B3	Motorola	125
	H11G1	Motorola	
	H11G2	Motorola	
	H11G3	Motorola	
	MOC119	Motorola	
	MOC8020	Motorola	130
	MOC8021	Motorola	
	MOC8030	Motorola	
	MOC8050	Motorola	
	4N29	Motorola	
	4N29A	Motorola	135
	4N30	Motorola	
	4N31	Motorola	
	4N32	Motorola	
	4N32A	Motorola	
	4N33	Motorola	140
	H11B1	Siemens	
	H11B2	Siemens	
	H11B3	Siemens	
	IL30	Siemens	
	IL31	Siemens	145
	IL55	Siemens	
	IL66-1	Siemens	
	IL66-2	Siemens	
	IL66-3	Siemens	
	IL66-4	Siemens	150
	IL66B-1	Siemens	
	IL66B-2	Siemens	
	MCA230	Siemens	
	MCA231	Siemens	
	MCA255	Siemens	155
	4N32	Siemens	
	4N33	Siemens	
Optoisolator, Darlington Transistor Output, Isolation Voltage 2500V			
	TLP127	Toshiba	
Optoisolator, Diode Output, I/O Isolation 2500V			
	TLP190	Toshiba	
	TLP191	Toshiba	160
		(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Optoelectronic Devices (Cont'd)

Function	Device	Source	Line
Optoisolator, Diode Output, I/O Isolation 2500V (Cont'd)			
	TLP590	Toshiba	
	TLP590B	Toshiba	
	TLP591	Toshiba	
	TLP591B	Toshiba	
Optoisolator, FET Output, I/O Isolation 2500V			
	H11F1	Isocom	5
	H11F2	Isocom	
	IS610	Isocom	
	TLP190B	Toshiba	
	TLP191B	Toshiba	
	TLP250	Toshiba	10
	TLP251	Toshiba	
Optoisolator, FET Output, I/O Isolation 5000V			
	IS611	Isocom	
Optoisolator, For Power Supply, I/O Isolation 3750V			
	MOC8101	Motorola	
	MOC8102	Motorola	
	MOC8103	Motorola	15
	MOC8104	Motorola	
Optoisolator, High Temp Darlington Output, I/O Isolation 7500V			
	MOC8080	Motorola	
Optoisolator, Line Receiver, I/O Isolation 3000V			
	ICPL2602	Isocom	
Optoisolator, Logic Output, I/O Isolation 1500V			
	H11L1	Isocom	
	H11L2	Isocom	20
Optoisolator, Logic Output, I/O Isolation 2500V			
	6N135	Siemens	
	6N136	Siemens	
	H11L1	Toshiba	
	H11L3	Toshiba	
	TLP112	Toshiba	25
	TLP112A	Toshiba	
	TLP113	Toshiba	
	TLP115	Toshiba	
	TLP115A	Toshiba	
	TLP2200	Toshiba	30
	TLP2601	Toshiba	
	TLP550	Toshiba	
	TLP558	Toshiba	
Optoisolator, Logic Output, I/O Isolation 3000V			
	ICPL2502	Isocom	
	ICPL2503	Isocom	35
	ICPL2601	Isocom	
	ICPL2630	Isocom	
	ICPL2730	Isocom	
	ICPL2731	Isocom	
	6N135	Isocom	40
	6N136	Isocom	
	6N137	Isocom	
	6N138	Isocom	
	6N139	Isocom	
	6N135	TI	45
	6N136	TI	
	6N137	TI	
	6N138	TI	
	6N139	TI	
	6N135	Toshiba	50
	6N136	Toshiba	
	6N137	Toshiba	
	6N138	Toshiba	
	6N139	Toshiba	
Optoisolator, Logic Output, I/O Isolation 3750V			
	TLP114A	Toshiba	55
Optoisolator, Logic Output, I/O Isolation 5000V			
	IS609	Isocom	
	TLP582	Toshiba	
	TLP651	Toshiba	
	TLP750	Toshiba	
	TLP751	Toshiba	60
	TLP759	Toshiba	
Optoisolator, Logic Output, I/O Isolation 5300V			
	SFH6135	Siemens	
	SFH6136	Siemens	
	SFH6138	Siemens	
	SFH6139	Siemens	65
Optoisolator, Logic Output, I/O Isolation 6000V			
	6N138	Siemens	
	6N139	Siemens	
Optoisolator, Logic Output, I/O Isolation 7500V			
	H11L1	Motorola	
	H11L2	Motorola	
	MOC5007	Motorola	70
	MOC5008	Motorola	
	MOC5009	Motorola	
Optoisolator, Low Current/High Gain			
	4N45	Isocom	
	4N46	Isocom	
Optoisolator, MOSFET Output, I/O Isolation 2500V			
	TLP595A	Toshiba	75
	TLP595B	Toshiba	
	TLP595G	Toshiba	
	TLP596G	Toshiba	
Optoisolator, MOSFET Output, I/O Isolation 5000V			
	TLP795G	Toshiba	
Optoisolator, SCR Output, I/O Isolation 660V			
	4N39	Isocom	80
	4N40	Isocom	
Optoisolator, SCR Output, I/O Isolation 1060V			
	H11C5	Isocom	
	H11C6	Isocom	
Optoisolator, SCR Output, I/O Isolation 1500V			
	CNY30	Isocom	
	CNY34	Isocom	85
	H11C4	Isocom	
Optoisolator, SCR Output, I/O Isolation 3150V			
	MCS2400	Isocom	
Optoisolator, SCR Output, I/O Isolation 5000V			
	IS605	Isocom	
	IS606	Isocom	
Optoisolator, SCR Output, I/O Isolation 7500V			
	H11C1	Motorola	90
	H11C2	Motorola	
	H11C3	Motorola	
	H11C4	Motorola	
	H11C5	Motorola	
	H11C6	Motorola	95
	MOC3000	Motorola	
	MOC3001	Motorola	
	MOC3002	Motorola	
	MOC3003	Motorola	
	MOC3007	Motorola	100
	4N39	Motorola	
	4N40	Motorola	
	H11C4	Siemens	
	H11C5	Siemens	
	H11C6	Siemens	105
	IL400	Siemens	
Optoisolator, Thyristor Output			
	TLP645G	Toshiba	
	TLP645J	Toshiba	
Optoisolator, Thyristor Output, I/O Isolation 2500V			
	TLP541G	Toshiba	
	TLP542G	Toshiba	110
	TLP543J	Toshiba	
	TLP545J	Toshiba	
Optoisolator, Thyristor Output, I/O Isolation 4000V			
	TLP647G	Toshiba	
	TLP647J	Toshiba	
Optoisolator, Thyristor Transistor Output, Isolation Voltage 2500V			
	TLP141G	Toshiba	115
Optoisolator, Transistor Output			
	MCT272	Isocom	
	MCT275	Isocom	
Optoisolator, Transistor Output, I/O Isolation 500V			
	4N28	Isocom	
Optoisolator, Transistor Output, I/O Isolation 1060V			
	H11D2	Isocom	
	H11D3	Isocom	120
	H11D4	Isocom	
Optoisolator, Transistor Output, I/O Isolation 1500V			
	H11D1	Isocom	
	MCT2	Isocom	
	TIL111	Isocom	
	4N26	Isocom	125
	4N27	Isocom	
	4N30	Isocom	
	4N31	Isocom	
	4N33	Isocom	
	4N37	Isocom	130
	4N38	Isocom	
Optoisolator, Transistor Output, I/O Isolation 2500V			
	H11A1	Isocom	
	MCT2E	Isocom	
	4N25	Isocom	
	4N29	Isocom	135
	4N32	Isocom	
	4N36	Isocom	
	4N38A	Isocom	
	MOC205	Motorola	
	MOC206	Motorola	140
	MOC207	Motorola	
	MOC211	Motorola	
	MOC212	Motorola	
	MOC213	Motorola	
	MOC215	ℓ Motorola	145
	MOC216	ℓ Motorola	
	MOC217	ℓ Motorola	
	IL205	Siemens	
	IL206	Siemens	
	IL207	Siemens	150
	IL208	Siemens	
	IL211	Siemens	
	IL212	Siemens	
	IL213	Siemens	
	IL215	Siemens	155
	IL216	Siemens	
	IL217	Siemens	
	4N25	TI	
	TLP504A	Toshiba	
	TLP521-1	Toshiba	160
	TLP531	Toshiba	
	TLP532	Toshiba	
	TLP557	Toshiba	
	TLP559	Toshiba	
Optoisolator, Transistor Output, I/O Isolation 2800V			
	SFH600-0	Isocom	165
	SFH600-1	Isocom	
	SFH600-2	Isocom	
	SFH600-3	Isocom	
	SFH600-4	Isocom	
	SFH601-4	Isocom	170
	SFH601-5	Isocom	
Optoisolator, Transistor Output, I/O Isolation 3000V			
	ILH100	Siemens	
	ILH200	Siemens	
Optoisolator, Transistor Output, I/O Isolation 3550V			
	4N35	Isocom	
Optoisolator, Transistor Output, I/O Isolation 4000V			
	H11AV1	Isocom	175
	H11AV2	Isocom	
	H11AV3	Isocom	
	TLP633	Toshiba	
	TLP634	Toshiba	
	TLP721	Toshiba	180
	TLP731	Toshiba	
	TLP732	Toshiba	
	TLP733	Toshiba	
	TLP734	Toshiba	
	TLP741G	Toshiba	185
	TLP741J	Toshiba	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Optoelectronic Devices (Cont'd)

Function	Device	Source	Line
Optoisolator, Transistor Output, I/O Isolation 4000V (Cont'd)			
	TLP747G	Toshiba	
	TLP747J	Toshiba	
Optoisolator, Transistor Output, I/O Isolation 4400V			
	CNY17-1	Isocom	
	CNY17-2	Isocom	
	CNY17-3	Isocom	5
	CNY17-4	Isocom	
	CNY17-5	Isocom	
	CNY17-2	Toshiba	
	CNY17-3	Toshiba	
	CNY17-4	Toshiba	10
Optoisolator, Transistor Output, I/O Isolation 5000V			
	TLP321	Toshiba	
	TLP330	Toshiba	
	TLP331	Toshiba	
	TLP332	Toshiba	
	TLP337	Toshiba	15
	TLP338	Toshiba	
	TLP535	Toshiba	
	TLP621	Toshiba	
	TLP624	Toshiba	
	TLP629	Toshiba	20
	TLP630	Toshiba	
	TLP631	Toshiba	
	TLP632	Toshiba	
	TLP638	Toshiba	
Optoisolator, Transistor Output, I/O Isolation 5300V			
	SFH601-1	Isocom	25
	SFH601-2	Isocom	
	SFH601-3	Isocom	
	SFH609-1	Isocom	
	SFH609-2	Isocom	
	SFH609-3	Isocom	30
	CNY17-1	Siemens	
	CNY17-2	Siemens	
	CNY17-3	Siemens	
	CNY17-4	Siemens	
	CNY17F-1	Siemens	35
	CNY17F-2	Siemens	
	CNY17F-3	Siemens	
	CNY17F-4	Siemens	
	H11D1	Siemens	
	H11D2	Siemens	40
	H11D3	Siemens	
	SFH600-0	Siemens	
	SFH600-1	Siemens	
	SFH600-2	Siemens	
	SFH600-3	Siemens	45
	SFH601-1	Siemens	
	SFH601-2	Siemens	
	SFH601-3	Siemens	
	SFH601-4	Siemens	
	SFH608-2	Siemens	50
	SFH608-3	Siemens	
	SFH608-4	Siemens	
	SFH608-5	Siemens	
	SFH610-1	Siemens	
	SFH610-2	Siemens	55
	SFH610-3	Siemens	
	SFH610-4	Siemens	
	SFH6106-1	Siemens	
	SFH6106-2	Siemens	
	SFH6106-3	Siemens	60
	SFH6106-4	Siemens	
	SFH611-1	Siemens	
	SFH611-2	Siemens	
	SFH611-3	Siemens	
	SFH611-4	Siemens	65
	SFH6116-1	Siemens	
	SFH6116-2	Siemens	
	SFH6116-3	Siemens	
	SFH6116-4	Siemens	
	SFH615-1	Siemens	70
	SFH615-2	Siemens	
	SFH615-3	Siemens	
	SFH615-4	Siemens	
Optoisolator, Transistor Output, I/O Isolation 5300V (Cont'd)			
	SFH6156-1	Siemens	
	SFH6156-2	Siemens	75
	SFH6156-3	Siemens	
	SFH6156-4	Siemens	
	SFH617G-1	Siemens	
	SFH617G-2	Siemens	
	SFH617G-3	Siemens	80
	SFH617G-4	Siemens	
	SFH618-2	Siemens	
	SFH618-3	Siemens	
	SFH618-4	Siemens	
	SFH618-5	Siemens	85
	SFH6186-2	Siemens	
	SFH6186-3	Siemens	
	SFH6186-4	Siemens	
	SFH6186-5	Siemens	
	SFH640-1	Siemens	90
	SFH640-2	Siemens	
	SFH640-3	Siemens	
Optoisolator, Transistor Output, I/O Isolation 7000V			
	IL10	Siemens	
	IL11	Siemens	
	IL8	Siemens	95
	IL9	Siemens	
Optoisolator, Transistor Output, I/O Isolation 7500V			
	CNY17-1	Motorola	
	CNY17-2	Motorola	
	CNY17-3	Motorola	
	H11AV1	Motorola	100
	H11AV1A	Motorola	
	H11AV2	Motorola	
	H11AV2A	Motorola	
	H11AV3	Motorola	
	H11AV3A	Motorola	105
	H11A1	Motorola	
	H11A2	Motorola	
	H11A3	Motorola	
	H11A4	Motorola	
	H11A5	Motorola	110
	H11D1	Motorola	
	H11D2	Motorola	
	H11D3	Motorola	
	H11D4	Motorola	
	MCT2	Motorola	115
	MCT2E	Motorola	
	MOC1005	Motorola	
	MOC1006	Motorola	
	MOC8100	Motorola	
	MOC8111	Motorola	120
	MOC8112	Motorola	
	MOC8113	Motorola	
	MOC8204	Motorola	
	MOC8205	Motorola	
	MOC8206	Motorola	125
	4N25	Motorola	
	4N25A	Motorola	
	4N26	Motorola	
	4N27	Motorola	
	4N28	Motorola	130
	4N35	Motorola	
	4N36	Motorola	
	4N37	Motorola	
	4N38	Motorola	
	4N38A	Motorola	135
	H11A1	Siemens	
	H11A2	Siemens	
	H11A3	Siemens	
	H11A4	Siemens	
	H11A5	Siemens	140
	IL1	Siemens	
	IL2	Siemens	
	IL2B-1	Siemens	
	IL2B-2	Siemens	
	IL2B-3	Siemens	145
	IL2B-4	Siemens	
	IL2B-5	Siemens	
Optoisolator, Transistor Output, I/O Isolation 7500V (Cont'd)			
	IL201	Siemens	
	IL202	Siemens	
	IL203	Siemens	150
	IL5	Siemens	
	IL74	Siemens	
	MCT2	Siemens	
	MCT2E	Siemens	
	MCT270	Siemens	155
	MCT271	Siemens	
	MCT272	Siemens	
	MCT273	Siemens	
	MCT274	Siemens	
	MCT275	Siemens	160
	MCT276	Siemens	
	MCT277	Siemens	
	MCT5210	Siemens	
	MCT5211	Siemens	
	4N25	Siemens	165
	4N26	Siemens	
	4N27	Siemens	
	4N28	Siemens	
	4N35	Siemens	
	4N36	Siemens	170
	4N37	Siemens	
Optoisolator, Transistor Output, Isolation Voltage 3750V			
	TLP120	Toshiba	
	TLP121	Toshiba	
	TLP124	Toshiba	
	TLP126	Toshiba	175
	TLP130	Toshiba	
	TLP131	Toshiba	
	TLP137	Toshiba	
Optoisolator, Triac Driver Output, I/O Isolation 2500V			
	H11J1	Isocom	
	H11J2	Isocom	180
	H11J3	Isocom	
	H11J4	Isocom	
	H11J5	Isocom	
	IS3020	Isocom	
	IS3021	Isocom	185
	IS607	Isocom	
	IS608	Isocom	
	IS620	Isocom	
	IS621	Isocom	
	IS622	Isocom	190
	IS623	Isocom	
	MOC3009	Isocom	
	MOC3010	Isocom	
	MOC3011	Isocom	
	MOC3012	Isocom	195
	MOC3030	Isocom	
	MOC3031	Isocom	
	MOC3032	Isocom	
	MOC3033	Isocom	
	MOC3040	Isocom	200
	MOC3041	Isocom	
	MOC3042	Isocom	
	MOC3043	Isocom	
	MOC3009	Motorola	
	MOC3010	Motorola	205
	MOC3011	Motorola	
	MOC3012	Motorola	
	MOC3020	Motorola	
	MOC3021	Motorola	
	MOC3022	Motorola	210
	MOC3023	Motorola	
	MOC3031	Motorola	
	MOC3032	Motorola	
	MOC3033	Motorola	
	MOC3041	Motorola	215
	MOC3042	Motorola	
	MOC3043	Motorola	
	MOC3061	Motorola	
	MOC3062	Motorola	
	MOC3063	Motorola	220
	MOC3081	Motorola	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Optoelectronic Devices (Cont'd)

Function	Device	Source	Line
Optoisolator, Triac Driver Output, I/O Isolation 7500V (Cont'd)			
	MOC3082	Motorola	
	MOC3083	Motorola	
	IL410	Siemens	
	IL4116	Siemens	
	IL4117	Siemens	5
	IL4118	Siemens	
	IL420	Siemens	
	IL4216	Siemens	
	IL4217	Siemens	
	IL4218	Siemens	10
Optoisolator, Triac Driver Output, I/O Isolation 7500V	MOC2A40-10	Motorola	
Optoisolator, Triac Output, I/O Isolation 2500V	TLP3502	Toshiba	
	TLP3502A	Toshiba	
	TLP3503	Toshiba	
	TLP3506	Toshiba	15
	TLP3507	Toshiba	
	TLP3520	Toshiba	
	TLP3520A	Toshiba	
	TLP3521	Toshiba	
	TLP3526	Toshiba	20
	TLP3527	Toshiba	
	TLP3530	Toshiba	
	TLP525G	Toshiba	
	TLP560G	Toshiba	
	TLP560J	Toshiba	25
	TLP561G	Toshiba	
	TLP561J	Toshiba	
Optoisolator, Triac Output, I/O Isolation 5000V	TLP3020	Toshiba	
	TLP3021	Toshiba	
	TLP3022	Toshiba	30
	TLP3023	Toshiba	
	TLP3041	Toshiba	
	TLP3042	Toshiba	
	TLP3043	Toshiba	
	TLP3051	Toshiba	35
	TLP3052	Toshiba	
	TLP3061	Toshiba	
	TLP3062	Toshiba	
	TLP3063	Toshiba	
	TLP3064	Toshiba	40
Optoisolator, Triac Output, Isolation Voltage, 2500V	TLP160G	Toshiba	
	TLP160J	Toshiba	
	TLP161G	Toshiba	
	TLP161J	Toshiba	
Optoisolator, Dual, AC Input/Darlington, I/O Isolation 7500V	ILD755-1	Siemens	45
	ILD755-2	Siemens	
	ILD766-1	Siemens	
	ILD766-2	Siemens	
Optoisolator, Dual, AC Input/Transistor, I/O Isolation 7500V	ILD250	Siemens	
	ILD251	Siemens	50
	ILD252	Siemens	
	ILD255	Siemens	
	ILD620	Siemens	
	ILD620GB	Siemens	
	TLP620-2	Toshiba	55
	TLP626-2	Toshiba	
Optoisolator, Dual, Darlington Output, I/O Isolation 2500V	ILD223	Siemens	
	ILD30	Siemens	
	ILD31	Siemens	
	ILD32	Siemens	60
	ILD55	Siemens	
	ILD66-1	Siemens	
	ILD66-2	Siemens	
	ILD66-3	Siemens	
	ILD66-4	Siemens	65
	TLP523-2	Toshiba	
	TLP627-2	Toshiba	
Optoisolator, Dual, Logic Output, I/O Isolation 3000V	ICPL2530	Isocom	
	ICPL2531	Isocom	
	ICPL2533	Isocom	70
	TLP2531	Toshiba	
	TLP2630	Toshiba	
	TLP2631	Toshiba	
Optoisolator, Dual, Logic Output, Transient Immunity 100V/μs	ICPL2631	Isocom	
Optoisolator, Dual, Transistor Output, I/O Isolation 2500V	MCT6	Isocom	75
	ILCT6	Siemens	
	ILD1	Siemens	
	ILD2	Siemens	
	ILD205	Siemens	
	ILD206	Siemens	80
	ILD207	Siemens	
	ILD213	Siemens	
	ILD5	Siemens	
	ILD610-1	Siemens	
	ILD610-2	Siemens	85
	ILD610-3	Siemens	
	ILD610-4	Siemens	
	ILD615-1	Siemens	
	ILD615-2	Siemens	
	ILD615-3	Siemens	90
	ILD615-4	Siemens	
	ILD621	Siemens	
	ILD621GB	Siemens	
	ILD74	Siemens	
	MCT6	Siemens	95
	TLP2530	Toshiba	
	TLP321-2	Toshiba	
	TLP504A-2	Toshiba	
	TLP521-2	Toshiba	
	TLP621-2	Toshiba	100
	TLP624-2	Toshiba	
	TLP629-2	Toshiba	
Optoisolator, Dual, Triac Output, I/O Isolation 2500V	TLP525G-2	Toshiba	
Optoisolator, Triple, AC Input, I/O Isolation 5000V	TLP620-3	Toshiba	
Optoisolator, Triple, Darlington Output, I/O Isolation 2500V	TLP523-3	Toshiba	105
	TLP627-3	Toshiba	
Optoisolator, Triple, Transistor Output, I/O Isolation 5000V	TLP321-3	Toshiba	
	TLP521-3	Toshiba	
	TLP621-3	Toshiba	
	TLP624-3	Toshiba	110
	TLP626-3	Toshiba	
	TLP629-3	Toshiba	
Optoisolator, Triple, Triac Output, I/O Isolation 2500V	TLP525G-3	Toshiba	
Optoisolator, Quad, AC Input/Transistor, I/O Isolation 7500V	ILQ620	Siemens	
	ILQ620GB	Siemens	115
	TLP620-4	Toshiba	
	TLP626-4	Toshiba	
Optoisolator, Quad, Darlington Output, I/O Isolation 7500V	ILQ30	Siemens	
	ILQ31	Siemens	
	ILQ32	Siemens	120
	ILQ55	Siemens	
	ILQ66-1	Siemens	
	ILQ66-2	Siemens	
	ILQ66-3	Siemens	
	ILQ66-4	Siemens	125
	TLP523-4	Toshiba	
	TLP627-4	Toshiba	
Optoisolator, Quad, Darlington Transistor Output, Isolation Voltage 2500V	TLP127-4	Toshiba	
Optoisolator, Quad, Transistor Output, I/O Isolation 7500V	ILQ1	Siemens	
	ILQ2	Siemens	130
		(Continued)	
Optoisolator, Quad, Transistor Output, I/O Isolation 7500V (Cont'd)	ILQ5	Siemens	
	ILQ615-1	Siemens	
	ILQ615-2	Siemens	
	ILQ615-3	Siemens	
	ILQ615-4	Siemens	135
	ILQ621	Siemens	
	ILQ621GB	Siemens	
	ILQ74	Siemens	
	TLP321-4	Toshiba	
	TLP521-4	Toshiba	140
	TLP621-4	Toshiba	
	TLP624-4	Toshiba	
	TLP629-4	Toshiba	
Optoisolator, Quad, Transistor Output, Isolation Voltage 3750V	TLP120-4	Toshiba	
	TLP121-4	Toshiba	145
Optoisolator, Quad, Triac Output, I/O Isolation 2500V	TLP525G-4	Toshiba	
Optoisolator, One Channel, Transistor Output, I/O Isolation 2500V	IS1	Isocom	
	IS201	Isocom	
	IS202	Isocom	
	IS203	Isocom	150
	IS5	Isocom	
	IS74	Isocom	
Optoisolator, Two Channel, Transistor Output, I/O Isolation 2500V	ISD1	Isocom	
	ISD201	Isocom	
	ISD202	Isocom	155
	ISD203	Isocom	
	ISD5	Isocom	
	ISD74	Isocom	
Optoisolator, Four Channel, Transistor Output, I/O Isolation 2500V	ISQ1	Isocom	
	ISQ201	Isocom	160
	ISQ202	Isocom	
	ISQ203	Isocom	
	ISQ5	Isocom	
	ISQ74	Isocom	
Photodiode and Amplifier	**OPT201**	**Burr-Brown (3465)**	165
	OPT202	**Burr-Brown (3465)**	
Vertical Clock Driver for CCD Imagers	CXA1065	Sony	
	CXD1250	Sony	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Phase Locked Loops/Synthesizers

Function	Device	Source	
AM/FM Digital PLL Frequency Synthesizer	DS8908B	National	
Clock Recovery and Data Retiming Phase-Locked Loop	**AD802-155K**	**AD**	**(3514)**
	AD805	**AD**	**(3514)**
Count Extender, ÷4, ÷10/11 becomes ÷40/41	SP8790A	† GEC Plessey	
	SP8790B	GEC Plessey	
Count Extender, ÷8 (extends division ratio of a two modulus prescaler while retaining the difference, ie ÷10/11 becomes ÷80/81)	SP8794A	† GEC Plessey	
	SP8794B	GEC Plessey	
Counter Control Logic (for use with Motorola 12513 Prescaler)	12514	† Motorola	
Counter Logic Control	SP8790	GEC Plessey	
Counter Logic Control (use with MC12012 for high frequency programming)	MC12014	Motorola	
Crystal Controlled Frequency Synthesizer (50 to 600 MHz)	RCK604	OnChip Sys	
Crystal Oscillator (2 to 20 MHz)	MC12061	Motorola	
Crystal Oscillator (250 kHz to 60 MHz)	CK1100A	Solarise	
	CK1114A	Solarise	
	CK1144A	Solarise	
	CK1145A	Solarise	
Filter, Digital PLL	CD54HCT297	°† Harris	
	CD54HC297	°† Harris	
	CD74HCT297	Harris	
	CD74HC297	Harris	
	74HC297	° Philips	
Frequency Multiplier	**MD200**	**MicroNet**	**(3694)**
Frequency Synthesizer, Low Power	TDD1742T	Philips	
Frequency Synthesizer, Serial Input	MB1512	Fujitsu	
	MB1513	Fujitsu	
	MB87094	Fujitsu	
Frequency Synthesizer (with power saving function)	MB87093A	Fujitsu	
	MB87095A	Fujitsu	
	MB87096A	Fujitsu	
FSK Modulator/Demodulator (See also Telecommunications)	XR210	Exar	
	XR210M	† Exar	
	XR2211C	Exar	
	XR2211M	† Exar	
	XR2212M	† Exar	
	RC2211C	Raytheon	
	RC2211M	† Raytheon	
GHz PLL, IIC Bus	SDA3302	Siemens	
Intercarrier Frequency Modulator (internal PLL and Comparator)	4002Y-A	NCM	
Mixer, Double Balanced Analog Mixer	MC12002	Motorola	
Phase Comparator	MM54C932	† National	
	MM74C932	National	
Phase Comparator and Programmable Counter	MC14568BC	Motorola	
Phase Detector- (CMOS)	IMI4345	IMI	
Phase Locked Frequency Controller	UC1633	† Unitrode	
	UC1633/883	† Unitrode	
		(Continued)	
Phase Locked Frequency Controller (Cont'd)	UC1634	† Unitrode	
	UC1634/883	† Unitrode	
	UC2633	Unitrode	
	UC2634	Unitrode	
	UC3633	Unitrode	
	UC3634	Unitrode	
Phase Locked Loop	XR215	Exar	
	XR215M	† Exar	
	SL652	GEC Plessey	
	MX406	MX-COM	
	NE564	Philips	
	NE568	**Philips**	**(3730)**
	SE564	† Philips	
	SN74LS297	° TI	
Phase Locked Loop (CMOS)	CD4046B	† Harris	
	MC14046BC	Motorola	
	CD4046BC	National	
	CD4046BM	† National	
	74HCT7046A	Philips	
	74HC4046A	Philips	
	74HC7046A	Philips	
Phase Locked Loop, Programmable Divider (binary 10-bit counter)	MB87086A	Fujitsu	
Phase Locked Loop, Programmable Divider (binary 14-bit counter)	MB87087	Fujitsu	
Phase Locked Loop Synthesizer, (AM/FM/TV sound)	DS8911	National	
Phase Locked Loop System (multiplier, VCO and Op Amp)	XRS200	Exar	
Phase Locked Loop, with Constant Curent Output Charge Pump	MB87090	Fujitsu	
Phase Locked Loop, with 1.1 GHz Prescaler, Two Modulus (1 64/65 or 128/129)	MB1501L	Fujitsu	
Phase Locked Loop, with 2,5 GHz Prescaler (BS tunes and CATV applications)	MB1518	Fujitsu	
Phase Locked Loop, Two Modulus (1 64/65 or 128/129)	MB87014A	Fujitsu	
Phase Locked Loop, 150 MHz	**NE568A**	**Philips**	**(3730)**
	SA568A	**Philips**	**(3730)**
Phase-Frequency Detector	MC12040	Motorola	
	12540	† Motorola	
Phase-Locked Loop (demodulates FM/FSK signals)	LMC568	National	
	PMB2306	**Siemens**	**(3770)**
Phase-Locked Loop Synthesizer (1.5 GHz)	Q3036	† Qualcomm	
Phase-Locked Loop Synthesizer (1.6 GHz)	Q3036I-16L	Qualcomm	
	Q3036I-16N	Qualcomm	
	Q3036M-16L	† Qualcomm	
Phase-Locked Oscillator	ML405	MicroLinear	
PIF Processor/PLL	μPC1820	NEC	
PLL Circuit	LC7150	Sanyo	
	LC7152	Sanyo	
PLL Clock Generator	BT440	Brooktree	
PLL, Clock Recovery and Data Retiming, 155MHz	**AD800-155**	**AD**	**(3514)**
PLL, Clock Recovery and Data Retiming, 45MHz	**AD800-45**	**AD**	**(3514)**
PLL, Clock Recovery and Data Retiming, 52MHz	**AD800-52**	**AD**	**(3514)**
PLL, Controller, LCD Driver for Radio Receiver (CMOS)	LC7230	Sanyo	
PLL for Radio Receiver (CMOS)	LC7217	Sanyo	
	LC7218	Sanyo	
PLL for Radio Receiver (NMOS)	LM7001	Sanyo	
PLL Frequency Synthesizer	MB1503/13	Fujitsu	
	TBB200	**Siemens**	**(3769)**
PLL Frequency Synthesizer Controller (for AM/FM radio)	NJU3200	NJR	
PLL Frequency Synthesizer (parallel input)	IMI145151	IMI	
PLL Frequency Synthesizer, Serial Input	MB1504H/1504L	Fujitsu	
PLL Frequency Synthesizer with Parallel Interface	MC145168	Motorola	
PLL Frequency Synthesizer with Serial Interface	GM6530	GoldStar	
	MC145149	Motorola	
	MC145169	Motorola	
	MC145170	Motorola	
PLL Frequency Synthesizer (4-bit data bus input)	IMI145145	IMI	
	IMI145146	IMI	
PLL Frequency Synthesizer,Serial Input	MB1501H/1501L	Fujitsu	
PLL, Ranges to UHF Receiver (NMOS)	LM7005	Sanyo	
PLL Synthesizer, 1.5 GHz	CXA1356	Sony	
PLL Tuning Circuit, 1.3 GHz Prescaler	MC44802	Motorola	
PLL with Prescaler, 1.1 GHz (÷64/65)	MC145190	Motorola	
	MC145191	Motorola	
PLL with Prescaler, 1.1 GHz (÷64/65, 128/129)	MB1501	Fujitsu	
PLL with Prescaler, 1.3 GHz (÷8)	TEA8805	SGS-Thomson	
PLL with Prescaler, 520 MHz (÷32/33, 64/65)	MB1504	Fujitsu	
Prescaler, ÷1, 2, or 8, 1 GHz	MB511	Fujitsu	
Prescaler, ÷2, 2.4 GHz	U862B	AEG Corp	
Prescaler, ÷2, 260 MHz	μPB558	ℓ NEC	
Prescaler, ÷2, 740 MHz	MC12090	Motorola	
Prescaler, ÷2, 2.4 GHz	U842BS	AEG Corp	
Prescaler, ÷2 (500 MHz), 4, 8, 64, (1 GHz)	μPB565	NEC	
Prescaler, ÷3/4	SP8720	GEC Plessey	
Prescaler, ÷4, 2.4 GHz	U864B	AEG Corp	
Prescaler, ÷4/8	SP8740	GEC Plessey	
Prescaler, ÷4, 2.4 GHz	U844BS	AEG Corp	
Prescaler, ÷5/6, 480 MHz	MC12009	Motorola	
Prescaler, ÷5/6, 600 MHz	12509	† Motorola	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Phase Locked Loops/Synthesizers (Cont'd)

Function	Device	Source
Prescaler, ÷6/7	SP8741	GEC Plessey
Prescaler, ÷8/9	SP8743A	GEC Plessey
Prescaler, ÷8/9, 550 MHz	MC12011	Motorola
Prescaler, ÷8/9, 600 MHz	12511	† Motorola
Prescaler, ÷8 (1 GHz)	μPB567	NEC
Prescaler, ÷10/11	SP8647	GEC Plessey
	SP8685	GEC Plessey
	SP8690	GEC Plessey
Prescaler, ÷10/11, 550 MHz	MC12013	Motorola
Prescaler, ÷10/11, 600 MHz	12513	† Motorola
Prescaler, ÷10/11 (50 MHz), 20/22, 40/44 (150 MHz)	μPB554	NEC
Prescaler, ÷10/11, (650 MHz)	11C90C	National
	11C90M	† National
	11C91C	National
	11C91M	† National
Prescaler, ÷16/17 or 32/33, 200 MHz	MB503	Fujitsu
Prescaler, ÷16/17, 150 MHz	μPB553A	NEC
	μPB556	NEC
Prescaler, ÷20/21, 225 MHz	MC12019	Motorola
Prescaler, ÷32/33 or ÷64/65, 2.0 GHz	MC12034A	Motorola
	MC12034B	Motorola
Prescaler, ÷32/33 or 64/65, 1.1 GHz	MC12028A	Motorola
Prescaler, ÷32/33 or 64/65, 1.1 GHz, Neg Edge	MC12028B	Motorola
Prescaler, ÷32/33 or 64/65, 520 MHz	MB504	Fujitsu
	MB504L	Fujitsu
	MB504LV	Fujitsu
Prescaler, ÷32/33, 225 MHz	MC12015	Motorola
	12515	† Motorola
Prescaler, ÷32/33, 64/65 (550 MHz), Low voltage	μPB569	NEC
Prescaler, ÷40/41	SP8793	GEC Plessey
	SP8793A	GEC Plessey
Prescaler, ÷40/41, 225 MHz	MC12016	Motorola
Prescaler, ÷64, 1 GHz	SP4632	GEC Plessey
Prescaler, ÷64, 1.1 GHz	MC12073	Motorola
Prescaler, ÷64, 225 MHz	MC12023	Motorola
Prescaler, ÷64/128/256, 1.1 GHz	U813BS	AEG Corp
	U891	AEG Corp
Prescaler, ÷64/128/256, 1.3 GHz	U833BS	AEG Corp
	U893B	AEG Corp
Prescaler, ÷64/128/256, 2.4 GHz	MB506	Fujitsu
Prescaler, ÷64/128/256, 2.1 GHz	U822BS	AEG Corp
	U824BS	AEG Corp
Prescaler, ÷64/256	CA3163	Harris
	CA3179	Harris
Prescaler, ÷64/256, 1 GHz	DS8673	National
	DS8674	National
Prescaler, ÷64/65 or ÷128/129, 1 GHz	μPB597	NEC
Prescaler, ÷64/65 or ÷128/129, 1.1 GHz	MC12022A	Motorola
	MC12022B	Motorola
	MC12022LVA	ℓ Motorola
	MC12022LVB	ℓ Motorola
	MC12022SLA	Motorola
	MC12022SLB	Motorola
	MC12022TSA	Motorola
	MC12022TSB	Motorola
	MC12022TVA	ℓ Motorola
	MC12022TVB	ℓ Motorola
	PMB2312	**Siemens (3770)**
Prescaler, ÷64/65 or ÷128/129, 2.0 GHz	MC12032A	Motorola
	MC12032B	Motorola
Prescaler, ÷64/65 or ÷128/129, 1.1 GHz	CXA1541	Sony
Prescaler, ÷64/65 or ÷128/129, 1.1 GHz, Two Modulus Selectable, Low Voltage	MC12033A	Motorola
	MC12036A	Motorola
	MC12036B	Motorola
	MC12052A	Motorola
	MC12052B	Motorola
Prescaler, ÷64/65 or ÷128/129, 2.0 GHz, Two Modulus Selectable, Low Voltage, Neg Edge	MC12031B	Motorola
Prescaler, ÷64/65 or ÷128/129, 2.0 GHz, Two Modulus Selectable, Low voltage	MC12031A	Motorola
Prescaler, ÷64/65 or ÷128/129, 4.1 GHz, Two Modulus Selectable, Low Voltage, Neg Edge	MC12033B	Motorola
Prescaler, ÷64/65 or 128/129, 1 GHz	MB501	Fujitsu
Prescaler, ÷64/65 or 128/129, 1.1 GHz	MB501L	Fujitsu
	MB501LV	Fujitsu
	MB501SL	Fujitsu
Prescaler, ÷64/65 or 128/129, 1.2 GHz	**NE701**	**Philips (3738)**
	SA701	**Philips (3738)**
Prescaler, ÷64/65 or 128/129, 1.1 GHz, S/B Mode	MB509	Fujitsu
Prescaler, ÷64/65, 225 MHz	MC12017	Motorola
Prescaler, ÷64/65, 520 MHz	MC12025	Motorola
Prescaler, ÷64/65/128/136, 1 GHz	μPB562	NEC
Prescaler, ÷64/65/72, 1.1 GHz	**SA702**	**Philips (3738)**
Prescaler, ÷64/65, 128/129, or 256/257, GaAs	MB50202	Fujitsu
Prescaler, ÷64/8/4, 1 GHz	μPB565C	NEC
Prescaler, ÷64, 128, 256, 1.3 GHz	μPB564	NEC
Prescaler, ÷80/81	SP8792	GEC Plessey
	SP8792A	GEC Plessey
Prescaler, ÷128 or 256, 2.4 GHz	MB505-24	Fujitsu
Prescaler, ÷128/129 or 256/257, 1.6 GHz	MB507	Fujitsu
Prescaler, ÷128/129, with VCO	MB551	Fujitsu
Prescaler, ÷128/129, 520 MHz	MC12018	Motorola
Prescaler, ÷128/129/144, 1.1 GHz	**SA703**	**Philips (3738)**
Prescaler, ÷128/130, 256/258 or 512/514, 2.3 GHz	MB508	Fujitsu
Prescaler, ÷128/136, 1 GHz	μPB595	NEC
Prescaler, ÷128/144 or 256/272, 2.7 GHz	MB510	Fujitsu
Prescaler, ÷128/256, 1.6 GHz	MB505-16	Fujitsu
Prescaler, ÷239/240 or 255/256	SP8906	GEC Plessey
Prescaler, ÷256, 1 GHz	SP4652	GEC Plessey
	SP4653	GEC Plessey
Prescaler, ÷256, 1.1 GHz	MC12074	Motorola
Prescaler, ÷256, 1.3 GHz	U847B	AEG Corp
	SP4742	GEC Plessey
	MC12076	Motorola
	MC12078	Motorola
Prescaler, ÷478/480 or 510/512	SP8901	GEC Plessey
Prescaler, ÷2560, 1 GHz	SP4642	GEC Plessey
Prescaler, ÷4056/8192, 1.3 GHz	SP4780	GEC Plessey
Prescaler, for FM Radio	SP8629	GEC Plessey
	DS8629	National
Serial Input PLL Frequency Synthesizer with Power-Saving Function	**MB87091**	**Fujitsu (3626)**
Serial Input PLL System Block (10 MHz, 3–5V, 3.5 mA)	MB87006A	Fujitsu
Serial Input PLL System Block (15 MHz, 3–5V, 3 mA)	MB87073	Fujitsu
	MB87076	Fujitsu
Serial Input PLL System Block (95 MHz, 5V, 10 mA)	MB87086	Fujitsu
Synthesizer, Mobile Radio (2 device set)	NJ8811	GEC Plessey
	NJ8812	GEC Plessey
	SP8901	GEC Plessey
	SP8906	GEC Plessey
Synthesizer, PLL	IMI145155	IMI
	IMI145156	IMI
	IMI145157	IMI
	IMI145158	IMI
	MC145106	Motorola
	MC145145	Motorola
	MC145146	Motorola
	MC145151-2	Motorola
	MC145152-2	Motorola
	MC145155-2	Motorola
	MC145156-2	Motorola
	MC145157-2	Motorola
	MC145158-2	Motorola
	MC145159	Motorola
	DS8906	National
	DS8907	National
	DS8908	National
	HEF4750	Philips
	SAA1057	Philips

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Phase Locked Loops/Synthesizers (Cont'd)

Function	Device	Source	Line
Synthesizer, PLL (reference oscillator, two-output phase detector, 10-bit prog. divide-by-N counter)	IMI145152	IMI	
Synthesizer, PLL Serial Input System Block (13 MHz, 5V, 3 mA)	MB87001A	Fujitsu	
Synthesizer, PLL, Dual with Prescaler, ÷64/65 or 128/129, 1.1 GHz	**MB1510**	**Fujitsu (3625)**	
Synthesizer (programmable divider, to 1021 channels, adder, phase comparator)	HC0320	Hughes	
Tone Decoder	XRL567C	Exar	5
	XRL567M	† Exar	
	XR2211C	Exar	
	XR2211M	† Exar	
	XR2213C	Exar	
	XR2213M	† Exar	10
	XR567AC	Exar	
	XR567AM	† Exar	
	LM567	† National	
	LM567C	National	
	NE567	Philips	15
	KA567C	Samsung	
Tone Decoder/Phase-Locked Loop	NJM567	NJR	
VCO	SP1658	GEC Plessey	
	MD300	**MicroNet (3694)**	
	MC1648M	† Motorola	20
	SN74LS624	TI	
	SN74LS628	TI	
VCO and Phase Comparator	LM565	National	
	LM565C	† National	
VCO Function Generator, (Includes square and triangular waveforms - but not sine.)	XR2207	Exar	25
	XR2207C	Exar	
	XR2209C	Exar	
	XR2209M	† Exar	
	LM566	National	
	LM566C	† National	30
	NE566	Philips	
	SE566	† Philips	
	RC2207C	Raytheon	
	RC2207M	† Raytheon	
VCO Phase Comparator, Multiplier	SL651	GEC Plessey	35
VCO Phase Comparator, Multiplier, with Auxiliary Amplifier	SL650	† GEC Plessey	
VCO Waveform Generator (includes sinewave output among its functions)	XR205	Exar	
	XR2206	Exar	
	XR2206	Exar	
	XR2206C	Exar	40
	XR2206M	† Exar	
	XR8038	Exar	
	XR8038A	Exar	
	XR8038M	† Exar	
VCO Waveform Generator (sine, square, triangular, sawtooth, and pulse waveform output)	ICL8038	Harris	45
	ICL8038AC	Harris	
	ICL8038AM	† Harris	
	ICL8038BC	Harris	
	ICL8038BM	† Harris	
	ICL8038CC	Harris	50
VCO, Dual	SN54S124	† TI	
	SN74LS625	TI	
	SN74LS629	TI	
	SN74S124	TI	
VCO, 150–300 MHz	Q3500C-0103	Qualcomm	55
VCO, 200–400 MHz	Q3500C-0204	Qualcomm	
VCO, 300–500 MHz	Q3500C-0305	Qualcomm	
VCO, 300–600 MHz	Q3500C-0306	Qualcomm	
VCO, 400–800 MHz	Q3500C-0408	Qualcomm	
VCO, 500–1000 MHz	Q3500C-0510	Qualcomm	60
VCO, 600–1200 MHz	Q3500C-0612	Qualcomm	
VCO, 650–1300 MHz	Q3500C-0613	Qualcomm	
VCO, 900–1600 MHz	Q3500C-0916	Qualcomm	
VCO, 1300–2400 MHz	Q3500C-1324	Qualcomm	
Video Dot Clock Generator	ICS1394	IntCirSys	65
Dual (for 46/49 MHz cordless phone)	MC145160	Motorola	
	MC145166	Motorola	
	MC145167	Motorola	
Dual Serial Input PLL Frequency Synthesizer	MB1519	Fujitsu	
Dual Tone Decoder	XR2567C	Exar	70
	XR2567M	† Exar	
Two Modulus Control and Phase Comparator (for SP8793)	MJ8820	GEC Plessey	
Two Modulus Prescaler (÷10/11)	SP8643	GEC Plessey	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Voltage Regulators

Fixed, Positive

Output Voltage, V	Output Current (mA)	Device	Source	Line
1.1	3	**S81211AG**	**Seiko Instr (3762)**	
		S81211SG	Seiko Instr	
		S81215SG	Seiko Instr	
		S81220SG	Seiko Instr	
		S81224SG	Seiko Instr	5
		S81225SG	Seiko Instr	
		S81230SG	Seiko Instr	
		S81233SG	Seiko Instr	
		S81235SG	Seiko Instr	
		S81237SG	Seiko Instr	10
		S81240SG	Seiko Instr	
		S81245SG	Seiko Instr	
		S81246SG	Seiko Instr	
		S81250SG	Seiko Instr	
		S81252SG	Seiko Instr	15
1.2	100	**NJU7201-1.2**	**NJR (3705)**	
1.5	7	S81215AG	Seiko Instr	
	100	**NJU7201-1.5**	**NJR (3705)**	
	120	TK71115	Toko	
		TK71215	Toko	20
		TK71315	Toko	
2	60	LA5002	Sanyo	
	100	NJM78L02A	NJR	
	110	TK11420	Toko	
	130	TK11220	Toko	25
2.1	130	TK11221	Toko	
2.2	35	LBRO22B	AT&T	
2.25	130	TK11222	Toko	
2.5	25	**S81225AG**	**Seiko Instr (3762)**	
	100	**NJU7201-2.5**	**NJR (3705)**	30
		TK11525	Toko	
	110	TK11425	Toko	
	130	TK11225	Toko	
	180	TK11625	Toko	
2.6	100	µA78L02AC	TI	35
		µA78L02C	TI	
2.7	100	**NJU7201-2.7**	**NJR (3705)**	
	120	TK71327	Toko	
2.75	120	TK71127	Toko	
		TK71227	Toko	40
	130	TK11227	Toko	
2.85	500	LT1129-2.85	LinearTech	
		LT1129-3.3	LinearTech	
		TL2217-285	TI	
	620	TL-SCSI285	TI	45
	750	MIC2937A-2.8	Micrel	
		MIC29371-2.8	Micrel	
	800	**REG1117-2.85**	**Burr-Brown (3467)**	
		LT1117-2.85	LinearTech	
3	30	**S81230AG**	**Seiko Instr (3762)**	50
		S81330HG	Seiko Instr	
	60	LA5003	Sanyo	
	100	**MIC5200-3.0**	**Micrel (3686)**	
		LP2950A-3	National	
		LP2950C-3	National	55
		NJU7201-3.0	**NJR (3705)**	
		TK11530	Toko	
	110	TK11430	Toko	
	120	TK71130	Toko	
		TK71230	Toko	60
		TK71330	Toko	
	130	TK11230	Toko	
	180	TK11630	Toko	
3			(Cont'd)	
	200	**MIC5201-3.0**	**Micrel (3686)**	
	800	**REG1117-3**	**Burr-Brown (3467)**	65
3.0/3.0(dual)	100	**MIC5202-3.0**	**Micrel (3686)**	
3/5–7/12 (dual)	200	MAX717	Maxim	
3.15/2.95/3.45	0.30	LA5640	Sanyo	
3.2	30	S81332HG	Seiko Instr	
	100	**NJU7201-3.2**	**NJR (3705)**	70
		TK11532	Toko	
3.25	110	TK11432	Toko	
	130	TK11232	Toko	
3.3	—	**MIC5156-3.3**	**Micrel (3686)**	
	100	**MIC5200-3.3**	**Micrel (3686)**	75
		LP2950A-3.3	National	
		LP2950C-3.3	National	
	200	**MIC5201-3.3**	**Micrel (3686)**	
	400	**MIC2920A-3.3**	**Micrel (3686)**	
		MIC29201-3.3	**Micrel (3686)**	80
	500	**LM2574-3.3**	**Micrel (3685)**	
	750	**MIC2937A-3.3**	**Micrel (3686)**	
		MIC29371-3.3	**Micrel (3686)**	
	800	**REG1117-3.3**	**Burr-Brown (3467)**	
	1250	**MIC2940A-3.3**	**Micrel (3686)**	85
		MIC29401-3.3	Micrel	
	1500	**MIC29150-3.3**	**Micrel (3686)**	
		MIC29151-3.3	**Micrel (3686)**	
	3000	**MIC29300-3.3**	**Micrel (3686)**	
		MIC29301-3.3	**Micrel (3686)**	90
	5000	**MIC29500-3.3**	**Micrel (3686)**	
		MIC29501-3.3	**Micrel (3686)**	
	7500	**MIC29750-3.3**	**Micrel (3686)**	
		MIC29751-3.3	**Micrel (3686)**	
3.3/3.3(dual)	100	**MIC5202-3.3**	**Micrel (3686)**	95
3.3/5 (dual)	20	MAX722	Maxim	
		MAX723	Maxim	
3.3/5/12	—	**MIC5157**	**Micrel (3686)**	
3.5	30 *	S81235AG	Seiko Instr	
	100	**NJU7201-3.5**	**NJR (3705)**	100
		TK11535	Toko	
	110	TK11435	Toko	
	130	TK11235	Toko	
	180	TK11635	Toko	
3.7	30 *	S81237AG	Seiko Instr	105
4	40 *	S81240AG	Seiko Instr	
	60	LA5004	Sanyo	
	100	**NJU7201-4.0**	**NJR (3705)**	
		TK11540	Toko	
	110	TK11440	Toko	110
	120	TK71140	Toko	
		TK71240	Toko	
		TK71340	Toko	
	130	TK11240	Toko	
	180	TK11640	Toko	115
4.5	100	**NJU7201-4.5**	**NJR (3705)**	
		TK11545	Toko	
	110	TK11445	Toko	
	130	TK11245	Toko	
	180	TK11645	Toko	120
4.6	35	LBRO46A	AT&T	
4.7	100	TK11547	Toko	
4.75	120	TK71147	Toko	
		TK713447	Toko	
		TK71347	Toko	125
	130	TK11247	Toko	

(Continued)

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Positive (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
4.8	100	**MIC5200-4.8**	**Micrel (3686)**	
		TK11948	Toko	
	200	**MIC5201-4.8**	**Micrel (3686)**	
	400	**MIC2920A-4.8**	**Micrel (3686)**	
		MIC29201-4.8	**Micrel (3686)**	5
	750	**MIC2937A-4.8**	**Micrel (3686)**	
		MIC29371-4.8	**Micrel (3686)**	
	1250	**MIC2940A-4.8**	**Micrel (3686)**	
		MIC29401-4.8	Micrel	
	1500	**MIC29150-4.8**	**Micrel (3686)**	10
		MIC29151-4.8	**Micrel (3686)**	
	3000	**MIC29300-4.8**	**Micrel (3686)**	
		MIC29301-4.8	**Micrel (3686)**	
	5000	**MIC29500-4.8**	**Micrel (3686)**	
		MIC29501-4.8	**Micrel (3686)**	15
	7500	**MIC29750-4.8**	**Micrel (3686)**	
		MIC29751-4.8	**Micrel (3686)**	
4.8/4.8(dual)	100	**MIC5202-4.8**	**Micrel (3686)**	
5	—	**MIC5156-5.0**	**Micrel (3686)**	
	30	S87050	Seiko Instr	20
		S8850	Seiko Instr	
	35	LBRO50A	AT&T	
		LBR050A	AT&T	
	40	**S81350AG**	**Seiko Instr (3762)**	
		S81350HG	Seiko Instr	25
	50	LM2936	National	
		S81250	Seiko Instr	
		S81250AG	**Seiko Instr (3762)**	
		S81250HG	**Seiko Instr (3762)**	
	60	LA5005	Sanyo	30
	80	**CA3277**	**Harris (3638)**	
	100	**LP2950-5.0**	**Micrel (3686)**	
		LP2951	**Micrel (3686)**	
		M5278L05	Mitsubishi	
		LM2931-5	Motorola	35
		MC78L05AC	Motorola	
		MC78L05C	Motorola	
		μA78L05C	National	
		LM140LA-5	National	
		LM78L05A	National	40
		LM78L05C	National	
		LP2950A	National	
		LP2950A-5	National	
		LP2950C	National	
		LP2951A	National	45
		LP2951C	National	
		NJM2930	NJR	
		NJM78L05A	NJR	
		NJU7201-5.0	**NJR (3705)**	
		KA78L05	Samsung	50
		KA78L05AC	Samsung	
		μA78L05AC	TI	
		μA78L05AQ	TI	
		μA78L05C	TI	
		μA78L05Q	TI	55
		TK11550	Toko	
		TK11950	Toko	
	110	TK11450	Toko	
	120	TK71150	Toko	
		TK71250	Toko	60
		TK71350	Toko	
	130	TK11250	Toko	
	150	**MIC2950-5.0**	**Micrel (3686)**	
		MIC2951	**Micrel (3686)**	
		LM2930-5	TI	65
5	150 (Cont'd)	LM330-5	TI	
		TL750L5	TI	
		TL751L05M †	TI	
		TL751L5	TI	
	180	TK11650	Toko	70
	200	**MIC5201-5.0**	**Micrel (3686)**	
		LM109H †	National	
		LM2930-5	National	
		LM309H	National	
		LM330-5	National	75
		SFC2109 †	SGS-Thomson	
		SFC2209	SGS-Thomson	
		SFC2309	SGS-Thomson	
		TLE4262	**Siemens (3772)**	
		TLE4263	**Siemens (3772)**	80
	250	MAX667C	Maxim	
		MAX667M †	Maxim	
		LP2954	Micrel	
		MIC2954-03	Micrel	
		MIC2954-5.0	**Micrel (3686)**	85
		LM342-5	National	
		LP2954	National	
		LP2954A	National	
		LP2956	National	
		LP2956A	National	90
	400	**MIC2920A-5.0**	**Micrel (3686)**	
		MIC29201-5.0	**Micrel (3686)**	
		L4805	SGS-Thomson	
	500	LT1129-5	LinearTech	
		LM2574-5	**Micrel (3685)**	95
		LM2574HV-5	Micrel	
		M5F78M05	Mitsubishi	
		MC78M05C	Motorola	
		μA78M05C	National	
		μA78M05M †	National	100
		LM341-5	National	
		LM78M05	National	
		NJM78M05A	NJR	
		L2605	SGS-Thomson	
		L4705	SGS-Thomson	105
		L487	SGS-Thomson	
		L78M05C	SGS-Thomson	
		TEA7034	SGS-Thomson	
		TLE4260	**Siemens (3772)**	
		TLE4260-2	**Siemens (3772)**	110
		TLE4261	**Siemens (3772)**	
		TLE4261-2	**Siemens (3772)**	
		μA78M05C	TI	
		μA78M05M †	TI	
	750	CS925	Cherry Semi	115
		CS935	Cherry Semi	
		MIC2937A-5	Micrel	
		MIC2937A-5.0	**Micrel (3686)**	
		MIC29371-5.0	**Micrel (3686)**	
		LM2935T	Motorola	120
		LM2925	National	
		LM2935	National	
		LM2935	SGS-Thomson	
	800	**REG1117-5**	**Burr-Brown (3467)**	
		LT1117-5	LinearTech	125
	1000	SG109 †	Linfinity Micro	
		SG309	Linfinity Micro	
		LM2575HV	Micrel	
		M5F7805	Mitsubishi	
		LM109K ‡	National	130
		LM1575-5.0 †	National	
		LM2575-5.0	National	
		LM2940C-12	National	
		LM2940C-15	National	
		LM2940C-5.0	National	135
		LM2940T-5	National	
		LM309K	National	
		NJM7805A	NJR	

(Continued)

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Positive (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
5	1000		(Cont'd)	
		µA7805	† SGS-Thomson	
		L7805	† SGS-Thomson	
		L7805C	SGS-Thomson	
		SFC2109M	SGS-Thomson	
		µA7805C	TI	5
		µA7805Q	TI	
		UC7805A	† Unitrode	
		UC7805AC	Unitrode	
	1250	**MIC2940A-12**	**Micrel (3686)**	
		MIC2940A-5.0	**Micrel (3686)**	10
		MIC29401-5.0	Micrel	
	1500	GL7805	GoldStar	
		SG140-05	† Linfinity Micro	
		SG340-05	Linfinity Micro	
		SG7805	† Linfinity Micro	15
		SG7805A	† Linfinity Micro	
		SG7805AC	Linfinity Micro	
		SG7805C	Linfinity Micro	
		MIC29150-5.0	**Micrel (3686)**	
		MIC29151-5.0	**Micrel (3686)**	20
		42094-005	Micropac	
		LM340-5	Motorola	
		MC7805AC	Motorola	
		TL780-5C	Motorola	
		µA7805C	National	25
		µA7805M	† National	
		LM140-5	† National	
		LM140A-5	† National	
		LM2931-5	National	
		LM2940-5	National	30
		LM340-5	National	
		LM340A-5	National	
		LM7800C-5	National	
		LM7805	National	
		LAS15A05	SemTech	35
		LAS1505	SemTech	
		L7805AC	SGS-Thomson	
		LM340-5	TI	
		TL780-05C	TI	
		UC7805	† Unitrode	40
		UC7805C	Unitrode	
	2000	LAS16A05	SemTech	
		LAS1605	SemTech	
		LAS1605B	SemTech	
		L78S05	† SGS-Thomson	45
		L78S05C	SGS-Thomson	
	2200	TL780-05	TI	
	3000	LM123	† LinearTech	
		LM323	LinearTech	
		LT123A	† LinearTech	50
		LT323A	† LinearTech	
		MIC29300-5.0	**Micrel (3686)**	
		MIC29301-5.0	**Micrel (3686)**	
		LM323	Motorola	
		LM323A	Motorola	55
		MC78T05AC	Motorola	
		MC78T05C	Motorola	
		LM123	† National	
		LM137HV	† National	
		LM323	National	60
		LM323A	National	
		KA78T05	Samsung	
		LAS14A05	SemTech	
		LAS1405	SemTech	
		LAS1405B	SemTech	65
		LM123	† SGS-Thomson	
		LM323	SGS-Thomson	
		CJSE033	Solitron	
		CJSE034	Solitron	
		CJSE035	Solitron	70
			(Continued)	

Output Voltage, V	Output Current (mA)	Device	Source	Line
5			(Cont'd)	
	5000	LT1003C	LinearTech	
		LT1003M	† LinearTech	
		MIC29500-5.0	**Micrel (3686)**	
		MIC29501-5.0	**Micrel (3686)**	
		42050-055	Micropac	75
		42052-055	Micropac	
		µA78H05	National	
		µA78H05A	National	
		LAS19A05	SemTech	
		LAS1905	SemTech	80
		LAS1905B	SemTech	
		CJSE806	Solitron	
		CJSE807	Solitron	
		CJSE808	Solitron	
	7500	**MIC29750-5.0**	**Micrel (3686)**	85
		MIC29751-5.0	**Micrel (3686)**	
	8000	LAS39A05	SemTech	
		LAS39A05K	SemTech	
		LAS3905	SemTech	
		LAS3905K	SemTech	90
	10000	MLM196-05	Micropac	
		MLM396-05	Micropac	
		42050-510	Micropac	
		42052-510	Micropac	
		µA78P05	National	95
	20000	42055-520	Micropac	
5.0	100	**MIC5200-5.0**	**Micrel (3686)**	
5/5 (dual)	750	SG29055	Linfinity Micro	
		SG29055A	Linfinity Micro	
5/5(dual)	100	**MIC5202-5.0**	**Micrel (3686)**	100
5.1	35	LBR051A	AT&T	
5.2	35	LBR0502A	AT&T	
	50 *	S81252HG	Seiko Instr	
	100	**NJU7201-5.2**	**NJR (3705)**	
5.5	100	**NJU7201-5.5**	**NJR (3705)**	105
		TK11555	Toko	
	130	TK11255	Toko	
6	60	LA5006	Sanyo	
	100	NJM78L06A	NJR	
	110	TK11460	Toko	110
	500	M5F78M06	Mitsubishi	
		MC78M06C	Motorola	
		µA78M06C	National	
		µA78M06M	† National	
		LM78M06	National	115
		NJM78M06A	NJR	
		L78M06C	SGS-Thomson	
		µA78M06C	TI	
	1000	M5F7806	Mitsubishi	
		LM7806	National	120
		NJM7806A	NJR	
		µA7806	SGS-Thomson	
	1500	GL7806	GoldStar	
		SG140-06	† Linfinity Micro	
		SG340-06	Linfinity Micro	125
		SG7806	† Linfinity Micro	
		SG7806A	† Linfinity Micro	
		SG7806AC	Linfinity Micro	
		SG7806C	Linfinity Micro	
		LM340-6	Motorola	130
		MC7806AC	Motorola	
		MC7806C	Motorola	
		µA7806C	National	
		LM7800C-6	National	
		LAS15A06	SemTech	135
		LAS1506	SemTech	
		L7806	† SGS-Thomson	
		L7806AC	SGS-Thomson	
		L7806C	SGS-Thomson	
		µA7806C	TI	140
			(Continued)	

† Mil Temp Range (–55° to 125°C) 1   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Positive (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
6			(Cont'd)	
	2000	CJSE017	Solitron	
		CJSE019	Solitron	
		CJSE021	Solitron	
	5000	CJSE800	Solitron	
		CJSE801	Solitron	5
		CJSE802	Solitron	
	10000	42050-610	Micropac	
		42052-610	Micropac	
	20000	42055-620	Micropac	
6.2	100	µA78L62C	National	10
		LM78L62	National	
		µA78L06AC	TI	
		µA78L06C	TI	
7	60	LA5007	Sanyo	
	500	M5F78M07	Mitsubishi	15
	1000	M5F7807	Mitsubishi	
	10000	42050-710	Micropac	
		42052-710	Micropac	
	20000	42055-720	Micropac	
7.5	1000	L78S75	† SGS-Thomson	20
		L7875	† SGS-Thomson	
		L7875C	SGS-Thomson	
8	60	LA5008	Sanyo	
	100	MC78L08AC	Motorola	
		MC78L08C	Motorola	25
		NJM78L08A	NJR	
		µA78L08AC	TI	
		µA78L08C	TI	
		TK11580	Toko	
	110	TK11480	Toko	30
	150	LM2930-8	TI	
		TL750L8	TI	
		TL751L8	TI	
	200	LM2930-8	National	
	500	M5F78M08	Mitsubishi	35
		MC78M08C	Motorola	
		µA78M08C	National	
		µA78M08M	† National	
		LM78M08	National	
		NJM78M08A	NJR	40
		78M08	Rochester	
		µA2808	SGS-Thomson	
		L78M08C	SGS-Thomson	
		µA78M08C	TI	
	1000	M5F7808	Mitsubishi	45
		LM2940T-8	National	
		LM7808	National	
		NJM7808A	NJR	
	1500	GL7808	GoldStar	
		SG140-08	† Linfinity Micro	50
		SG340-08	Linfinity Micro	
		SG7808	† Linfinity Micro	
		SG7808A	† Linfinity Micro	
		SG7808AC	Linfinity Micro	
		SG7808C	Linfinity Micro	55
		LM340-8	Motorola	
		MC7808AC	Motorola	
		MC7808C	Motorola	
		µA7808C	National	
		µA7808M	† National	60
		LM7800-8	National	
		LM7800C-8	National	
		L7808	† SGS-Thomson	
		L7808AC	SGS-Thomson	
		L7808C	SGS-Thomson	65
		µA7808C	TI	
	3000	MC78T08C	Motorola	
	5000	µA78H08C	National	
			(Continued)	

Output Voltage, V	Output Current (mA)	Device	Source	Line
8			(Cont'd)	
	10000	42052-810	Micropac	
	20000	42055-820	Micropac	70
8.2	100	MB3756	Fujitsu	
		µA78L82C	National	
		LM78L82	National	
8.2/5 (dual)	750	SG29085	Linfinity Micro	
		SG29085A	Linfinity Micro	75
8.5	400	L4885	SGS-Thomson	
	500	L2685	SGS-Thomson	
		L4785	SGS-Thomson	
	1000	µA7885C	National	
		MC7885C	Samsung	80
		µA7885C	TI	
9	60	LA5009	Sanyo	
	80	TL496C	TI	
	100	µA78L09C	National	
		LM78L09	National	85
		NJM78L09A	NJR	
		µA78L09AC	TI	
		µA78L09C	TI	
	500	M5F78M09	Mitsubishi	
		NJM78M09A	NJR	90
		µA78M09C	TI	
	1000	M5F7809	Mitsubishi	
		NJM7809A	NJR	
	1500	GL7809	GoldStar	
		L78S09	† SGS-Thomson	95
		L7809	SGS-Thomson	
		SL78S09C	SGS-Thomson	
	10000	42052-910	Micropac	
	20000	42055-920	Micropac	
10	60	LA5010	Sanyo	100
	100	M5278L10	Mitsubishi	
		µA78L10AC	TI	
		µA78L10C	TI	
	150	TL750L10	TI	
		TL751L10	TI	105
	400	L4810	SGS-Thomson	
	500	M5F78M10	Mitsubishi	
		L2610	SGS-Thomson	
		L4710	SGS-Thomson	
		µA78M10C	TI	110
	1000	M5F7810	Mitsubishi	
		LM2940T-10	National	
	1500	µA7810C	TI	
	2000	L78S10	† SGS-Thomson	
		L78S10C	SGS-Thomson	115
	9000	42050-109	Micropac	
		42052-109	Micropac	
	20000	42055-1020	Micropac	
10.3	35	LBR103D	AT&T	
12	—	**MIC5156-12**	**Micrel (3686)**	120
	35	LBR120A	AT&T	
	100	M5278L12	Mitsubishi	
		MC78L12AC	† Motorola	
		MC78L12C	Motorola	
		µA78L12C	National	125
		LM140LA-12	† National	
		LM340LA-12	National	
		LM78L12A	National	
		LM78L12C	National	
		NJM78L12A	NJR	130
		KA78L12	Samsung	
		KA78L12AC	Samsung	
		µA78L12AC	TI	
		µA78L12AQ	TI	
		µA78L12C	TI	135
		µA78L12Q	TI	
			(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Positive (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source		Line
12	100			(Cont'd)	
		MC79L12AC	TI		
		MC79L12C	TI		
	150	TL750L12	TI		
		TL751L12	TI		
		TL751L12M †	TI		5
	250	LM342-12	National		
	300	52051-012	Micropac		
	400	**MIC2920A-12**	**Micrel**	**(3686)**	
		MIC29201-12	**Micrel**	**(3686)**	
	500	**LM2574-12**	**Micrel**	**(3685)**	10
		LM2574HV-12	Micrel		
		M5F78M12	Mitsubishi		
		MC78M12C	Motorola		
		μA78M12C	National		
		μA78M12M †	National		15
		LM341-12	National		
		LM78M12	National		
		NJM78M12A	NJR		
		L78M12C	SGS-Thomson		
		μA78M12C	TI		20
		μA78M12M †	TI		
	750	**MIC2937A-12**	**Micrel**	**(3686)**	
		MIC29371-12	**Micrel**	**(3686)**	
	1000	M5F7812	Mitsubishi		
		LM1575-12	National		25
		NJM7812A	NJR		
		μA2812	SGS-Thomson		
		UC7812 †	Unitrode		
		UC7812C	Unitrode		
	1500	GL7812	GoldStar		30
		SG140-12 †	Linfinity Micro		
		SG340-12	Linfinity Micro		
		SG7812 †	Linfinity Micro		
		SG7812A †	Linfinity Micro		
		SG7812AC	Linfinity Micro		35
		SG7812C	Linfinity Micro		
		MIC29150-12	**Micrel**	**(3686)**	
		MIC29151-12	**Micrel**	**(3686)**	
		42094-012	Micropac		
		LM340-12	Motorola		40
		LM340A-12	Motorola		
		MC7812AC	Motorola		
		MC7812C	Motorola		
		TL780-12C	Motorola		
		μA7812C	National		45
		μA7812M †	National		
		LM140-12 †	National		
		LM140A-12 †	National		
		LM2940-12	National		
		LM340-12	National		50
		LM340A-12	National		
		LM7800C-12	National		
		LM7812	National		
		LAS15A12	SemTech		
		LAS1512	SemTech		55
		L7812 †	SGS-Thomson		
		L7812AC	SGS-Thomson		
		L7812C	SGS-Thomson		
		μA7812C	TI		
		μA7812Q	TI		60
		LM340-12	TI		
		TL780-12C	TI		
		UC7812A †	Unitrode		
		UC7812AC	Unitrode		
	2000	LAS16A12	SemTech		65
		LAS1612	SemTech		
		LAS1612B	SemTech		
		L78S12C	SGS-Thomson		
		L7812 †	SGS-Thomson		
		L7812C	SGS-Thomson		70
	2200	TL780-12	TI		
	3000	**MIC29300-12**	**Micrel**	**(3686)**	
		MIC29301-12	**Micrel**	**(3686)**	
		52053-012	Micropac		
		MC78T12AC	Motorola		75
		MC78T12C	Motorola		
		KA78T12	Samsung		
		LAS14A12	SemTech		
		LAS1412	SemTech		
		LAS1412B	SemTech		80
		CJSE036	Solitron		
		CJSE037	Solitron		
		CJSE038	Solitron		
	5000	**MIC29500-12**	**Micrel**	**(3686)**	
		MIC29501-12	**Micrel**	**(3686)**	85
		μA78H12A	National		
		LAS19A12	SemTech		
		LAS1912	SemTech		
		LAS1912B	SemTech		
		CJSE092	Solitron		90
		CJSE093	Solitron		
		CJSE094	Solitron		
	7500	**MIC29750-12**	**Micrel**	**(3686)**	
		MIC29751-12	**Micrel**	**(3686)**	
	8000	42050-128	Micropac		95
		42052-128	Micropac		
	10000	MLM196-12	Micropac		
		MLM396-12	Micropac		
		μA78P12	National		
	16000	42055-1216	Micropac		100
12/5 (dual)	750	SG29125	Linfinity Micro		
		SG29125A	Linfinity Micro		
14	8000	42050-148	Micropac		
		42052-148	Micropac		
	16000	42055-1416	Micropac		105
15	35	LBR150A	AT&T		
	100	MC78L15AC	Motorola		
		MC78L15C	Motorola		
		μA78L15C	National		
		LM140LA-15 †	National		110
		LM340LA-15	National		
		LM78L15A	National		
		LM78L15C	National		
		NJM78L15A	NJR		
		KA78L15	Samsung		115
		KA78L15AC	Samsung		
		μA78L15AC	TI		
		μA78L15C	TI		
		MC79L15AC	TI		
		MC79L15C	TI		120
	250	LM342-15	National		
	300	52051-015	Micropac		
	500	**LM2574-15**	**Micrel**	**(3685)**	
		LM2574HV-15	Micrel		
		M5F78M15	Mitsubishi		125
		MC78M15C	Motorola		
		μA78M15C	National		
		μA78M15M †	National		
		LM341-15	National		
		LM78M15	National		130
		NJM78M15A	NJR		
		L78M15C	SGS-Thomson		
		μA78M15C	TI		
	750	**MIC2937A-15**	**Micrel**	**(3686)**	
		MIC29371-15	**Micrel**	**(3686)**	135
	1000	M5F7815	Mitsubishi		
		LP1575-15	National		
		KA78T15	Samsung		
		L7815 †	SGS-Thomson		
		L7815C	SGS-Thomson		140
		UC7815 †	Unitrode		
		UC7815A †	Unitrode		

(Continued)

† Mil Temp Range (−55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Positive (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
15	1000	(Cont'd)		
		UC7815AC	Unitrode	
		UC7815C	Unitrode	
	1250	MIC2940A-15	Micrel	
		MIC29401-15	Micrel	
	1500	GL7815	GoldStar	5
		SG140-15	† Linfinity Micro	
		SG7815	† Linfinity Micro	
		SG7815A	† Linfinity Micro	
		SG7815AC	Linfinity Micro	
		SG7815C	Linfinity Micro	10
		42094-015	Micropac	
		LM340-15	Motorola	
		MC7815AC	Motorola	
		MC7815C	Motorola	
		µA7815C	National	15
		µA7815M	† National	
		LM140-15	† National	
		LM140A-15	† National	
		LM2940-15	National	
		LM340-15	National	20
		LM340A-15	National	
		LM7800C-15	National	
		LM7815	National	
		LAS15A15	SemTech	
		LAS1515	SemTech	25
		L7815AC	SGS-Thomson	
		µA7815C	TI	
		LM340-15	TI	
		TL780-15C	TI	
	2000	LAS16A15	SemTech	30
		LAS1615	SemTech	
		LAS1615B	SemTech	
		L78S15	† SGS-Thomson	
		L78S15C	SGS-Thomson	
		CJSE001	Solitron	35
		CJSE003	Solitron	
		CJSE005	Solitron	
	2200	TL780-15	TI	
	3000	52053-015	Micropac	
		MC78T15AC	Motorola	40
		MC78T15C	Motorola	
		LM1576-15	National	
		KA78T15C	Samsung	
		LAS14A15	SemTech	
		LAS1415	SemTech	45
		LAS1415B	SemTech	
	5000	LAS19A15	SemTech	
		LAS1915	SemTech	
		LAS1915B	SemTech	
		CJSE086	Solitron	50
		CJSE087	Solitron	
		CJSE088	Solitron	
	8000	42050-158	Micropac	
		42052-158	Micropac	
	10000	MLM196-15	Micropac	55
		MLM396-15	Micropac	
	16000	42055-1516	Micropac	
16	8000	42050-168	Micropac	
		42052-168	Micropac	
	12000	42055-1612	Micropac	60
18	100	MC78L18AC	Motorola	
		MC78L18C	Motorola	
		NJM78L18A	NJR	
	300	52051-018	Micropac	
	500	SG7818AC	Linfinity Micro	65
		M5F78M18	Mitsubishi	
		MC78M18C	Motorola	
		(Continued)		

Output Voltage, V	Output Current (mA)	Device	Source	Line
18	500	(Cont'd)		
		NJM78M18A	NJR	
		L78M18C	SGS-Thomson	
	1000	M5F7818	Mitsubishi	70
		LM7818	National	
		µA2818	SGS-Thomson	
		L7818	† SGS-Thomson	
		L7818C	SGS-Thomson	
	1500	GL7818	GoldStar	75
		SG140-18	† Linfinity Micro	
		SG340-18	Linfinity Micro	
		SG7818	† Linfinity Micro	
		SG7818A	† Linfinity Micro	
		SG7818C	Linfinity Micro	80
		42094-018	Micropac	
		LM340-18	Motorola	
		MC7818AC	Motorola	
		MC7818C	Motorola	
		µA7818C	National	85
		µA7818M	† National	
		LM7800-18	National	
		LM7800C-18	National	
		L7818AC	SGS-Thomson	
		µA7818C	TI	90
	2000	L78S18	† SGS-Thomson	
		L78S18C	SGS-Thomson	
	3000	52053-018	Micropac	
	8000	42050-188	Micropac	
		42052-188	Micropac	95
	12000	42055-1812	Micropac	
		42055-1812	Toshiba	
20	100	NJM78L20A	NJR	
	500	SG7820A	† Linfinity Micro	
		SG7820AC	Linfinity Micro	100
		SG7820C	Linfinity Micro	
		M5F78M20	Mitsubishi	
		MC78M20C	Motorola	
		NJM78M20A	NJR	
		L78M20C	SGS-Thomson	105
		µA78M20C	TI	
	1000	SG140-20	† Linfinity Micro	
		SG340-20	Linfinity Micro	
		SG7820	† Linfinity Micro	
		M5F7820	Mitsubishi	110
	2000	CJSE009	Solitron	
		CJSE011	Solitron	
		CJSE013	Solitron	
	5000	CJSE080	Solitron	
		CJSE081	Solitron	115
		CJSE082	Solitron	
	8000	42050-208	Micropac	
		42052-208	Micropac	
		42055-2010	Micropac	
22	4000	42050-224	Micropac	120
		42052-224	Micropac	
	10000	42055-2210	Micropac	
24	100	MC78L24AC	Motorola	
		MC78L24C	Motorola	
		NJM78L24A	NJR	125
	300	52051-024	Micropac	
	500	M5F78M24	Mitsubishi	
		MC78M24C	Motorola	
		µA78M24C	National	
		µA78M24M	† National	130
		LM78M24	National	
		NJM78M24A	NJR	
		L78M24C	SGS-Thomson	
		µA78M24C	TI	
	1000	M5F7824	Mitsubishi	135
		LM7824	National	
		µA2824	SGS-Thomson	
		(Continued)		

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Positive (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
24	1000	(Cont'd)		
		L7824	† SGS-Thomson	
		L7824C	SGS-Thomson	
	1500	GL7824	GoldStar	
		SG140-24	† Linfinity Micro	
		SG340-24	Linfinity Micro	5
		SG7824	† Linfinity Micro	
		SG7824A	† Linfinity Micro	
		SG7824AC	Linfinity Micro	
		SG7824C	Linfinity Micro	
		42094-024	Micropac	10
		LM340-24	Motorola	
		MC7824AC	Motorola	
		MC7824C	Motorola	
		µA7824C	National	
		µA7824M	† National	15
		LM7800-24	National	
		LM7800C-24	National	
		µA7824C	TI	
	2000	L78S24	† SGS-Thomson	
		L78S24C	SGS-Thomson	20
	3000	52053-024	Micropac	
		CJSE039	Solitron	
		CJSE040	Solitron	
		CJSE041	Solitron	
	4000	42050-244	Micropac	25
		42052-244	Micropac	
	5000	CJSE074	Solitron	
		CJSE075	Solitron	
		CJSE076	Solitron	
	10000	42055-2410	Micropac	30
26	4000	42050-264	Micropac	
		42052-264	Micropac	
	8000	42055-2608	Micropac	
28	4000	42050-284	Micropac	
		42052-284	Micropac	35
	8000	42055-2808	Micropac	
30	300	52051-030	Micropac	
	1500	42094-030	Micropac	
	3000	52053-030	Micropac	
	4000	42050-304	Micropac	40
		42052-304	Micropac	
30/5.6/15/5/8	40/2000/40	LA5655	Sanyo	
32	4000	42050-324	Micropac	
		42052-324	Micropac	
34	4000	42050-344	Micropac	45
		42052-344	Micropac	
75	10	TL780-15C	Motorola	

Fixed, Negative

Output Voltage, V	Output Current (mA)	Device	Source	Line
–3	100	**NJU7211-3.0**	**NJR (3705)**	
–5	100	**NJU7211-5.0**	**NJR (3705)**	
3	30	**S80230AG**	**Seiko Instr (3762)**	50
	100	NJM79L03A	NJR	
5	50	**S80250AG**	**Seiko Instr (3762)**	
	100	MC79L05AC	Motorola	
		MC79L05C	Motorola	
		LM79L05	National	55
		LM79L05A	National	
		NJM79L05A	NJR	
		KA79L05AC	Samsung	
		KA79L05C	Samsung	
		MC79L05	TI	60
		MC79L05A	TI	
		(Continued)		

Output Voltage, V	Output Current (mA)	Device	Source	Line
5		(Cont'd)		
	500	M5F79M05	Mitsubishi	
		MC79M05	Motorola	
		µA79M05AC	National	
		µA79M05M	† National	65
		LM120H5	† National	
		LM320H5	National	
		LM320MP5	National	
		LM79M05	National	
		NJM79M05A	NJR	70
		µA79M05C	TI	
		µA79M05M	† TI	
	1000	M5F7905	Mitsubishi	
		LM2990-5	National	
		KA7905T	Samsung	75
	1500	GL7905	GoldStar	
		SG120-05	† Linfinity Micro	
		SG220-05	Linfinity Micro	
		SG320-05	Linfinity Micro	
		SG7905A	† Linfinity Micro	80
		SG7905C	Linfinity Micro	
		42095-005	Micropac	
		MC7905C	Motorola	
		µA7905C	National	
		µA7905M	† National	85
		LM120K5	† National	
		LM320K5	National	
		LM320T5	National	
		LM7905	National	
		LAS18A05	SemTech	90
		LAS1805	SemTech	
		µA7905	SGS-Thomson	
		L7905C	SGS-Thomson	
		µA7905C	TI	
		UC7905	† Unitrode	95
		UC7905A	† Unitrode	
		UC7905AC	Unitrode	
		UC7905C	Unitrode	
	3000	CJSE042	Solitron	
		CJSE043	Solitron	100
		CJSE044	Solitron	
	5000	42051-055	Micropac	
		CJSE809	Solitron	
		CJSE810	Solitron	
		CJSE811	Solitron	105
5.2	500	SG120-5.2	† Linfinity Micro	
		SG320-5.2	Linfinity Micro	
		SG7905.2	† Linfinity Micro	
		SG7905.2A	† Linfinity Micro	
		SG7905.2AC	Linfinity Micro	110
		SG7905.2C	Linfinity Micro	
	1500	SG7905	† Linfinity Micro	
		MC7905	Motorola	
		MC7905.2C	Motorola	
		L7952C	SGS-Thomson	115
	2100	µA7952	TI	
	3000	LM145K5	† National	
		LM345K5	National	
6	100	NJM79L06A	NJR	
	500	M5F79M06	Mitsubishi	120
		NJM79M06A	NJR	
		79M06	Rochester	
		µA79M06C	TI	
	1000	M5F7906	Mitsubishi	
		NJM7906A	NJR	125
	1500	MC7906C	Motorola	
		µA7906C	TI	
	2000	CJSE018	Solitron	
		CJSE020	Solitron	
	5000	42051-065	Micropac	130
		CJSE803	Solitron	
		CJSE804	Solitron	
		CJSE805	Solitron	

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Negative (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
7	500	M5F79M07	Mitsubishi	
	1000	M5F7907	Mitsubishi	
	5000	42051-075	Micropac	
8	100	NJM79L08A	NJR	
	500	M5F79M08	Mitsubishi	5
		µA79M08AC	National	
		µA7908M	† National	
		NJM79M08A	NJR	
		µA79M08C	TI	
	1000	SG120-08	† Linfinity Micro	10
		SG320-08	Linfinity Micro	
		SG7908	† Linfinity Micro	
		SG7908A	† Linfinity Micro	
		SG7908AC	Linfinity Micro	
		SG7908C	Linfinity Micro	15
		M5F7908	Mitsubishi	
		MC7908C	Motorola	
		µA7908C	National	
		LM7908	National	
		NJM7908A	NJR	20
		L7908C	SGS-Thomson	
		µA7908C	TI	
	5000	42051-085	Micropac	
9	100	NJM79L09A	NJR	
	500	M5F79M09	Mitsubishi	25
		NJM79M09A	NJR	
	1000	M5F7909	Mitsubishi	
		NJM7909A	NJR	
	1500	42051-095	Micropac	
10	500	M5F79M10	Mitsubishi	30
	1000	M5F7910	Mitsubishi	
	5000	42051-105	Micropac	
12	100	MC79L12AC	Motorola	
		MC79L12C	Motorola	
		LM79L12	National	35
		LM79L12A	National	
		NJM79L12A	NJR	
		KA79L12AC	Samsung	
		KA79L12C	Samsung	
		MC79L12	TI	40
		MC79L12A	TI	
	200	LM120H12	† National	
		LM320H12	National	
	300	52052-012	Micropac	
	500	M5F79M12	Mitsubishi	45
		MC79M12	Motorola	
		MC79M12C	Motorola	
		µA79M12AC	National	
		µA79M12M	† National	
		LM320MP12	National	50
		LM79M12	National	
		NJM79M12A	NJR	
		µA79M12C	TI	
		µA79M12M	† TI	
	1000	M5F7912	Mitsubishi	55
		LM120K12	† National	
		LM2990-12	National	
		LM320K12	National	
		LM320T12	National	
		NJM7912A	NJR	60
		KA7912T	Samsung	
	1500	GL7912	GoldStar	
		SG120-12	† Linfinity Micro	
		SG220-12	Linfinity Micro	
		SG320-12	Linfinity Micro	65
		SG7912	† Linfinity Micro	
		SG7912A	† Linfinity Micro	
		SG7912AC	Linfinity Micro	
		SG7912C	Linfinity Micro	
			(Continued)	
12	1500		(Cont'd)	
		42095-012	Micropac	70
		MC7912AC	Motorola	
		MC7912C	Motorola	
		µA7912C	National	
		µA7912M	† National	
		LM7912	National	75
		LAS18A12	SemTech	
		LAS1812	SemTech	
		µA7912	SGS-Thomson	
		L7912C	SGS-Thomson	
		µA7912C	TI	80
		UC7912	† Unitrode	
		UC7912A	† Unitrode	
		UC7912AC	Unitrode	
		UC7912C	Unitrode	
	3000	52054-012	Micropac	85
		CJSE045	Solitron	
		CJSE046	Solitron	
	4000	42051-124	Micropac	
	5000	CJSE095	Solitron	
		CJSE096	Solitron	90
14	4000	42051-144	Micropac	
15	100	MC79L15AC	Motorola	
		MC79L15C	Motorola	
		LM79L15	National	
		LM79L15A	National	95
		KA79L15AC	Samsung	
		KA79L15C	Samsung	
		MC79L15	TI	
		MC79L15A	TI	
	200	LM120H15	† National	100
		LM320H15	National	
	300	52052-015	Micropac	
	500	GL7909	GoldStar	
		M5F79M15	Mitsubishi	
		MC79M15	Motorola	105
		MC79M15C	Motorola	
		µA79M15AC	National	
		µA79M15M	† National	
		LM320MP15	National	
		LM79M15	National	110
		NJM79M15A	NJR	
		µA79M15C	TI	
	1000	M5F7915	Mitsubishi	
		MC79L15A	Motorola	
		LM120K15	† National	115
		LM2990-15	National	
		LM320K15	National	
		LM320T15	National	
		NJM7915A	NJR	
		KA7915T	Samsung	120
	1500	GL7915	GoldStar	
		SG120-15	† Linfinity Micro	
		SG220-15	Linfinity Micro	
		SG320-15	Linfinity Micro	
		SG7915	† Linfinity Micro	125
		SG7915A	† Linfinity Micro	
		SG7915AC	Linfinity Micro	
		SG7915C	Linfinity Micro	
		42095-015	Micropac	
		MC7915AC	Motorola	130
		MC7915C	Motorola	
		µA7915C	National	
		µA7915M	† National	
		LM120-15	‡ National	
		LM320	National	135
		LM7915	National	
		LAS18A15	SemTech	
		LAS1815	SemTech	
		µA7915	SGS-Thomson	
		L7915C	SGS-Thomson	140
		µA7915C	TI	
		UC7915	† Unitrode	
			(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Fixed, Negative (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line
15	1500	(Cont'd)		
		UC7915A	† Unitrode	
		UC7915AC	Unitrode	
		UC7915C	Unitrode	
	2000	42051-154	Micropac	
		CJSE002	Solitron	5
		CJSE004	Solitron	
		CJSE006	Solitron	
	3000 5000	52054-015	Micropac	
		CJSE089	Solitron	
		CJSE090	Solitron	10
		CJSE091	Solitron	
16	4000	42051-164	Micropac	
18	100 300 500	MC79L18C	Motorola	
		52052-018	Micropac	
		M5F79M18	Mitsubishi	15
		NJM79M18A	NJR	
	1000	M5F7918	Mitsubishi	
		NJM7918A	NJR	
	1500	SG120-18	† Linfinity Micro	
		SG320-18	Linfinity Micro	20
		SG7918	† Linfinity Micro	
		SG7918A	† Linfinity Micro	
		SG7918AC	Linfinity Micro	
		SG7918C	Linfinity Micro	
		42095-018	Micropac	25
		MC79L18AC	Motorola	
		MC7918C	Motorola	
		L7918C	SGS-Thomson	
		µA7918C	TI	
	3000 4000	52054-018	Micropac	30
		42051-184	Micropac	
20	500	M5F79M20	Mitsubishi	
		µA79M20C	TI	
	1000 1500	M5F7920	Mitsubishi	
		SG120-20	† Linfinity Micro	35
		SG7920	† Linfinity Micro	
		SG7920A	† Linfinity Micro	
		SG7920AC	Linfinity Micro	
		SG7920C	Linfinity Micro	
		L7920C	SGS-Thomson	40
	2000	CJSE010	Solitron	
		CJSE012	Solitron	
		CJSE014	Solitron	
	3000 5000	42051-204	Micropac	
		CJSE083	Solitron	45
		CJSE084	Solitron	
		CJSE085	Solitron	
22	3000	42051-223	Micropac	
24	100	MC79L24AC	Motorola	
		MC79L24C	Motorola	50
	300 500	52052-024	Micropac	
		M5F79M24	Mitsubishi	
		NJM79M24A	NJR	
		µA79M24C	TI	
	1000	M5F7924	Mitsubishi	55
		NJM7924A	NJR	
	1500	GL7924	GoldStar	
		42095-024	Micropac	
		MC7924C	Motorola	
		L7924C	SGS-Thomson	60
		µA7924C	TI	
	3000	42051-243	Micropac	
		52054-024	Micropac	
		CJSE048	Solitron	
		CJSE049	Solitron	65
		CJSE050	Solitron	
	5000	CJSE077	Solitron	
		CJSE078	Solitron	
		CJSE079	Solitron	
26	3000	42051-263	Micropac	70
28	3000	42051-283	Micropac	
30	300 1500 3000	52052-030	Micropac	
		42095-030	Micropac	
		42051-303	Micropac	
		52054-030	Micropac	75
32	3000	42051-323	Micropac	
36	3000	42051-363	Micropac	

Fixed, Dual

Output Voltage, V	Output Current (mA)	Device	Source	Line
± 6	5000	42051	Micropac	
± 12	100	LM126	† National	
		LM326	National	80
± 15	100	XR1468	Exar	
		XR1568	† Exar	
		XR4195	Exar	
		SG1468	Linfinity Micro	
		SG1568	† Linfinity Micro	85
		SG4501	Linfinity Micro	
		MC1468	Motorola	
		MC1568	† Motorola	
		LM125	† National	
		LM325	National	90
		LM325A	National	
		RC4195	Raytheon	
	200	SG1501A	† Linfinity Micro	
		SG2501A	Linfinity Micro	
		SG3501A	Linfinity Micro	95
5,5	750,10 750,10 1000,50	LM2935	SGS-Thomson	
		LM2935	National	
		LT1005C	LinearTech	
		LT1005M	LinearTech	
12,5	3000,75	LT1036C	LinearTech	100
		LT1036M	† LinearTech	

Adjustable, Positive

			Device	Source		Line
5.5	4.5	—	**MIC5158**	**Micrel**	**(3686)**	
6	1.5	100	TK11900	Toko		
9.25	1.5	100	TK11701	Toko		
10	1.2	800	LT1117	LinearTech		105
12	3.3	—	**MIC5157**	**Micrel**	**(3686)**	
16	1.3	40	**ICL7663S**	**Harris**	**(3638)**	
			ICL7663SAC	Harris		
			ICL7663SAI	Harris		
			ICL7663SC	**Harris**	**(3638)**	110
			ICL7663SI	Harris		
	1.5 2	40 40	ICL7663	Maxim		
			ICL7663A	Maxim		
			MAX663C	Maxim		
			MAX663M	† Maxim		115
	4	8000	LAS39U	SemTech		
16.5	2	40	MAX666C	Maxim		
			MAX666M	† Maxim		
	3.5	250	MAX667C	Maxim		
			MAX667M	† Maxim		120
			MXM667C	Maxim		
20	1.2	10000	LM196	National		
			LM396	National		
	2 5	20 1000	SFC2300	SGS-Thomson		
			LM2941	National		125
			LM2941C	National		
		3500	LT1085C	LinearTech		
			LT1085M	† LinearTech		

(Continued)

† Mil Temp Range (−55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Adjustable, Positive (Cont'd)

Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line
20	5			(Cont'd)	
		5000	LT1084C	LinearTech	
			LT1084M	† LinearTech	
		7500	LT1083C	LinearTech	
			LT1083M	† LinearTech	
24	3	150	LM2931	National	5
	5	50	**HV2405E-5**	**Harris (3638)**	
			HV2405E-9	**Harris (3638)**	
26	1.8	12	CA3085	† Harris	
27	0	200	LH0075C	National	
29	1.23	250	LP2952	National	10
			LP2952A	National	
			LP2953	National	
			LP2953A	National	
	1.24	400	MIC2904B	Micrel	
	1.25	250	MIC2954-07	Micrel	15
	1.26	250	MIC2954-08	Micrel	
		750	**MIC29372**	**Micrel (3686)**	
			MIC29373	**Micrel (3686)**	
		1250	MIC29403	Micrel	
			MIC2941A	**Micrel (3686)**	20
		1500	**MIC29152**	**Micrel (3686)**	
			MIC29153	**Micrel (3686)**	
	2	—	MIC5156	Micrel	
		3000	**MIC29302**	**Micrel (3686)**	
			MIC29303	**Micrel (3686)**	25
		5000	**MIC29502**	**Micrel (3686)**	
			MIC29503	**Micrel (3686)**	
		7500	**MIC29752**	**Micrel (3686)**	
			MIC29753	**Micrel (3686)**	
30	1.2	1500	LT1086C	LinearTech	30
			LT1086M	† LinearTech	
	1.26	400	**MIC29202**	**Micrel (3686)**	
			MIC29203	**Micrel (3686)**	
			MIC29204	**Micrel (3686)**	
	2	20	SFC2100	† SGS-Thomson	35
			SFC2200	SGS-Thomson	
	2.9	100	TL499AC	TI	
	3	Shunt	TL430C	TI	
		1800	L200	SGS-Thomson	
	3.75	700	LT1129C	LinearTech	40
			LT1129I	LinearTech	
	4	1500	LAS15U	SemTech	
		2000	LAS16U	SemTech	
		3000	LAS14AU	SemTech	
		5000	LAS19U	SemTech	45
	4.5	12	SG305	Linfinity Micro	
			LM305	National	
	5	500	µA78MGC	National	
			LM78MG	National	
		1000	µA78GC	National	50
			LM78G	National	
32	1.2	100	TL317	TI	
			TL317C	TI	
		1000	LT1038C	LinearTech	
			LT1038M	† LinearTech	55
		3000	LM150	† LinearTech	
			LM350	LinearTech	
			LT150A	† LinearTech	
			LT350A	LinearTech	
			SG150	† Linfinity Micro	60
			SG150A	Linfinity Micro	
			SG250	Linfinity Micro	
			SG250A	Linfinity Micro	
			SG350	Linfinity Micro	
				(Continued)	
32	1.2	3000		(Cont'd)	
			SG350A	Linfinity Micro	65
			LM350	Motorola	
			LM150	† National	
			LM350	National	
			LLM350	SemTech	
			UC150	† Unitrode	70
			UC250	Unitrode	
			UC350	Unitrode	
		5000	LM138	† LinearTech	
			LM338	LinearTech	
			LT138A	† LinearTech	75
			LT338A	LinearTech	
			SG138	† Linfinity Micro	
			SG138A	† Linfinity Micro	
			SG238	Linfinity Micro	
			SG238A	Linfinity Micro	80
			SG338	Linfinity Micro	
			SG338A	Linfinity Micro	
			µA338	National	
			LM138	† National	
			LM338	National	85
			LLM338	SemTech	
	2.5	500	RC1469R	Rochester	
36	1.7	100	CA3085A	† Harris	
	2.5	100	TL431C	Motorola	
			TL431M	† Motorola	90
			µA431AC	National	
			LM431A	National	
			NJM431	NJR	
			TL431C	TI	
			TL431M	† TI	95
	2.85	2000	TDA200	SGS-Thomson	
37	1.2	100	LM317L	Motorola	
			LM317L	National	
		500	SG117	† Linfinity Micro	
			SG217	Linfinity Micro	100
			SG217A	Linfinity Micro	
			SG317	Linfinity Micro	
			SG317A	Linfinity Micro	
			LM2574	**Micrel (3685)**	
		1000	M5N317L	Mitsubishi	105
		1500	GL317	GoldStar	
			LM117	† LinearTech	
			LM317	LinearTech	
			LT117A	† LinearTech	
			LT317A	LinearTech	110
			SG117A	† Linfinity Micro	
			MN5317	Mitsubishi	
			M5236	Mitsubishi	
			M5237	Mitsubishi	
			LM317	Motorola	115
			LM117	‡ National	
			LM317	National	
			KA317	Samsung	
			LLM117	SemTech	
			LLM317	SemTech	120
			LM117	† SGS-Thomson	
			LM217	SGS-Thomson	
			LM317	† SGS-Thomson	
			LM317	TI	
			UC117	† Unitrode	125
			UC217	Unitrode	
			UC317	Unitrode	
		3000	LLM150	SemTech	
		5000	LLM138	SemTech	
	1.23	1000	LM1575-ADJ	National	130
	2	150	MB3752	Fujitsu	
			CA723	† Harris	
			CA723C	Harris	
			LM723	† Harris	
			LM723C	Harris	135
			SG723	† Linfinity Micro	
			SG723C	Linfinity Micro	
				(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Adjustable, Positive (Cont'd)

Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line
37	2	150		(Cont'd)	
			MC1723	† Motorola	
			MC1723C	Motorola	
			LM723	‡ National	
			LM723C	National	
			NJM723	NJR	5
			μA723	Philips	
			μA723C	Philips	
			SA723C	Philips	
			KA723	Samsung	
			LM723	† SGS-Thomson	10
			LM723C	SGS-Thomson	
			SFC2723C	† SGS-Thomson	
			SFC2723EC	SGS-Thomson	
			μA723	TI	
			μA723C	TI	15
			μA723M	† TI	
	2.5	250	LM317M	Motorola	
			RC1569R	Rochester	
	5	25	LM376	National	
38	2	100	SG3532	Linfinity Micro	20
		150	LAS1000	SemTech	
			LAS723	SemTech	
40	2.5	5000	LT1074	Maxim	
	4.5	12	SG105	† Linfinity Micro	
			SG205	Linfinity Micro	25
			LM105	‡ National	
			LM205	National	
		45	SG305A	Linfinity Micro	
			LM305A	National	
46	1.7	100	CA3085B	† Harris	30
48	2	100	SG1532	† Linfinity Micro	
			SG2532	Linfinity Micro	
		150	LAS1100	SemTech	
			LAS723B	SemTech	
50	2.5	5000	LT1074HV	Maxim	35
56	8	1000	CJCA001	Solitron	
			CJCA007	Solitron	
57	1.2	500	LM117HV	† LinearTech	
			LM317HV	LinearTech	
			LT317AHV	LinearTech	40
			LM2574HV	Micrel	
		1500	LT117AHV	† LinearTech	
			LM117HV	‡ National	
			LM317HV	National	
77	2	150	TDB1146	SGS-Thomson	45
125	1.25	700	TL783C	TI	
350	1.2	40	**HIP5600**	**Harris (3638)**	
1000	0	100	MC1466	Motorola	

Adjustable, Negative

Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line
-2	-16	-25	ICL7664AC	Maxim	
			ICL7664C	Maxim	50
15	1.25	10000	MLM196N	† Micropac	
			MLM396N	Micropac	
16	2	40	ICL7664	Maxim	
			MAX664C	Maxim	
			MAX664M	† Maxim	55
24	2.2	5000	μA79HG	National	
27	0	200	LH0076C	National	
30	0.035	20	SG304	Linfinity Micro	
			LM304	National	
	2.2	500	μA79MGC	National	60
			LM79MG	National	
				(Continued)	
30	2.2			(Cont'd)	
		1000	μA79GC	National	
	2.55	1000	LM79G	National	
	2.6	1500	LAS18U	SemTech	
		5000	LAS79HG	SemTech	65
32	1.0	3000	LT1033C	LinearTech	
			LT1033M	† LinearTech	
	1.2	3000	LM133	† National	
			LM333	National	
33	3.6	250	RC1563R	Rochester	70
37	1.2	500	LM337M	Motorola	
		1000	M5N337L	Mitsubishi	
		1500	LM137	† LinearTech	
			LM337	LinearTech	
			LT137A	† LinearTech	75
			LT337A	LinearTech	
			SG137	† Linfinity Micro	
			SG137A	† Linfinity Micro	
			SG237	Linfinity Micro	
			SG237A	Linfinity Micro	80
			SG337	Linfinity Micro	
			SG337A	Linfinity Micro	
			LM337	Motorola	
			LM137	‡ National	
			LM337	National	85
			LM137	† SGS-Thomson	
			LM337	SGS-Thomson	
			LM337	TI	
			UC137	† Unitrode	
			UC237	Unitrode	90
			UC337	Unitrode	
40	0.015	20	SG104	† Linfinity Micro	
			SG204	Linfinity Micro	
			LM104	‡ National	
			LM204	National	95
			LM104	† SGS-Thomson	
47	1.2	500	LM137HV	† LinearTech	
			LM337HV	LinearTech	
			LT137AHV	† LinearTech	
			LT337AHV	LinearTech	100
		1500	LM137HV	† LinearTech	
			LM337HV	LinearTech	
			LT137AHV	† LinearTech	
			LT337AHV	LinearTech	
			LM337HV	National	105
56	8	1000	CJCA002	Solitron	
			CJCA008	Solitron	
57	1.2	100	LM337L	National	
		1500	LM137	‡ National	
			LM337	National	110
			LM137	† SGS-Thomson	
			LM337	SGS-Thomson	

Adjustable, Dual

Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line
±15.5	±14.5	100	MC1468	Motorola	
			MC1568	† Motorola	
±20	±8	100	SG1568	† Linfinity Micro	115
			MC1468	Motorola	
			MC1568	† Motorola	
±28	±10	100	SG1502	† Linfinity Micro	
			SG2502	Linfinity Micro	
			SG3502	Linfinity Micro	120
			SG4501	Linfinity Micro	
±42	±0.01	100	XR4194M	† Exar	
		200	RC4194	Raytheon	

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators (Cont'd)

Switching

Max Output Voltage,	Input Voltage Range,	Max Output Current,			
	2.5–40	1500	MC34163	Motorola	
	3.5–40	3000	LM2579	National	
	6.8–40	500	TL494M	† Motorola	
		3400	MC33166	Motorola	
			MC34166	Motorola	
	7–40	500	TL494C	Motorola	
	11–13	100	STK7458	Sanyo	
	20	35	NJM2049	NJR	
	30	150	RC4191	Raytheon	
			RC4192	Raytheon	
			RC4193	Raytheon	
−5	4 to 6.2	275	MAX735C	Maxim	
			MAX735M	† Maxim	
	4.5 to 11	250	MAX739C	Maxim	
			MAX739E	Maxim	
			MAX739M	† Maxim	
			MAX759C	Maxim	
			MAX759E	Maxim	
			MAX759M	† Maxim	
−12	4.5 to 8.6	125	MAX736C	Maxim	
			MAX736E	Maxim	
			MAX736M	† Maxim	
−15	2.7 to 15.5		MAX741DC	Maxim	
			MAX741DE	Maxim	
			MAX741DM	† Maxim	
			MAX741NC	Maxim	
			MAX741NE	Maxim	
			MAX741NM	† Maxim	
			MAX741UC	Maxim	
			MAX741UE	Maxim	
			MAX741UM	† Maxim	
	4.5 to 5.5	100	MAX737C	Maxim	
			MAX737E	Maxim	
			MAX737M	† Maxim	
	30	375	RC4391	Raytheon	
−20	3–16.5	525	MAX4391C	Maxim	
			MAX4391E	Maxim	
			MAX4391M	† Maxim	
			MAX634C	Maxim	
			MAX634E	Maxim	
			MAX634M	† Maxim	
−5	4 to 6.2	275	MAX735E	Maxim	
−60	−60	−10000	SM670	Linfinity Micro	
		−15000	SM635	Linfinity Micro	
		−20000	SM655	Linfinity Micro	
		5000	SM610	Linfinity Micro	
−80	−80	−10000	SM671	Linfinity Micro	
		−15000	SM636	Linfinity Micro	
		−20000	SM656	Linfinity Micro	
		5000	SM611	Linfinity Micro	
−100	−100	−10000	SM672	Linfinity Micro	
		−15000	SM637	Linfinity Micro	
		−20000	SM657	Linfinity Micro	
		5000	SM612	Linfinity Micro	
Switching Regulator, 1.25 A			LT1072M	† LinearTech	
1.2 to 37	40	500	LM2574-ADJ	National	
		3000	LM2576-ADJ	National	
	60	500	LM2574HV-ADJ	National	
		3000	LM2576HV-ADJ	National	
2–30	4.5–15	500	TL497AC	TI	
			TL497AI	TI	
3.3	2 to 16.5	—	**MIC641-3.3**	**Micrel**	**(3685)**
			MIC642-3.3	**Micrel**	**(3685)**
			MIC643-3.3	**Micrel**	**(3685)**

(Continued)

Max Output Voltage,	Input Voltage Range,	Max Output Current,			
3.3	2 to 16.5				(Cont'd)
		450	**MIC631-3.3**	**Micrel**	**(3685)**
			MIC632-3.3	**Micrel**	**(3685)**
			MIC633-3.3	**Micrel**	**(3685)**
	3 to 40	1250	**MIC2172-3.3**	**Micrel**	**(3685)**
			MIC3172-3.3	**Micrel**	**(3685)**
	4 to 40	500	LM2674-3.3	Micrel	
		1000	**LM2575-3.3**	**Micrel**	**(3685)**
		3000	**LM1576-3.3**	**† Micrel**	**(3685)**
			LM2576-3.3	**Micrel**	**(3685)**
	4 to 60	3000	LM1576HV-3.3	† Micrel	
			LM2576HV-3.3	Micrel	
	40	500	LM2574-3.3	National	
	60	500	LM2574HV-3.3	National	
3–15	2–16.5	75	MAX4193C	Maxim	
			MAX4193E	Maxim	
			MAX4193M	† Maxim	
			MAX630C	Maxim	
			MAX630E	Maxim	
			MAX630M	† Maxim	
4	10 to 120	250	SI9105	Siliconix	
4.8–8.6	9–20	140	NJM2048	NJR	
5	2 to 10	150	S8437AF	Seiko Instr	
	2 to 16.5	—	**MIC641-5.0**	**Micrel**	**(3685)**
			MIC642-5.0	**Micrel**	**(3685)**
			MIC643-5.0	**Micrel**	**(3685)**
		450	**MIC631-5.0**	**Micrel**	**(3685)**
			MIC632-5.0	**Micrel**	**(3685)**
			MIC633-5.0	**Micrel**	**(3685)**
	3 to 40	1250	**MIC2172-5.0**	**Micrel**	**(3685)**
			MIC3172-5.0	**Micrel**	**(3685)**
	4 to 40	500	LM2674-5.0	Micrel	
		1000	**LM1575-5.0**	**Micrel**	**(3685)**
			LM2575-5.0	**Micrel**	**(3685)**
		3000	**LM1576-5.0**	**† Micrel**	**(3685)**
			LM2576-5.0	**Micrel**	**(3685)**
	4 to 60	3000	LM1576HV-5.0	† Micrel	
			LM2576HV-5.0	Micrel	
	4–11	300	MAX750C	Maxim	
			MAX750E	Maxim	
			MAX750M	† Maxim	
	4–16	750	MAX758C	Maxim	
			MAX758E	Maxim	
			MAX758M	† Maxim	
	5.2–11	300	MAX730C	Maxim	
			MAX730E	Maxim	
			MAX730M	† Maxim	
	5.5 to 11	100	MAX639C	Maxim	
			MAX639E	Maxim	
			MAX639M	† Maxim	
	6–16	750	MAX738C	Maxim	
			MAX738E	Maxim	
			MAX738M	† Maxim	
	40	500	LM2574-5.0	National	
		3000	LM2576-5.0	National	
	60	500	LM2574HV-5.0	National	
		3000	LM2576HV-5.0	National	
12	2 to 16.5	—	**MIC641-12**	**Micrel**	**(3685)**
			MIC642-12	**Micrel**	**(3685)**
			MIC643-12	**Micrel**	**(3685)**
		450	**MIC631-12**	**Micrel**	**(3685)**
			MIC632-12	**Micrel**	**(3685)**
			MIC633-12	**Micrel**	**(3685)**
	3 to 40	1250	**MIC2172-12**	**Micrel**	**(3685)**
			MIC3172-12	**Micrel**	**(3685)**

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Switching (Cont'd)

Max Output Voltage,	Input Voltage Range,	Max Output Current,			
12			(Cont'd)		
	3.5 to 40	3000	LM1577-12	† National	
			LM2577-12	National	
	4 to 40	500	LM2674-12	Micrel	
		1000	**LM2575-12**	**Micrel**	**(3685)**
		3000	**LM1576-12**	**† Micrel**	**(3685)**
			LM2576-12	**Micrel**	**(3685)**
	4 to 60	3000	LM1576HV-12	† Micrel	
			LM2576HV-12	Micrel	
	4 to 9.3	3	MAX732C	Maxim	
			MAX732E	Maxim	
			MAX732M	† Maxim	
			MAX733C	Maxim	
			MAX733E	Maxim	
			MAX733M	† Maxim	
	4.75 to 12	120	MAX734C	Maxim	
			MAX734E	Maxim	
			MAX734M	† Maxim	
	40	500	LM2574-12	National	
	60	500	LM2574HV-12	National	
13	8.4 to 28	1000	**MIC3830**	**† Micrel**	**(3685)**
			MIC3831	**† Micrel**	**(3685)**
			MIC3832	**† Micrel**	**(3685)**
			MIC3833	**† Micrel**	**(3685)**
15	2 to 16.5	—	**MIC641-15**	**Micrel**	**(3685)**
			MIC642-15	**Micrel**	**(3685)**
			MIC643-15	**Micrel**	**(3685)**
		450	**MIC631-15**	**Micrel**	**(3685)**
			MIC632-15	**Micrel**	**(3685)**
			MIC633-15	**Micrel**	**(3685)**
	3 to 40	1250	**MIC2172-15**	**Micrel**	**(3685)**
			MIC3172-15	**Micrel**	**(3685)**
	3.5 to 40	3000	LM1577-15	† National	
			LM2577-15	National	
	4 to 40	500	LM2674-15	Micrel	
		1000	**LM2575-15**	**Micrel**	**(3685)**
		3000	**LM1576-15**	**† Micrel**	**(3685)**
			LM2576-15	**Micrel**	**(3685)**
	4 to 60	3000	LM1576HV-15	† Micrel	
			LM2576HV-15	Micrel	
	7 to 18	500	**MIC18C42**	**† Micrel**	**(3685)**
			MIC18C43	**† Micrel**	**(3685)**
			MIC18C44	**† Micrel**	**(3685)**
			MIC18C45	**† Micrel**	**(3685)**
			MIC38C42	**Micrel**	**(3685)**
			MIC38C43	**Micrel**	**(3685)**
			MIC38C44	**Micrel**	**(3685)**
			MIC38C45	**Micrel**	**(3685)**
		1000	MIC18HC42	† Micrel	
			MIC18HC43	† Micrel	
			MIC18HC44	† Micrel	
			MIC18HC45	† Micrel	
			MIC38HC42	Micrel	
			MIC38HC43	Micrel	
			MIC38HC44	Micrel	
			MIC38HC45	Micrel	
	40	500	LM2574-15	National	
		3000	LM2576-15	National	
	60	500	LM2574HV-15	National	
		3000	LM2576HV-15	National	
18	2.6–24	150	RC4190	Raytheon	
20	0.9 to 20	150	XR8073	Exar	
	2 to 30	150	S8438AF	Seiko Instr	
21.5	3–75	2600	LT1082C	LinearTech	
			LT1082I	LinearTech	
			LT1082M	† LinearTech	
24	50	200	NJM2355	NJR	
25.3	2.4–30	200	NJM2352	NJR	
27	35	2000	LAS6320	SemTech	
			LAS6321	SemTech	
		3000	LAS6330	SemTech	
			LAS6331	SemTech	
		5000	LAS6350	SemTech	
			LAS6351	SemTech	
		8000	LAS6380	SemTech	
			LAS6381	SemTech	
28	9–36	4000	L4964	SGS-Thomson	
30	3.5–15	25	TK75018	Toko	
	10–35	5000	LH1605	National	
			LH1605C	National	
31	40	2000	LAS6420	SemTech	
			LAS6421	SemTech	
		3000	LAS6430	SemTech	
			LAS6431	SemTech	
		5000	LAS6450	SemTech	
			LAS6451	SemTech	
		8000	LAS6480	SemTech	
			LAS6481	SemTech	
36	46	1500	L4963	SGS-Thomson	
37	3 to 40	1250	**MIC2172**	**Micrel**	**(3685)**
			MIC3172	**Micrel**	**(3685)**
	4 to 40	500	LM2674	Micrel	
		1000	**LM1575**	**Micrel**	**(3685)**
			LM1575-12	**Micrel**	**(3685)**
			LM1575-15	**Micrel**	**(3685)**
			LM1575-3.3	**Micrel**	**(3685)**
			LM2575	**Micrel**	**(3685)**
		3000	LM1576	† Micrel	
			LM2576	Micrel	
	4 to 60	3000	LM1576HV	† Micrel	
			LM2576HV	Micrel	
40	2.5–40	1500	LM78S40	National	
	2–40	750	LM1578	National	
			LM2578	National	
			LM3578	National	
	9 to 46	4000	L296	Unitrode	
	9–50	1500	L4962	SGS-Thomson	
		2500	L4960	SGS-Thomson	
		4000	L296	SGS-Thomson	
			L296P	SGS-Thomson	
	50	2000	L4972	SGS-Thomson	
		3500	L4974	SGS-Thomson	
		5000	L4975	SGS-Thomson	
		7000	L4977	SGS-Thomson	
		10000	L4970	SGS-Thomson	
50	2–40	750	LM1578A	National	
			LM2578A	National	
			LM3578A	National	
60	3 to 30	4000	LT1269C	LinearTech	
			LT1271C	LinearTech	
	3.5 to 30	4000	LT1271	LinearTech	
	60	5000	SM600	Linfinity Micro	
		10000	SM660	Linfinity Micro	
		15000	SM625	Linfinity Micro	
		20000	SM645	Linfinity Micro	
65	3.5 to 40	3000	LM1577-ADJ	† National	
			LM2577-ADJ	National	
	3–40	2500	LT1171C	LinearTech	
			LT1171M	† LinearTech	

(Continued)

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance •Typical Value •Behavioral Model Available . ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

Switching (Cont'd)

Max Output Voltage,	Input Voltage Range,	Max Output Current,			Line
65	3–40		(Cont'd)		
		3000	LT1072C	TI	
			LT1072I	TI	
		5000	LT1170C	LinearTech	
			LT1170M	† LinearTech	
	3–60	1250	LT1172C	LinearTech	5
			LT1172M	† LinearTech	
		2500	LT1071C	LinearTech	
			LT1071M	† LinearTech	
		5000	CS1070	Cherry Semi	
			LT1070C	LinearTech	10
			LT1070M	† LinearTech	
	40	1250	MIC1072	Micrel	
			MIC1172	Micrel	
		2500	MIC1071	Micrel	
			MIC1171	Micrel	15
		5000	MIC1070	Micrel	
			MIC1170	Micrel	
70	3.5–35	100	TK81054	Toko	
75	3–60	1250	LT1172HVC	LinearTech	
			LT1172HVM	† LinearTech	20
		2500	LT1071HVC	LinearTech	
			LT1071HVM	† LinearTech	
		3000	LT1072HVC	TI	
			LT1072HVI	TI	
		5000	LT1070HVC	LinearTech	25
			LT1070HVM	† LinearTech	
80	80	5000	SM601	Linfinity Micro	
		10000	SM661	Linfinity Micro	
		15000	SM626	Linfinity Micro	
		20000	SM646	Linfinity Micro	30
100	100	5000	SM602	Linfinity Micro	
		10000	SM662	Linfinity Micro	
		15000	SM627	Linfinity Micro	
		20000	SM647	Linfinity Micro	
115	85–280		STK7408	Sanyo	35
115 AC	85–280 AC	2800	STK7309	Sanyo	
115 VAC	85–280 VAC				
		1150	STK7310	Sanyo	
			STK7409	Sanyo	
130	165–175	1000	STK750-010	Sanyo	
150	10 to 70	2500	SI9100	† Siliconix	40
			SI9101	Siliconix	
			HV9100	Supertex	
			HV9101	Supertex	
200	10 to 120	2500	SI9102	Siliconix	
			HV9102	Supertex	45
			HV9103	Supertex	

DC-DC Converters

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
–5	±500	28		PWR727	Burr-Brown	
	50	5		LTC1046	LinearTech	
	250	3–7	+5Reg	MDP505SN	Interpoint	
			–5 Reg	DIP505SN	Interpoint	50
	300	9–15	–5 Reg	DIP1205SN	Interpoint	
				MDP1205SN	Interpoint	
–5.2	1000	5	1 Output Reg	PWR6200	Burr-Brown	
		12	1 Output Reg.	PWR6201	Burr-Brown	
		15	1 Output Reg.	PWR6202	Burr-Brown	55
		24	1 Output reg.	PWR6203	Burr-Brown	
		28		PWR6204	Burr-Brown	
		48		PWR6205	Burr-Brown	
–9	140	5	1 Output	NETCON0509	Interpoint	
		12	1 Output	NETCON1209	Interpoint	60
	180	5–15		LM2567	National	
–12,5	125,300					
		9–15	–12 Reg/+5 Unreg	DIP121205DN	Interpoint	
			–12 Reg, +5 Unreg	MDP121205DN	Interpoint	
±2	±83	48	2 Outputs Reg.	PWR5926	Burr-Brown	
±5	±45	15	2 Outputs Unreg.	PWR115	Burr-Brown	65
		24	2 Outputs Unreg.	PWR121	Burr-Brown	
	±75	15	Unreg.	HPR103	Burr-Brown	
	±100	±24	2 Outputs Unreg.	PWR521	Burr-Brown	
		5	2 Outputs Unreg.	PWR303	Burr-Brown	
		12	2 Outputs Unreg.	PWR509	Burr-Brown	70
		15	2 Outputs Unreg.	PWR315	Burr-Brown	
				PWR515	Burr-Brown	
		24	2 Outputs Unreg.	PWR321	Burr-Brown	
		28		PWR327	Burr-Brown	
				PWR527	Burr-Brown	75
		48		PWR333	Burr-Brown	
			2 Outputs Unreg.	PWR533	Burr-Brown	
	±150	5	2 Outputs Unreg.	PWR203	Burr-Brown	
		15	2 Outputs Unreg.	PWR215	Burr-Brown	
		24	2 Outputs Unreg.	PWR221	Burr-Brown	80
		48		PWR233	Burr-Brown	
	±200	5	2 Outputs Reg.	PWR5904	Burr-Brown	
				PWR603	Burr-Brown	
		12	2 Outputs Reg.	PWR5911	Burr-Brown	
				PWR609	Burr-Brown	85
		15	2 Outputs Reg.	PWR615	Burr-Brown	
		24	2 Outputs Reg.	PWR5918	Burr-Brown	
				PWR621	Burr-Brown	
		28		PWR627	Burr-Brown	
		48		PWR5925	Burr-Brown	90
				PWR633	Burr-Brown	
	±250	3–7	+5 Reg/–5 Unreg	DIP370505DP	Interpoint	
		5	2 Outputs Reg	BWR5/250-D5	Datel	
			2 Outputs Unreg.	PWR1104	Burr-Brown	
		12	2 Outputs Reg	BWR5/250-D12	Datel	95
			2 Outputs Unreg.	PWR1111	Burr-Brown	
		24	2 Outputs Reg	BWR5/250-D24	Datel	
			2 Outputs Unreg.	PWR1118	Burr-Brown	
		48	2 Outputs Reg	BWR5/250-D48	Datel	
	±300	5	1 Outputs Unreg.	PWR403	Burr-Brown	100
		9–15	±5Reg,–5Unreg	MDP120505DP	Interpoint	
		12	2 Outputs Unreg.	PWR409	Burr-Brown	
		15	2 Outputs Unreg.	PWR415	Burr-Brown	
		16–32	+5 Reg/–5 Unreg	DIP240505DP	Interpoint	
		24	2 Outputs Unreg.	PWR421	Burr-Brown	105
		28		PWR427	Burr-Brown	
		48		PWR433	Burr-Brown	
	±500	5	2 Outputs Reg.	PWR703	Burr-Brown	
		12	2 Outputs Reg.	PWR709	Burr-Brown	
		15	2 Outputs Reg.	PWR715	Burr-Brown	110
		24	2 Outputs Reg.	PWR721	Burr-Brown	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
± 5	± 500				(Cont'd)	
		28	2 Outputs Reg.	PWR7273	Burr-Brown	
		48		PWR733	Burr-Brown	
	± 700	5		**BWR5/700-D5**	**Datel (3571)**	
		48		**BWR5/700-D48**	**Datel (3571)**	
	± 800	12		**BWR5/800-D12**	**Datel (3571)**	5
	± 1500	5		**BWR5/1500-D5**	**Datel (3571)**	
		9–18	2 Outputs Reg.	PWR5309	Burr-Brown	
	± 1700	12		**BWR5/1700-D12**	**Datel (3571)**	
		48		**BWR5/1700-D48**	**Datel (3571)**	
	250	3–7	± 5 Reg, –5 Unreg	MDP5050DP	Interpoint	10
	300	9–15	+ 5 Reg/–5 Unreg	DIP120505DP	Interpoint	
	700	16–32	2 Outputs	PS2815	Adv Analog	
	1500	36–72		PWR5315	Burr-Brown	
	8000	16–50	1 Output	AFW2805S	Adv Analog	
	500000	16–80	2 Outputs	AHV2815D	Adv Analog	15
± 5,12	± 208	16–40	4 outputs	MQO28512Q	Interpoint	
± 5,15	± 167	16–40	4 outputs	MQO28515Q	Interpoint	
± 8, Quad		15	4 Outputs	**0724**	**Burr-Brown (3464)**	
± 9	± 850	5	2 Outputs Reg	**BWR9/850-D5**	**Datel (3571)**	
± 12	± 14	3–7	± 12 Reg/Balance Unreg	DIP371212DB	Interpoint	20
	± 19	12	2 Outputs Unreg.	PWR110	Burr-Brown	
		15	2 Outputs Unreg.	PWR116	Burr-Brown	
		24	2 Outputs Unreg.	PWR122	Burr-Brown	
	± 25	5	2 Outputs Reg.	BPM12/25-D5	Datel	
		12	2 Outputs Reg.	BPM12/25-D12	Datel	25
		28	2 Outputs Reg.	BPM12/25-D28	Datel	
	± 30	15	Unreg.	HPR104	Burr-Brown	
				HPR110	Burr-Brown	
				HPR116	Burr-Brown	
	± 42	4	2 Outputs Unreg.	PWR322	Burr-Brown	30
		4.5–5.5	2 Outputs	DIP512DT	Interpoint	
		5	2 Outputs Unreg.	PWR1303	Burr-Brown	
				PWR304	Burr-Brown	
				PWR504	Burr-Brown	
		10.8–14	2 Outputs	DIP1212DT	Interpoint	35
		12	2 Outputs Unreg.	PWR1308	Burr-Brown	
				PWR310	Burr-Brown	
				PWR510	Burr-Brown	
		15	2 Outputs Unreg.	PWR1313	Burr-Brown	
				PWR316	Burr-Brown	40
				PWR516	Burr-Brown	
		20–28	2 Outputs	DIP2412DT	Interpoint	
		24	2 Outputs Unreg.	PWR522	Burr-Brown	
		24–32	2 Outputs	DIP2812DT	Interpoint	
		28		PWR328	Burr-Brown	45
				PWR528	Burr-Brown	
		44–56	2 Outputs	DIP5012DT	Interpoint	
		48		PWR334	Burr-Brown	
				PWR534	Burr-Brown	
	± 63	5	2 Outputs Unreg.	PWR204	Burr-Brown	50
		12	2 Outputs Unreg.	PWR210	Burr-Brown	
		24	2 Outputs Unreg.	PWR222	Burr-Brown	
		48		PWR234	Burr-Brown	
	± 66	24	2 Outputs Reg.	PWR5920	Burr-Brown	
	± 83	5	2 Outputs Reg.	PWR5905	Burr-Brown	55
		12	2 Outputs Reg.	PWR5912	Burr-Brown	
		24	2 Outputs Reg.	PWR5919	Burr-Brown	
					(Continued)	
± 12					(Cont'd)	
	± 84	5	2 Outputs Reg.	PWR604	Burr-Brown	
		12	2 Outputs Reg.	PWR610	Burr-Brown	
		15	2 Outputs Reg.	PWR616	Burr-Brown	60
		24	2 Outputs Reg.	PWR622	Burr-Brown	
		28		PWR628	Burr-Brown	
		48		PWR634	Burr-Brown	
	± 104	3–7	+ 12 Reg, –12 Unreg	MDP51212DP	Interpoint	
			–12 Reg, + 12 Reg	MD51212DN	Interpoint	65
			–12 Reg/ + 12 Unreg	DIP371212DN	Interpoint	
			± 12 Reg/–12 Unreg	DIP371212DP	Interpoint	
			± 12 Reg/Balance Unreg	MD51212DB	Interpoint	
		4.5–5.5	2 Outputs	DDR0512DT	Interpoint	
		4–6.5	2 outputs	DCH0512D	Interpoint	70
		5	2 Outputs Unreg.	PWR1105	Burr-Brown	
		9–15	± 12 Reg/Balance Unreg	DIP121212DB	Interpoint	
		12	2 Outputs Unreg.	PWR1112	Burr-Brown	
		24	2 Outputs Unreg.	PWR1119	Burr-Brown	
	± 105	5		**BWR12/105-D5**	**Datel (3571)**	75
	± 125	5	2 Outputs Unreg.	PWR404	Burr-Brown	
		9–15	± 12 Reg/Balance Unreg	MDP121212DB	Interpoint	
			2 outputs	DCH1212D	Interpoint	
		10.8–13		MDR1212DT	Interpoint	
		10.8–14	2 Outputs	DDR1212DT	Interpoint	80
		12		**BWR12/125-D12**	**Datel (3571)**	
			2 Outputs Unreg.	PWR410	Burr-Brown	
		15	2 Outputs Unreg.	PWR416	Burr-Brown	
		16–32	+ 12 Reg/–12 Unreg	DIP241212DP	Interpoint	
			+ 12 Reg, –12 Unreg	MDP241212DP	Interpoint	85
			–12 Reg/ + 12 Unreg	DIP241212DN	Interpoint	
			–12 Reg, + 12 Unreg	MDP241212DN	Interpoint	
			± 12 Reg/Balance Unreg	DIP241212DB	Interpoint	
				MDP241212DB	Interpoint	
		20–26		MDR2412DT	Interpoint	90
		20–28	2 Outputs	DDR2412DT	Interpoint	
		20–32	2 outputs	DCH2812D	Interpoint	
		24	2 Outputs Unreg.	PWR422	Burr-Brown	
		24–30		MDR2812DT	Interpoint	
		24–32	2 Outputs	DDR2812DT	Interpoint	95
		28		PWR428	Burr-Brown	
		44–56	2 Outputs	DDR4812DT	Interpoint	
		48		PWR434	Burr-Brown	
				BWR12/125-D48	**Datel (3571)**	
	± 150	4.5–5.5	2 Outputs	DCR0512DT	Interpoint	100
		10.8–14	2 Outputs	DCR1212DT	Interpoint	
		24–32	2 Outputs	DCR2812DT	Interpoint	
	± 167	4–6.5	2 Outputs	DDC0512D	Interpoint	
		16–32	2 outputs	MSR2812D	Interpoint	
		44–56	20 Outputs	DCR4812DT	Interpoint	105
	± 208	4–6.5	2 Outputs	DC0512D	Interpoint	
		9–15	2 Outputs	DDC1212D	Interpoint	
		20–32	2 Outputs	DDC2812D	Interpoint	
		36–50	2 Outputs	DDC4812D	Interpoint	
	± 209	5	2 Outputs Reg.	PWR704	Burr-Brown	110
		12	2 Outputs Reg.	PWR710	Burr-Brown	
		15	2 Outputs Reg.	PWR716	Burr-Brown	
		24	2 Outputs Reg.	PWR722	Burr-Brown	
					(Continued)	

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
±12	±209				(Cont'd)	
		28		PWR728	Burr-Brown	
		48		PWR734	Burr-Brown	
	±267	9–15	2 Outputs	DC1212D	Interpoint	
		20–32	2 Outputs	DC2812D	Interpoint	
		36–56	2 Outputs	DC4812D	Interpoint	5
	±335	5		**BWR12/335-D5**	**Datel (3571)**	
	±375	5	2 Outputs Reg.	PWR5104	Burr-Brown	
	±414	16–40	2 outputs	MLP2812D	Interpoint	
	±415	±12		**BWR12/415-D12**	**Datel (3571)**	
		48		**BWR12/415-D48**	**Datel (3571)**	10
	±420	5	2 Outputs Reg.	BPM12/420-D5	Datel	
		12	2 Outputs Reg.	BPM12/420-D12	Burr-Brown	
				BPM12-420-D12	Datel	
				BPM12/420-D12	Datel	
		24	2 Outputs Reg.	BPM12/420-D24	Burr-Brown	15
				BPM12/420-D24	Datel	
		28	2 Outputs Reg.	BPM12-420-D28	Datel	
		48	2 Outputs Reg.	BPM12/420-D48	Datel	
	±500	16–40	2 outputs	MHF2812D	Interpoint	
	±625	4–8	2 outputs	MHL0512D	Interpoint	20
		5		**BWR12/625-D5**	**Datel (3571)**	
		16–40	2 outputs	MRH2812D	Interpoint	
		17–40	2 outputs	MHE2812D	Interpoint	
			2 Outputs	AHE2812D	Adv Analog	
		18–36	2 Outputs	HR152-2812	Interpoint	25
	±830	12		**BWR12/830-D12**	**Datel (3571)**	
		48		**BWR12/830-D48**	**Datel (3571)**	
	±1250	18–36	Hi-Rel	HR302-2812	Interpoint	
		18–40	2 outputs	MTW2812D	Interpoint	
	±2500	18–40	2 Outputs	ATW2812D	Adv Analog	30
	±2920	19–40	2 outputs	MFW2812D	Interpoint	
	±19	5	2 Output Unreg.	PWR104	Burr-Brown	
	170	28	2 Outputs Reg.	DB2812D	† Apex	
				DB2812DA	† Apex	
	250	5		BWR12/250-D5	Datel	35
	333	28		MSA2812D	† Interpoint	
	625	9–18	2 Outputs Reg.	PWR5310	Burr-Brown	
		18–36	2 Outputs Reg.	PWR5313	Burr-Brown	
		36–72		PWR5316	Burr-Brown	
	630	28		MHD2812D	† Interpoint	40
	1670	16–80	2 Outputs	AHV2812D	Adv Analog	
	3750	28		MFL2812D	† Interpoint	
		280		MFL12012D	† Interpoint	
				MFL27012D	† Interpoint	
±15	±15	5	2 Outputs Unreg.	PWR105	Burr-Brown	45
		12	2 Outputs Unreg.	PWR111	Burr-Brown	
		15	2 Outputs Unreg.	PWR117	Burr-Brown	
		24	2 Outputs Unreg.	PWR123	Burr-Brown	
	±25	5	2 Outputs Reg.	BPM15/25-D5	Datel	
		10–18	2 Outputs Unreg.	PWR1017	Burr-Brown	50
				PWR71	Burr-Brown	
		12	2 Outputs Reg.	BPM15/25-D12	Datel	
		15	Unreg.	HPR105	Burr-Brown	
				HPR111	Burr-Brown	
				HPR117	Burr-Brown	55
				HPR123	Burr-Brown	
					(Continued)	
±15	±25				(Cont'd)	
		28	2 Outputs Reg.	BPM15/25-D28	Datel	
	±33	4.5–5.5	2 Outputs	DIP515DT	Interpoint	
		10.8–14	2 Outputs	DIP1215DT	Interpoint	
		24–32	2 Outputs	DIP2815DT	Interpoint	60
		44–56	2 Outputs	DIP5015DT	Interpoint	
	±34	2	2 Outputs Unreg.	PWR511	Burr-Brown	
		5	2 Outputs Unreg.	PWR1304	Burr-Brown	
				PWR305	Burr-Brown	
				PWR505	Burr-Brown	65
		12	2 Outputs Unreg.	PWR1309	Burr-Brown	
				PWR311	Burr-Brown	
		15	2 Outputs Unreg.	PWR1314	Burr-Brown	
				PWR317	Burr-Brown	
				PWR517	Burr-Brown	70
		24	2 Outputs Unreg.	PWR323	Burr-Brown	
				PWR523	Burr-Brown	
		28		PWR329	Burr-Brown	
				PWR529	Burr-Brown	
		48		PWR535	Burr-Brown	75
	±38	20–28	2 Output	DIP2415DT	Interpoint	
	±45	5	2 Output Unreg.	PWR103	Burr-Brown	
		12	2 Output Unreg.	PWR109	Burr-Brown	
	±50	5	2 Outputs Unreg.	PWR205	Burr-Brown	
		10–20	2 Outputs Unreg.	PWR74	Burr-Brown	80
		12	2 Outputs Unreg.	PWR211	Burr-Brown	
		15	2 Outputs Reg.	PWR1726	Burr-Brown	
			2 Outputs Unreg.	PWR217	Burr-Brown	
		24	2 Outputs Unreg.	PWR223	Burr-Brown	
		48		PWR235	Burr-Brown	85
	±66	5	2 Outputs Reg.	PWR5906	Burr-Brown	
		12	2 Outputs Reg.	PWR5913	Burr-Brown	
		48		PWR5927	Burr-Brown	
	±67	5	2 Outputs Reg.	PWR605	Burr-Brown	
		12	2 Outputs Reg.	PWR611	Burr-Brown	90
		15	2 Outputs Reg.	PWR617	Burr-Brown	
		24	2 Outputs Reg.	PWR623	Burr-Brown	
		28		PWR629	Burr-Brown	
		48		PWR635	Burr-Brown	
	±83	3–7	±15 Reg/Balance Unreg	DIP371515DB	Interpoint	95
				MDP51515DB	Interpoint	
		4.5–5.5	2 Outputs	DDR0515DT	Interpoint	
		4–6.5	2 outputs	DCH0515D	Interpoint	
		5	2 Outputs Unreg.	PWR1106	Burr-Brown	
		12	2 Outputs Unreg.	PWR1113	Burr-Brown	100
		24	2 Outputs Unreg.	PWR11120	Burr-Brown	
	±85	5	2 Outputs Reg	**BWR15/85-D5**	**Datel (3571)**	
	±100	±10.8–14	2 Outputs	DDR1215DT	Interpoint	
		5	2 Outputs Unreg.	PWR405	Burr-Brown	
				PWR503	Burr-Brown	105
		5–22	2 Outputs Unreg.	PWR72	Burr-Brown	
		9–15	±15 Reg/Balance Unreg	DIP121515DB	Interpoint	
				MDP121515DB	Interpoint	
			2 outputs	DCH1215D	Interpoint	
		10.8–13		MDR1215DT	Interpoint	110
		10–18	2 Outputs Unreg.	PWR70	Burr-Brown	
		12		**BWR15/100-D12**	**Datel (3571)**	
			2 Outputs Unreg.	PWR309	Burr-Brown	
				PWR411	Burr-Brown	
		15	2 Outputs Unreg.	PWR417	Burr-Brown	115
		16–32	±15 Reg/Balance Unreg	DIP241515DB	Interpoint	
				MDP241515DB	Interpoint	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
± 15	± 100				(Cont'd)	
		20–26		MDR2415DT	Interpoint	
		20–28	2 Outputs	DDR2415DT	Interpoint	
		20–32	2 outputs	DCH2815D	Interpoint	
		24	2 Outputs Unreg.	PWR423	Burr-Brown	
		24–30		MDR2815DT	Interpoint	5
		24–32	2 Outputs	DDR2815DT	Interpoint	
		28		PWR429	Burr-Brown	
		44–56	2 Outputs	DDR4815DT	Interpoint	
		48		PWR435	Burr-Brown	
				BWR15/100-D48	**Datel (3571)**	10
	± 125	4.5–5.5				
			2 Outputs	DCR0515DT	Interpoint	
		24–32	2 Outputs	DCR2815DT	Interpoint	
	± 133	4–6.5	2 Outputs	DDC0515D	Interpoint	
		10.8–14				
			2 Outputs	DCR1215DT	Interpoint	
		16–32	2 outputs	MSR2815D	Interpoint	15
		44–56	2 Outputs	DCR4815DT	Interpoint	
	± 150	5	2 Outputs Reg.	BPM15/150-D5	Datel	
		12	2 Outputs Unreg.	PWR209	Burr-Brown	
		24	2 Outputs Reg.	BPM15/150-D24		
					Datel	
	± 167	4–6.5	2 Outputs	DC0515D	Interpoint	20
		5	2 Outputs Reg.	PWR705	Burr-Brown	
		9–15	2 Outputs	DDC1215D	Interpoint	
		12	2 Outputs Reg.	PWR711	Burr-Brown	
		15	2 Outputs Reg.	PWR1546A	Burr-Brown	
				PWR717	Burr-Brown	25
		20–32	2 Outputs	DDC2815D	Interpoint	
		24	2 Outputs Reg.	PWR723	Burr-Brown	
		28		PWR729	Burr-Brown	
		36–50	2 Outputs	DDC4815D	Interpoint	
		48		PWR735	Burr-Brown	30
	± 213	9–15	2 Outputs	DC1215D	Interpoint	
		36–56	2 Outputs	DC4815D	Interpoint	
	± 275	5		**BWR15/275-D5**	**Datel (3571)**	
	± 300	16–32	+ 5 Reg, –5 Unreg	MDP240505DP	Interpoint	
	± 330	12	2 Outputs Reg	**BWR15/330-D12**	**Datel (3571)**	35
		48		**BWR15/330-D48**	**Datel (3571)**	
	± 333	16–40	2 outputs	MLP2815D	Interpoint	
	± 400	16–36	2 outputs	MHF28L15D	Interpoint	
		19–40	2 outputs	MHF2815D	Interpoint	
	± 500	4–8	2 outputs	MHL0515D	Interpoint	40
		5		**BWR15/500-D5**	**Datel (3571)**	
		16–36	2 outputs	MRH28L15D	Interpoint	
		17–40	2 outputs	MHE2815D	Interpoint	
			2 Outputs	AHE2815D	Adv Analog	
		18–36	2 Outputs	HR152-2815	Interpoint	45
		19–40	2 outputs	MRH2815D	Interpoint	
	± 670	48		**BWR15/670-D12**	**Datel (3571)**	
				BWR15/670-D48	**Datel (3571)**	
	± 1000					
		18–36	Hi-Rel	HR302-2815	Interpoint	
		18–40	2 outputs	MTW2815D	Interpoint	50
	± 2330					
		19–40	2 outputs	MFW2815D	Interpoint	
	130	28	2 Outputs Reg.	DB2815D	† Apex	
				DB2815DA	† Apex	
	213	20–32	2 Outputs	DC2815D	Interpoint	
	267	28		MSA2815D	† Interpoint	55
	500	9–18	2 Outputs Reg.	PWR5311	Burr-Brown	
		18–36	2 Outputs Reg.	PWR5314	Burr-Brown	
		28		MHD2815D	† Interpoint	
		36–72		PWR5317	Burr-Brown	
	600	15		PWR7317	Burr-Brown	60
	1500	18–36	2 Outputs Reg.	PWR5312	Burr-Brown	
					(Continued)	

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
± 15					(Cont'd)	
	3250	28		MFL2815D	† Interpoint	
		280		MFL12015D	† Interpoint	
				MFL27015D	† Interpoint	
± 15, Dual						
	80	15	2 Outputs	**0722**	**Burr-Brown**	
					(3464)	65
± 18	± 178	9–15	2 Outputs	DC1218D	Interpoint	
		20–32	2 Outputs	DC2818D	Interpoint	
		36–56	2 Outputs	DC4818D	Interpoint	
± 25	± 100	4–6.5	2 Outputs	DC0525D	Interpoint	
± 28	± 53	9–15	2 outputs	DCH1228D	Interpoint	70
± 2815						
	± 2000					
		18–40	2 Outputs	ATW2815D	Adv Analog	
± 15	± 34	48		PWR335	Burr-Brown	
1.1	40	5	1 Output	MAX654C	Maxim	
				MAX654M	† Maxim	
	60	5	1 Output	MAX657C	Maxim	75
				MAX657M	† Maxim	
	170	5	1 Output	MAX656C	Maxim	
				MAX656M	† Maxim	
2	125	15	1 Output Unreg.	PWR213	Burr-Brown	
2.3	60	5	1 Output	MAX655C	Maxim	80
				MAX655M	† Maxim	
				MAX659C	Maxim	
				MAX659M	† Maxim	
	110	5	1 Output	MAX658C	Maxim	
				MAX658M	† Maxim	85
2.7–5.5						
	200	1.5–6	1 Output Reg.	MAX757C	Maxim	
				MAX757E	Maxim	
3	40	8	1 Output Reg.	RF5RD301	Ricoh	
3.3	250	3	3 or 5 V out	LT1300C	LinearTech	
	1800	5		**UWR3.3/1800-D5**	**Datel (3571)**	90
		48		**UWR3.3/1800-D48**	**Datel (3571)**	
	2500	12		**UWR3.3/2500-D12**	**Datel (3571)**	
	4250	5		**UWR3.3/4250-D5**	**Datel (3571)**	
	4850	12		**UWR3.3/4850-D12**	**Datel (3571)**	
		48		**UWR3.3/4850-D48**	**Datel (3571)**	95
3.3,5	200	1.5–5.5				
			1 Output Reg.	MAX756C	Maxim	
				MAX756E	Maxim	
3.5	14000	19–40	1 output	MFW283R5S	Interpoint	
5	± 15	12	2 Outputs Unreg.	PWR112	Burr-Brown	
	± 150	28		PWR227	Burr-Brown	100
	± 200	± 12, ± 15				
			2 Outputs	MAX742C	Maxim	
				MAX742M	† Maxim	
	00	12	1 Output Unreg.	PWR1107	Burr-Brown	
	3W unreg					
		24		PWR1218	Burr-Brown	
	5	48		PWR133	Burr-Brown	105
	5–6W unreg					
		24		PWR1618	Burr-Brown	
	30	± 12, ± 15				
			2 Outputs	MAX743C	Maxim	
				MAX743M	† Maxim	
	40	1.5	1 Output Reg.	TK81073-5	Toko	
		8	1 Output Reg.	RF5RD501	Ricoh	110
	45	28		PWR127	Burr-Brown	
	90	5	1 Output Unreg.	PWR100	Burr-Brown	
		12	1 Output Unreg.	PWR106	Burr-Brown	
		24		PWR118	Burr-Brown	
		28		PWR124	Burr-Brown	115
		48		PWR130	Burr-Brown	
	100	12	1 Output Reg.	PWR706	Burr-Brown	
	134	15	1 Output Reg.	PWR614	Burr-Brown	
					(Continued)	

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
5					(Cont'd)	
	150	15	Unreg.	HPR100	Burr-Brown	
		30		LTC1108C-5	LinearTech	
	200	1.2	1 Output	MAX751C	Maxim	
				MAX751E	Maxim	
				MAX751M	† Maxim	5
		2	1 Output	MAX731C	Maxim	
				MAX731E	Maxim	
				MAX731M	† Maxim	
				MAX752C	Maxim	
				MAX752E	Maxim	10
				MAX752M	† Maxim	
		5	1 Output Reg.	PWR5900	Burr-Brown	
			1 Output Unreg.	PWR1300	Burr-Brown	
				PWR300	Burr-Brown	
				PWR500	Burr-Brown	15
		12	1 Output Reg.	PWR5907	Burr-Brown	
				UPM5/200-D12	Datel	
			1 Output Unreg.	PWR1305	Burr-Brown	
				PWR306	Burr-Brown	
				PWR506	Burr-Brown	20
		15	1 Output Unreg.	PWR1310	Burr-Brown	
				PWR312	Burr-Brown	
				PWR512	Burr-Brown	
		24		PWR318	Burr-Brown	
				PWR518	Burr-Brown	25
				PWR5914	Burr-Brown	
		28		PWR324	Burr-Brown	
				PWR524	Burr-Brown	
		48		PWR330	Burr-Brown	
				PWR530	Burr-Brown	30
				PWR5921	Burr-Brown	
	250	3	3 or 5 V out	LT1300C	LinearTech	
		24		PWR806	Burr-Brown	
				PWR807	Burr-Brown	
		28		PWR808	Burr-Brown	35
				PWR809	Burr-Brown	
		48		PWR1125	Burr-Brown	
				PWR810	Burr-Brown	
				PWR811	Burr-Brown	
	300	5	1 Output Unreg.	PWR200	Burr-Brown	40
		9–15	+5 Reg	DIP1205SP	Interpoint	
		12	1 Output Unreg.	PWR206	Burr-Brown	
		15	1 Output Unreg.	PWR212	Burr-Brown	
		24		PWR218	Burr-Brown	
		28		PWR224	Burr-Brown	45
		48		PWR230	Burr-Brown	
	400	4.5–5.5	1 Output	DDR0505S	Interpoint	
		4–6.5	1 output	DCH0505S	Interpoint	
		5	1 Output Reg.	PWR600	Burr-Brown	
				PWR612	Burr-Brown	50
		12	1 Output Reg.	PWR606	Burr-Brown	
		24		PWR618	Burr-Brown	
		28		PWR624	Burr-Brown	
		48		PWR630	Burr-Brown	
	500	5		**UWR5/500-D5**	**Datel (3571)**	55
			1 Output Unreg.	PWR1100	Burr-Brown	
		9–15	1 output	DCH1205S	Interpoint	
		10.8–14	1 Output	DDR1205S	Interpoint	
		12		**UWR5/500-D12**	**Datel (3571)**	
		20–28	1 Output	DDR2405S	Interpoint	60
		20–32	1 output	DCH2805S	Interpoint	
		24		PWR1114	Burr-Brown	
		24–32	1 Output	DDR2805S	Interpoint	
		44–56	1 Output	DDR4805S	Interpoint	
					(Continued)	
5	500				(Cont'd)	
		48		PWR1121	Burr-Brown	65
				UWR5/500-D48	**Datel (3571)**	
	600	5	1 Output Unreg.	PWR400	Burr-Brown	
		12	1 Output Unreg.	PWR406	Burr-Brown	
		15	1 Output Unreg.	PWR412	Burr-Brown	
		24		PWR418	Burr-Brown	70
				PWR7318	Burr-Brown	
		28		PWR424	Burr-Brown	
				UPS5/600-D28	Datel	
		48		PWR430	Burr-Brown	
	700	16–32	1 output	MSR2805S	Interpoint	75
			1 Output	PS2805	Adv Analog	
	800	4–6.5	1 Output	DDC0505S	Interpoint	
		24		PWR4018	Burr-Brown	
	1000	5		PWR7000	Burr-Brown	
			1 Output Reg.	PWR700	Burr-Brown	80
		9–15	1 Output	DC1205S	Interpoint	
				DDC1205S	Interpoint	
		15	1 Output Reg.	PWR712	Burr-Brown	
		20–32	1 Output	DDC2805S	Interpoint	
			1 Outputs	DC2805S	Interpoint	85
		24		PWR718	Burr-Brown	
		28		PWR724	Burr-Brown	
				MSA2805S	† Interpoint	
		36–50	1 Output	DDC4805S	Interpoint	
		36–56	1 Output	DC4805S	Interpoint	90
		48		PWR730	Burr-Brown	
	1600	5		**UWR5/1600-D5**	**Datel (3571)**	
	1800	48		**UWR5/1800-D48**	**Datel (3571)**	
	2000	12		**UWR5/2000-D12**	**Datel (3571)**	
		16–40	1 output	MHF2805S	Interpoint	95
				MLP2805S	Interpoint	
		28	1 Output Reg.	UPM5/2000-D28	Datel	
		48	1 Output Reg.	UPM5/2000-D48	Datel	
	2400	40	Single	AHF2805S	Adv Analog	
	3000	5		**UWR5/3000-D5**	**Datel (3571)**	100
		9–16	1 output	MHE1205S	Interpoint	
		9–18	1 Output Reg.	PWR5300	Burr-Brown	
		10–16	1 Output	HR151-1205	Interpoint	
		16–40	1 output	MRH2805S	Interpoint	
		16–80	1 Output	AHV2805S	Adv Analog	105
		17–40	1 output	MHE2805S	Interpoint	
			1 Output	AHE2805S	Adv Analog	
		18–36	1 Output	HR151-2805	Interpoint	
			1 Output Reg.	PWR5303	Burr-Brown	
		28		MHD2805S	† Interpoint	110
		36–72		PWR5306	Burr-Brown	
	4000	12		**UWR5/4000-D12**	**Datel (3571)**	
		28	2 Output	DB2805S	Apex	
		48		**UWR5/4000-D48**	**Datel (3571)**	
	5000	28	1 Output Reg.	MTR2805S	† Interpoint	115
	6000	18–36	Hi-Rel	HR301-2805	Interpoint	
		19–40	1 output	MTW2805S	Interpoint	
			1 Output	ATW2805S	Adv Analog	
	10000	28		MFL2805S	† Interpoint	
		280		MFL12005S	† Interpoint	120
				MFL27005S	† Interpoint	
	12000	19–40	1 output	MFW2805S	Interpoint	
	16000	28	1 Output Reg.	MFLHP2805S	† Interpoint	
5/±12	1500/±310	36–72		PWR5324	Burr-Brown	
5, ±12	4000 ±1670	19–40	3 outputs	MFW2812T	Interpoint	125

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
5, ±15						
	4000 ±1330					
		19–40	3 outputs	MFW2815T	Interpoint	
5/12/–5						
	1500/310/–500					
		36–72		PWR5326	Burr-Brown	
	1500/310/500					
		24		TPS12/310-5/150		
					Datel	
5.2	1500	5	1 Output Reg	**UWR5.2/1500-D5**	**Datel (3571)**	
	3000	5	1 Output Reg	**UWR5.2/3000-D5**	**Datel (3571)**	5
5–12	40	1.5	1 Output Reg.	TK81073	Toko	
5, ±12						
	2000, 208					
		16–80	3-Inputs	AHV2812T	Adv Analog	
5, ±15						
	2000, 167					
		16–80	3 Inputs	AHV2815T	Adv Analog	
5, ±12						
	4000	28	3 Outputs Reg.	MTR28512T †	Interpoint	
5, ±15						
	4000	28	3 Outputs Reg.	MTR28515T †	Interpoint	10
5, ±12						
	250, ±156					
		5	3 Outputs Unreg.	PWR800	Burr-Brown	
		15	3 Outputs Unreg.	PWR804	Burr-Brown	
	250,156					
		12	3 Outputs Unreg.	PWR802	Burr-Brown	
	1500, ±310					
		9–18	3 Outputs Reg.	PWR5318	Burr-Brown	
		18–36	3 Outputs Reg.	PWR5321	Burr-Brown	15
	2000, ±208					
		16–36	3 outputs	MTO2812T	Interpoint	
		16–40	3 Outputs	ATO2812T	Adv Analog	
		18–36	3 Outputs	HR153-2812	Interpoint	
	2000, ±500					
		16–36	3 outputs	MRH2812T	Interpoint	
	3000, ±63					
		16–32	3 outputs	MSR28512T	Interpoint	20
5, ±15						
	250, ±125					
		5	3 Outputs Unreg.	PWR801	Burr-Brown	
		12	3 Outputs Unreg.	PWR803	Burr-Brown	
		15	3 Outputs Unreg.	PWR805	Burr-Brown	
	300, ±50					
		16–32	3 outputs	MSR28515T	Interpoint	
	1500, ±250					
		9–18	3 Outputs Reg.	PWR5319	Burr-Brown	25
		18–36	3 Outputs Reg.	PWR5322	Burr-Brown	
		36–72	3 Outputs Reg.	PWR5325	Burr-Brown	
	2000, 167					
		16–80	3 Inputs	ATR2815T	Adv Analog	
	2000, ±167					
		16–36	3 outputs	MTO2815T	Interpoint	
		16–40	3 Outputs	ATO2815T	Adv Analog	30
		18–36	3 Outputs	HR153-2815	Interpoint	
	2000, ±500					
		16–36	3 outputs	MRH2815T	Interpoint	
5,12,–5						
	1500,310,–500					
		18–36	3 Outputs Reg.	PWR5323	Burr-Brown	
5,12,–500						
	1500,310,–500					
		9–18	3 Outputs reg.	PWR5320	Burr-Brown	
9	3W unreg			PWR1243	Burr-Brown	35
	111	5	1 Output Reg.	PWR5901	Burr-Brown	
		12	1 Output Reg.	PWR5908	Burr-Brown	
					(Continued)	

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
9	111				(Cont'd)	
		24		PWR5915	Burr-Brown	
		48		PWR5922	Burr-Brown	
	277	5	1 Output Unreg.	PWR1101	Burr-Brown	40
		12	1 Output Unreg.	PWR1108	Burr-Brown	
		24		PWR1115	Burr-Brown	
		48		PWR1122	Burr-Brown	
9.3–32	2.4	1.1–18		TK11806	Toko	
12	±63	15		PWR216	Burr-Brown	45
	19	28		PWR128	Burr-Brown	
		48		PWR134	Burr-Brown	
	30	4.5–5.5				
			1 Output Reg.	MAX662C	Maxim	
		5	1 Output	MAX661C	Maxim	
				MAX661E	Maxim	50
	38	5	1 Output Unreg.	PWR101	Burr-Brown	
		12	1 Output Unreg.	PWR107	Burr-Brown	
		24	1 Output Unreg.	PWR119	Burr-Brown	
		28		PWR125	Burr-Brown	
		48		PWR131	Burr-Brown	55
	40	1.5	1 Output Reg.	TK81073-12	Toko	
	63	28		PWR228	Burr-Brown	
	80	5	1 Output Reg.	UPM12/80-D5	Datel	
	83	5	1 Output Reg.	PWR5902	Burr-Brown	
			1 Output Unreg.	PWR1301	Burr-Brown	60
		12	1 Output Reg.	PWR5909	Burr-Brown	
			1 Output Unreg.	PWR1306	Burr-Brown	
		15	1 Output Unreg.	PWR1311	Burr-Brown	
		24	1 Output Reg.	PWR5916	Burr-Brown	
		48		PWR5923	Burr-Brown	65
	84	4	1 Output Unreg.	PWR519	Burr-Brown	
		5	1 Output Unreg.	PWR301	Burr-Brown	
				PWR501	Burr-Brown	
		12	1 Output Unreg.	PWR307	Burr-Brown	
				PWR507	Burr-Brown	70
		15	1 Output Unreg.	PWR313	Burr-Brown	
				PWR513	Burr-Brown	
		24	1 Output Unreg.	PWR319	Burr-Brown	
		28		PWR325	Burr-Brown	
				PWR525	Burr-Brown	75
		48		PWR331	Burr-Brown	
				PWR531	Burr-Brown	
	104	48		PWR1126	Burr-Brown	
	125	5	1 Output Unreg.	PWR201	Burr-Brown	
		12	1 Output Unreg.	PWR207	Burr-Brown	80
		24	1 Output Unreg.	PWR219	Burr-Brown	
		28		PWR225	Burr-Brown	
		48		PWR231	Burr-Brown	
	167	5	1 Output Reg.	PWR601	Burr-Brown	
				PWR613	Burr-Brown	85
		12	1 Output Reg.	PWR607	Burr-Brown	
		24	1 Output Reg.	PWR619	Burr-Brown	
		28		PWR625	Burr-Brown	
		48		PWR631	Burr-Brown	
	200	12		**UWR12/200-D12**	**Datel (3571)**	90
	208	5	1 Output Unreg.	PWR1102	Burr-Brown	
		12	1 Output Unreg.	PWR1109	Burr-Brown	
		24	1 Output Unreg.	PWR1116	Burr-Brown	
		48		PWR1123	Burr-Brown	
	250	5	1 Output Reg	**UWR12/250-D5**	**Datel (3571)**	95
			1 Output Unreg.	PWR401	Burr-Brown	
		9–15	1 output	DCH1212S	Interpoint	
		12		**UWR12/250-D12**	**Datel (3571)**	
			1 Output Unreg.	PWR407	Burr-Brown	
		15	1 Output Unreg.	PWR413	Burr-Brown	100
		20–32	1 output	DCH2812S	Interpoint	
		24	1 Output Unreg.	PWR419	Burr-Brown	
		28		PWR425	Burr-Brown	
					(Continued)	

† Mil Temp Range (–55° to 125°C) 1 ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
12	250	28			(Cont'd)	
				UPS12/250/D2	Burr-Brown	
				UPS12/250-D28	Datel	
		48		PWR431	Burr-Brown	
				UWR12/250-D48	**Datel** **(3571)**	
	300	30		LTC1108C-12	LinearTech	5
	417	5	1 Output Reg.	PWR701	Burr-Brown	
		12	1 Output Reg.	PWR707	Burr-Brown	
		15	1 Output Reg.	PWR713	Burr-Brown	
		24	1 Output Reg.	PWR719	Burr-Brown	
		28		MSA2812S †	Interpoint	10
			1 Output Reg.	PWR725	Burr-Brown	
		48		PWR731	Burr-Brown	
	530	36–56	1 Output	DC4812S	Interpoint	
	665	5		**UWR12/665-D5**	**Datel** **(3571)**	
	750	48		UWR12/750-D48	Datel	15
	830	12		**UWR12/830-D12**	**Datel** **(3571)**	
	1000	16–40	1 output	MHF2812S	Interpoint	
		40		DB2812S	Apex	
			Dual	AHF2812D	Adv Analog	
			Single	AHF2812S	Adv Analog	20
	1250	5		**UWR12/1250-D5**	**Datel** **(3571)**	
		9–16	1 output	MHE1212S	Interpoint	
		9–18	1 Output Reg.	PWR5301	Burr-Brown	
		10–16	1 Output	HR151-1212	Interpoint	
		16–40	1 output	MLP2812S	Interpoint	25
				MRH2812S	Interpoint	
		18–36	1 Output Reg.	PWR5304	Burr-Brown	
		36–72		PWR5307	Burr-Brown	
	1650	12		**UWR12/1650-D12**	**Datel** **(3571)**	
		24	1 Output Reg	**UWR12/1650-D24**	**Datel** **(3571)**	30
		48		**UWR12/1650-D48**	**Datel** **(3571)**	
	1667	17–40	1 output	MHE2812S	Interpoint	
		18–36	1 Output	HR151-2812	Interpoint	
	1670	7–40	1 Output	AHE2812S	Adv Analog	
		16–80	1 Output	AHV2812S	Adv Analog	35
		28		MHD2812S †	Interpoint	
	2500	18–36	Hi-Rel	HR301-2812	Interpoint	
		18–40	1 output	MTW2812S	Interpoint	
			1 Output	ATW2812S	Adv Analog	
		28	1 Output Reg.	MTR2812S †	Interpoint	40
	5000	28		MFL2812S †	Interpoint	
		280		MFL12012S †	Interpoint	
				MFL27012S †	Interpoint	
	5830	19–40	1output	MFW2812S	Interpoint	
	7500	28	1 Output Reg.	MFLHP2812S †	Interpoint	45
12, –5	104, 250	3–7	+ 12 Reg, –5 Unreg	MDP51205DP	Interpoint	
12,–5	104, 250	3–7	+ 12 Reg/–5 Unreg	DIP371205DP	Interpoint	
	125,300	16–32	+ 12 Reg/–5 Unreg	DIP241205DP	Interpoint	
15	±50	28		PWR229	Burr-Brown	
	00	12	1 Output Unreg.	PWR408	Burr-Brown	50
	3W unreg	24		PWR1220	Burr-Brown	
	6	12	1 Output Reg.	PWR5910	Burr-Brown	
	7	5	1 Output Unreg.	PWR502	Burr-Brown	
	15	28		PWR129	Burr-Brown	
		48		PWR135	Burr-Brown	55
	30	5		PWS728	Burr-Brown	
			1 Output Unreg.	PWR102	Burr-Brown	
					(Continued)	
15	30				(Cont'd)	
		12	1 Output Unreg.	PWR108	Burr-Brown	
		15		PWS727	Burr-Brown	
			1 Output Unreg.	PWR114	Burr-Brown	60
		24	1 Output Unreg.	PWR120	Burr-Brown	
		28		PWR126	Burr-Brown	
		48		PWR132	Burr-Brown	
	60	15	1 Output	**PWS740**	**Burr-Brown** **(3464)**	
	66	5	1 Output Reg	PWR5903	Burr-Brown	65
		48		PWR5924	Burr-Brown	
	67	5	1 Output Unreg.	PWR1302	Burr-Brown	
				PWR302	Burr-Brown	
		12	1 OUtput Unreg.	PWR1307	Burr-Brown	
			1 Output Unreg.	PWR308	Burr-Brown	70
				PWR508	Burr-Brown	
		15	1 Output Unreg.	PWR1312	Burr-Brown	
				PWR314	Burr-Brown	
				PWR514	Burr-Brown	
		24		PWR320	Burr-Brown	75
				PWR520	Burr-Brown	
		28		PWR326	Burr-Brown	
			1 Output Unreg.	PWR526	Burr-Brown	
		48		PWR332	Burr-Brown	
			1 Output Unreg.	PWR532	Burr-Brown	80
	80	15	1 Output	**PWS725A**	**Burr-Brown** **(3464)**	
				PWS726A	**Burr-Brown** **(3464)**	
	83	48		PWR1127	Burr-Brown	
	100	5	1 Output Unreg.	PWR202	Burr-Brown	
		12	1 Output Unreg.	PWR208	Burr-Brown	85
		15	1 Output Unreg.	PWR214	Burr-Brown	
		24	1 Output Unreg.	PWR220	Burr-Brown	
		28		PWR226	Burr-Brown	
		48		PWR232	Burr-Brown	
	134	5	1 Output Reg.	PWR602	Burr-Brown	90
		12	1 Output Reg.	PWR608	Burr-Brown	
		24	1 Output Reg.	PWR620	Burr-Brown	
		28		PWR626	Burr-Brown	
		48		PWR632	Burr-Brown	
	166	5	1 Output Unreg.	PWR1103	Burr-Brown	95
		12	1 Output Unreg.	PWR1110	Burr-Brown	
		24	1 Output Unreg.	PWR1117	Burr-Brown	
		48		PWR1124	Burr-Brown	
	200	5		**UWR15/200-D5**	**Datel** **(3571)**	
			1 Output Unreg.	PWR402	Burr-Brown	100
		12	1 Output Reg	**UWR15/200-D12**	**Datel** **(3571)**	
		15	1 Output Unreg.	PWR414	Burr-Brown	
		24	1 Output Unreg.	PWR420	Burr-Brown	
		28		PWR426	Burr-Brown	
		48		PWR432	Burr-Brown	105
				UWR15/200-D48	**Datel** **(3571)**	
	330	48		UWR15/330-D48	Datel	
	333	28		MSA2815S †	Interpoint	
	334	5	1 Output Reg.	PWR702	Burr-Brown	
		12	1 Output Reg.	PWR708	Burr-Brown	110
		15	1 Output Reg.	PWR714	Burr-Brown	
		24		PWR720	Burr-Brown	
		28		PWR726	Burr-Brown	
		48		PWR732	Burr-Brown	
	530	5		**UWR15/530-D5**	**Datel** **(3571)**	115
	600	48		**UWR15/600-D48**	**Datel** **(3571)**	
	650	5	1 Output	**PWS745**	**Burr-Brown** **(3464)**	
	665	12		**UWR15/665-D12**	**Datel** **(3571)**	
	800	16–36	1 output	MHF28L15S	Interpoint	
		19–40	1 output	MHF2815S	Interpoint	120
		40		DB2815S	Apex	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Voltage Regulators

DC-DC Converters (Cont'd)

Nominal Input Voltage (Vdc)	Rated Output Current (mA)	Rated Output Voltage (Vdc)	Type	Device	Source	Line
15	800	40			(Cont'd)	
			Dual	AHF2815D	Adv Analog	
			Single	AHF2815S	Adv Analog	
	1000	5		UWR15/100-D5	Datel	
			1 Output Reg	**UWR15/1000-D5**	**Datel (3571)**	
		9–16	1 output	MHE1215S	Interpoint	5
		9–18	1 Output Reg.	PWR5302	Burr-Brown	
		10–16	1 Output	HR151-1215	Interpoint	
		16–36	1 output	MRH28L15S	Interpoint	
		16–40	1 output	MLP2815S	Interpoint	
		18–36	1 Output Reg.	PWR5305	Burr-Brown	10
		19–40	1 output	MRH2815S	Interpoint	
		36–72		PWR5308	Burr-Brown	
	1300	12		**UWR15/1300-D12**	**Datel (3571)**	
		24	1 Output Reg	UWR15/1300-D24	Datel	
		48	1 Output Reg	**UWR15/1300-D48**	**Datel (3571)**	15
	1330	16–80	1 Output	AHV2815S	Adv Analog	
		17–40	1 Output	AHE2815S	Adv Analog	
	1333	17–40	1 output	MHE2815S	Interpoint	
		18–36	1 Output	HR151-2815	Interpoint	
		28		MHD2815S †	Interpoint	20
	2000	18-36	Hi-Rel	HR301-2815	Interpoint	
		18–40	1 output	MTW2815S	Interpoint	
			1 Output	ATW2815S	Adv Analog	
		28	1 Output Reg.	MTR2815S †	Interpoint	
	4330	280		MFL12015S †	Interpoint	25
	4333	28		MFL2815S †	Interpoint	
		280		MFL27015S †	Interpoint	
	4670	19–40	1 output	MFW2815S	Interpoint	
	6700	28	1 Output Reg.	MFLHP2815S †	Interpoint	
	466	24		PWR5917	Burr-Brown	30
24	0.1	0.9–10		TK11821	Toko	
	40	5	1 Output Reg.	UPM24/40-D5	Datel	
		12	1 Output Reg.	UPM24/40-D12	Datel	
	125	12	1 Output Reg.	UPM24/125-D12	Datel	
	210	5	1 Output Reg.	UPM24/210-D5	Datel	35
		12	1 Output Reg.	UPM24/210-D12	Datel	
27		35		LSH6335	SemTech	
				LSH6355	SemTech	
				LSH6389	SemTech	
28	25	5	1 Output Reg.	UPM28/25-D5	Datel	40
		12	1 Output Reg.	UPM28/25-D12	Datel	
	100	5	1 Output Reg.	UPM28/100-D5	Datel	
		12	1 Output Reg.	UPM28/100-D12	Datel	
	107	9–15	1 output	DCH1228S	Interpoint	
	2140	280		MFL12028S †	Interpoint	45
				MFL27028S †	Interpoint	
31		40		LSH6425	SemTech	
				LSH6435	SemTech	
				LSH6455	SemTech	
				LSH6489	SemTech	50
66–76		–65	4 Outputs Reg.	**PBL3829**	**Ericsson (3608)**	

LINEAR—Power Supply Circuits

Function	Device	Source
Miscellaneous		
Microprocessor Watchdog Timer, Battery Switchover, Reset Generator	MAX691A	Maxim
	MAX693A	Maxim
	MAX791	Maxim
+5V Stepdown Current-Mode PWM Regulator	MAX730	† Maxim
+5V Stepdown Current-Mode PWN Regulator	MAX738	† Maxim
BANG-BANG Controller (turns control element fully on or off to regulate average value of current)	LTC1041C	LinearTech
	LTC1041M	† LinearTech
Battery Charger IC	L6310/U	SGS-Thomson
Battery Power Control Circuit	ML4862C	MicroLinear
Boost Regulator, Low Voltage	ML4861	ℓ MicroLinear
Buck, 3.3 and 5V Output	LTC1142C	LinearTech
	LTC1143C	LinearTech
Buck, 3.3 V Output	LTC1147C-3.3	LinearTech
Buck, 5 V Output	LTC1147C-5	LinearTech
Chopper + Chopper Parallel 2-Output Voltage Regulator	STK7563F	Sanyo
	STK7563G	Sanyo
Control Circuit (for switch-mode power supply)	GL8905	GoldStar
Controller, Fast-Charge, NiCad/NiMH Battery	MAX712	Maxim
	MAX712C	Maxim
	MAX712E	Maxim
	MAX712M	† Maxim
	MAX713	Maxim
	MAX713C	Maxim
	MAX713E	Maxim
	MAX713M	† Maxim
	MAX714C	Maxim
Current Mode Pulse Width Modulator Controller	KA3842	Samsung
Current Mode PWM Controller	LAS4030	SemTech
	LAS4031	SemTech
Current Mode PWM Controller (current mode or voltage mode control)	SG1528	† Linfinity Micro
	SG1530	† Linfinity Micro
	SG2528	Linfinity Micro
	SG2530	Linfinity Micro
	SG3528	Linfinity Micro
	SG3530	Linfinity Micro
Current Monitoring Circuit	TLE4951	Siemens
Current-Mode PWM Controller (for switching power supplies)	SG1844	† Linfinity Micro
	SG1845	† Linfinity Micro
	SG2844	Linfinity Micro
	SG2845	Linfinity Micro
	SG3844	Linfinity Micro
	SG3845	Linfinity Micro
DC/DC Converter, 12V (triple output)	ATO2812T	Adv Analog
DC to DC Converter	PWR53XX	Burr-Brown
DC to DC Converter (±12V, ±15V outputs from +5V)	PWR5105	Burr-Brown
DC-to-DC Converter (28V input to ±15V output at ±150 mA)	945	AD
DC-to-DC Converter (28V to ±12V @ ±209)	PWR728	Burr-Brown
EMI Filter and Transient Suppression Module, Universal	FM704A	Interpoint
EMI Filter Module (for dc-to-dc converters, 0.42A input)	MSF461	Interpoint
EMI Filter Module (for dc-to-dc converters, 1.75A input)	FMC461	Interpoint
	FM461	Interpoint
EMI Filter Module (for dc-to-dc converters, 3.8A input)	FMA461	Interpoint
EMI Filter Module (for dc-to-dc converters, 5A input)	FMB461	Interpoint
EMI Filter, (1.75A input current)	AF461	Adv Analog
EMI Filter, (3.8 A input current)	AFA461	Adv Analog
Error Signal Isolator (power supply monitor circuit)	TK75002	Toko
ESD and Overvoltage Protection Array	**SP720**	**Harris (3638)**
	SP721	**Harris (3638)**
Ground, Precision Virtual	TLE2425C	TI
	TLE2425I	TI
	TLE2425M	† TI
	TLE2425Y	TI
	TLE2426C	TI
	TLE2426I	TI
	TLE2426M	† TI
High Power Factor Preregulator (power factor correction circuit)	TK81854	Toko
	TK82854	Toko
	TK83854	Toko
High Speed (300kHz/6A) MOSFET Driver	**HV400**	**Harris (3638)**
High-side Power Supplies (pos. to pos.)	MAX622	NEC
High-Side Power Supply (positive to positive)	MAX622	Maxim
	MAX622C	Maxim
	MAX623	Maxim
	MAX623C	Maxim
Interface Circuit, High Voltage	D3702	GEC Plessey
	SP1404BW	GEC Plessey
Load Share Controller	UC1907	† Unitrode
	UC1907/883B	† Unitrode
	UC2907	Unitrode
	UC3907	Unitrode
Low Power Voltage Monitor (with watchdog or activity timer)	DS1232LP	Dallas
	DS1232LPS	Dallas
Low-Voltage SPM Detector	MX631	MX-COM
Low-Voltage step-up DC-DC converters 1.15 to 1.15 (pos. to pos.)	MAX654	† Maxim
	MAX655	† Maxim
Low-Voltage step-up DC-DC converters 1.15 to 3 (pos. to pos.)	MAX657	† Maxim
Low-Voltage step-up DC-DC converters 1.15 to 5 (pos. to pos.)	MAX656	† Maxim
Low-Voltage step-up DC-DC converters 2.5 to 3 (pos. to pos.)	MXA659	† Maxim
Low-Voltage step-up DC-DC converters 2.5 to 5 (pos. to pos.)	MAX658	† Maxim
Magnetic Amplifier Controller (provides control for mag. amp. regulators)	SG1559	† Linfinity Micro
	SG1560	† Linfinity Micro
	SG2559	Linfinity Micro
	SG2560	Linfinity Micro
	SG3559	Linfinity Micro
	SG3560	Linfinity Micro
Micropower Regulator with Comparator and Shutdown	LT1120C	LinearTech
Micropower Voltage Reference (10 µA turn-on current, emulates a 1.235V zener diode)	AS1004	Astec Semi
Multiple Output Power Supply Supervisory Circuit	AS1200	Astec Semi
Over/Under Current Limit Diagnostic Circuit	LM1946	National
Over/Under Voltage Detector (1.6 to 16V range)	ICL7665S	Harris
	ICL7665SAC	**Harris (3638)**
	ICL7665SAI	**Harris (3638)**
	ICL7665SC	**Harris (3638)**
	ICL7665SI	**Harris (3638)**
Over-Voltage Sensing Circuit	SG3423	Linfinity Micro
	SG3423A	Linfinity Micro
	SG3523	Linfinity Micro
	SG3523A	Linfinity Micro
Overvoltage Protector	MC3423	Motorola
	MC3523	† Motorola
	L2OV12	SemTech
	L2OV15	SemTech
	L2OV24	SemTech
	L2OV5	SemTech
	L6OV12	SemTech
	L6OV15	SemTech
	L6OV24	SemTech
	L6OV5	SemTech
Overvoltage Protector (up to 35 V, 10 A)	42092-1010	Micropac
	42092-1210	Micropac
	42092-1410	Micropac
	42092-1610	Micropac
	42092-1810	Micropac
	42092-2010	Micropac
	42092-510	Micropac
	42092-610	Micropac
	42092-710	Micropac
	42092-810	Micropac
	42092-910	Micropac
Overvoltage Protector (up to 35 V, 15 A)	42092-1015	Micropac
	42092-1215	Micropac
	42092-1415	Micropac
	42092-1615	Micropac
	42092-1815	Micropac
	42092-2015	Micropac
	42092-515	Micropac
	42092-615	Micropac
	42092-715	Micropac
	42092-815	Micropac
	42092-915	Micropac
Overvoltage Protector (up to 35 V, 20 A)	42093-0520	Micropac
	42093-0620	Micropac
	42093-0720	Micropac
	42093-0820	Micropac
	42093-0920	Micropac
	42093-1020	Micropac
	42093-1220	Micropac
	42093-1420	Micropac
	42093-1620	Micropac
	42093-1820	Micropac
	42093-2020	Micropac

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
Overvoltage Protector (up to 35 V, 25 A)			
	42093-0525	Micropac	
	42093-0625	Micropac	
	42093-0725	Micropac	
	42093-0825	Micropac	
	42093-0925	Micropac	5
	42093-1025	Micropac	
	42093-1225	Micropac	
	42093-1425	Micropac	
	42093-1625	Micropac	
	42093-1825	Micropac	10
	42093-2025	Micropac	
Overvoltage Protector (up to 35 V, 30 A)			
	42093-0530	Micropac	
	42093-0630	Micropac	
	42093-0730	Micropac	
	42093-0830	Micropac	15
	42093-0930	Micropac	
	42093-1030	Micropac	
	42093-1230	Micropac	
	42093-1430	Micropac	
	42093-1630	Micropac	20
	42093-1830	Micropac	
	42093-2030	Micropac	
Overvoltage Protector (up to 35 V, 35 A)			
	42093-0535	Micropac	
	42093-0635	Micropac	
	42093-0735	Micropac	25
	42093-0835	Micropac	
	42093-0935	Micropac	
	42093-1035	Micropac	
	42093-1235	Micropac	
	42093-1435	Micropac	30
	42093-1635	Micropac	
	42093-1835	Micropac	
	42093-2035	Micropac	
Overvoltage Protector (up to 35 V, 6 A)			
	42092-056	Micropac	
	42092-066	Micropac	35
	42092-076	Micropac	
	42092-086	Micropac	
	42092-096	Micropac	
	42092-106	Micropac	
	42092-126	Micropac	40
	42092-146	Micropac	
	42092-166	Micropac	
	42092-186	Micropac	
	42092-206	Micropac	
PC System Clock Generator			
	SC11420	Sierra	45
Peak Detector (senses and holds peak)			
	PKD01	**AD (3541)**	
	PKD01A	**† AD (3541)**	
	PKD01B	**† AD (3541)**	
	PKD01E	**AD (3541)**	
	PKD01F	**AD (3541)**	50
	AH503	OEI	
	AH504	OEI	
	5030A	OEI	
	5032A	OEI	
Phase Control Circuit			
	TCA785	Siemens	55
Phase Shift Resonant Controller			
	UC1875	† Unitrode	
	UC1875/883B	† Unitrode	
	UC2875	Unitrode	
	UC3875	Unitrode	
Power Control IC Single Chip Power Supply			
	HIP5060	**Harris (3638)**	60
	HIP5061	**Harris (3638)**	
	HIP5063	**Harris (3638)**	
Power Control IC Single Chip Dual Switching Power Supply	**HIP5062**	**Harris (3638)**	

Function	Device	Source	Line
Power Control Zero Voltage Switch			
	SL445A	GEC Plessey	
Power Factor Controller			
	SG3561	Linfinity Micro	65
	ML4812C	MicroLinear	
	ML4812I	MicroLinear	
	ML4812M	† MicroLinear	
	ML4821C	MicroLinear	
	TLE4815	Siemens	70
	TLE4817	Siemens	
	TLE4818	Siemens	
	TLE4819	Siemens	
	TK84812	Toko	
Power Factor Controller, Flyback			
	ML4813C	MicroLinear	75
Power Factor Controller/Pulse Width Modulator Circuit			
	TK84819	Toko	
Power Factor Preregulator			
	UC1852	† Unitrode	
	UC1852/883B	† Unitrode	
	UC1854	† Unitrode	
	UC1854/883B	† Unitrode	80
	UC2852	Unitrode	
	UC2854	Unitrode	
	UC3852	Unitrode	
	UC3854	Unitrode	
Power Failure Detector and Reset Generator (trips at 4.75V)	PCF1252-0	Philips	85
	PCF1252-1	Philips	
	PCF1252-2	Philips	
	PCF1252-3	Philips	
	PCF1252-4	Philips	
	PCF1252-5	Philips	90
	PCF1252-6	Philips	
	PCF1252-7	Philips	
	PCF1252-8	Philips	
	PCF1252-9	Philips	
Power Fault Monitor, Quad (monitors 4 DC voltages and the AC line)	SG1548	† Linfinity Micro	95
	SG2548	Linfinity Micro	
	SG3548	Linfinity Micro	
Power Oscillator, Programmable, 3A			
	TC96C555	TeledyneC	
Power Supply Circuit			
	TWR-5/1000-12/125-D5	**Datel (3571)**	
	TWR-5/1000-12/210-D12	**Datel (3571)**	100
	TWR-5/1000-15/200-D12	**Datel (3571)**	
	TWR-5/1000-15/250-D48	**Datel (3571)**	
	TWR-5/1200-12/250-D48	**Datel (3571)**	
	TWR-5/1500-12/250-D48	**Datel (3571)**	
	TWR-5/1500-15/250-D48	**Datel (3571)**	105
	TWR-5/1800-12/200-D48	**Datel (3571)**	
	TWR-5/1800-15/150-D48	**Datel (3571)**	
	TWR-5/800-15/150-D5	**Datel (3571)**	
Power Supply Control (voltage reference, over and under voltage sensing)			
	XR1543	Exar	
	XR2543	Exar	110
	XR3543	Exar	
	SG1543	† Linfinity Micro	
	SG1544	† Linfinity Micro	
	SG2543	Linfinity Micro	
	SG2544	Linfinity Micro	115
	SG3543	Linfinity Micro	
	SG3544	Linfinity Micro	
	UC1543	† Unitrode	
	UC1543/883B	† Unitrode	
	UC1544	† Unitrode	120
	UC1544/883B	† Unitrode	
	UC1901	† Unitrode	
	UC1901/883B	† Unitrode	
	UC1903	† Unitrode	
	UC2543	Unitrode	125
	UC2544	Unitrode	
	UC2901	Unitrode	
	UC2903	Unitrode	

(Continued)

Function	Device	Source	Line
Power Supply Control (voltage reference, over and under voltage sensing) (Cont'd)			
	UC3543	Unitrode	
	UC3544	Unitrode	130
	UC3901	Unitrode	
	UC3903	Unitrode	
Power Supply Control (voltage reference, quad over and under voltage sensing)			
	ULN8131A	Allegro Micro	
Power Supply Controller, Quasi Resonant, ZVS Controller	GP6140	Gennum	
Power Supply Controller (resonant mode)			
	CS3805	Cherry Semi	135
	GP605	Gennum	
Power Supply Controller, Resonant Mode (active high driver output)	GP6041	Gennum	
Power Supply Controller, Resonant Mode (active low driver output)	GP6040	Gennum	
Power Supply Controller (voltage reference, pulse generator and timing circuitry, error amp)			
	TL496C	TI	
Power Supply (isolated switch mode) Circuit, Secondary Control	AS4301	Astec Semi	140
Power Supply, Linear Regulator, High Efficiency			
	UC1834	† Unitrode	
	UC1834/883B	† Unitrode	
	UC2834	Unitrode	
	UC3834	Unitrode	
Power Supply Management, Regulators (2x5/5.2/3.2V), Detectors, Warning Circuits			
	S8440AF	Seiko Instr	145
Power Supply Monitor			
	MB3771	Fujitsu	
Power Supply Monitor and Watchdog Timer			
	CS1232-C	Crystal	
	CS1232-I	Crystal	
Power Supply Monitor (w/timer)			
	MB3773	Fujitsu	
Power Supply Monitoring IC (monitors independent voltages)	TDA4917A	Siemens	150
Power Supply Supervisory Circuit			
	TL7702A	TI	
	TL7705A	TI	
	TL7709A	TI	
	TL7712A	TI	
	TL7715A	TI	155
Power Supply Supervisory Circuit, Over-Voltage Monitor			
	MC3423	TI	
Power Supply Supervisory Input Comparator			
	LAS4810	SemTech	
	LAS4820	SemTech	
Power Supply Supervisory/Over-Under Voltage Protection Circuit			
	MC3425	Motorola	
Power Switch, Low-Side, Double 4 A			
	TLE5224	Siemens	160
Power Switch, Low-Side, Sixfold			
	TLE4216	**Siemens (3772)**	
	TLE4226	Siemens	
Power Switch with Transient Suppression, Protected			
	SP710	Harris	
Power Switch, Dual, 1.5 A Open Drain			
	MIC4604A	† Micrel	
	MIC4604B	Micrel	165
	MIC4605A	† Micrel	
	MIC4605B	Micrel	
Power Switch, 3 A, Dual Open Drain			
	MIC4606A	† Micrel	
	MIC4606B	Micrel	
	MIC4607A	† Micrel	170
	MIC4607B	Micrel	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
Power Switch, 9 A, Open Drain			
	MIC4608A	† Micrel	
	MIC4608B	Micrel	
	MIC4609A	† Micrel	
	MIC4609B	Micrel	
Power Switch, 12 A, Open Drain			
	MIC4610A	† Micrel	5
	MIC4610B	Micrel	
	MIC4611A	† Micrel	
	MIC4611B	Micrel	
Power Switching Matrix (for PCMCIA cards)			
	MIC2558	**Micrel (3684)**	
	MIC2560	**Micrel (3684)**	10
Power Switching Matrix (for PCMCIA cards), Dual			
	MIC2557	**Micrel (3684)**	
Power System Controller (for cordless/cellular telephones)	TK10469	Toko	
Power-On Reset and Watchdog Controllers (for Computers, Controllers, Automotive)			
	MAX698C	Maxim	
	MAX699C	Maxim	
Precision Adjustable Shunt Reference (with trimmed bandgap reference)			
	AS2431	Astec Semi	15
Precision Low Dropout Linear Controller			
	UC1832	† Unitrode	
	UC1833	† Unitrode	
	UC2832	Unitrode	
	UC2833	Unitrode	
	UC3832	Unitrode	20
	UC3833	Unitrode	
Precision Voltage Reference			
	MPREF01A	MicroPwr	
	MPREF01C	MicroPwr	
	MPREF01D	MicroPwr	
	MPREF01E	MicroPwr	25
	MPREF01H	MicroPwr	
	MPREF01J	MicroPwr	
	MPREF01Z	MicroPwr	
	MPREF02A	MicroPwr	
	MPREF02C	MicroPwr	30
	MPREF02D	MicroPwr	
	MPREF02E	MicroPwr	
Precision Voltage Reference, 1.2V			
	MP5010G	MicroPwr	
	MP5010H	MicroPwr	
	MP5010J	† MicroPwr	35
	MP5010K	† MicroPwr	
	MP5010L	† MicroPwr	
	MP5010M	MicroPwr	
	MP5010N	MicroPwr	
Primary Side Controller			
	TK75001	Toko	40
	TK75003	Toko	
Programmable, Off-Line, PWM Controller			
	UC1851	† Unitrode	
	UC2851	Unitrode	
Pulse Width Modualtor (PWM) Control Circuit with On-Chip 5 Volt Precision Reference			
	TL594I	Motorola	
Pulse Width Modulator			
	SLE4520	Siemens	45
Pulse Width Modulator Control Circuit			
	CS593C	Cherry Semi	
	CS594C	Cherry Semi	
	CS595C	Cherry Semi	
	IR3M01	Sharp	
	TL598C	TI	50
	TL598M	† TI	
	TL598Q	TI	

Function	Device	Source	Line
Pulse Width Modulator Control Circuit (current mode)			
	CS2844	Cherry Semi	
	CS2845	Cherry Semi	
	CS3844	Cherry Semi	55
	CS3845	Cherry Semi	
Pulse Width Modulator Controller			
	SG2525A	Linfinity Micro	
	SG2527A	Linfinity Micro	
	SG3525A	Linfinity Micro	
	SG3527A	Linfinity Micro	60
	LM494C	National	
	LM494I	National	
	µPC494	† NEC	
	LAS3840	SemTech	
	UC1840	SGS-Thomson	65
	UC2840	SGS-Thomson	
	UC3840	SGS-Thomson	
	UC3843	SGS-Thomson	
	UC3844	SGS-Thomson	
	TC176	TeledyneC	70
	TC177	TeledyneC	
Pulse Width Modulator Controller, Current Fed			
	MIC3830A	**† Micrel (3685)**	
	MIC3830B	**Micrel (3685)**	
	MIC3831A	**† Micrel (3685)**	
	MIC3831B	**Micrel (3685)**	75
	MIC3832A	**† Micrel (3685)**	
	MIC3832B	**Micrel (3685)**	
	MIC3833A	**† Micrel (3685)**	
	MIC3833B	**Micrel (3685)**	
Pulse Width Modulator Controller, Current Mode			
	TC172	TeledyneC	80
	TC173	TeledyneC	
Pulse Width Modulator Controller, Programmable, Off-Line	SG1840	† Linfinity Micro	
	SG2840	Linfinity Micro	
	SG3840	Linfinity Micro	
	UC1840	Unitrode	85
	UC2840	Unitrode	
	UC3840	Unitrode	
Pulse Width Modulator Controller, Dual			
	µPC1100	NEC	
	µPC1150	NEC	
Pulse Width Modulator, Current Mode			
	UC3842	Astec Semi	90
	UC3843	Astec Semi	
	UC3844	Astec Semi	
	UC3845	Astec Semi	
	SG1825	† Linfinity Micro	
	SG2825	Linfinity Micro	95
	SG3825	Linfinity Micro	
	TC18C42	TeledyneC	
	TC18C43	TeledyneC	
	TC18C44	TeledyneC	
	TC18C45	TeledyneC	100
	TC18C46	TeledyneC	
	TC18C47	TeledyneC	
	TC28C42	TeledyneC	
	TC28C43	TeledyneC	
	TC28C44	TeledyneC	105
	TC28C45	TeledyneC	
	TC28C46	TeledyneC	
	TC28C47	TeledyneC	
	TC38C42	TeledyneC	
	TC38C43	TeledyneC	110
	TC38C44	TeledyneC	
	TC38C45	TeledyneC	
	TC38C46	TeledyneC	
	TC38C47	TeledyneC	
	UC3842	Unitrode	115
	UC3843	Unitrode	
	UC3844	Unitrode	
	UC3845	Unitrode	
Pulse Width Modulator, Digitally Programmable			
	AD9560	**AD (3541)**	

Function	Device	Source	Line
Pulse Width Modulator, Double-Ended			
	TC15C25	TeledyneC	120
	TC15C27	TeledyneC	
	TC25C25	TeledyneC	
	TC25C27	TeledyneC	
	TC35C25	† TeledyneC	
	TC35C27	† TeledyneC	125
Pulse Width Modulator, Double-Ended, Totem Pole Outputs	MC33025	Motorola	
	MC34025	Motorola	
Pulse Width Modulator, Primary Side			
	XRT469	Exar	
	UC3842A	Unitrode	
	UC3843A	Unitrode	130
	UC3844A	Unitrode	
	UC3845A	Unitrode	
Pulse Width Modulator, Programmable Off-Line			
	UC3851	Unitrode	
Pulse Width Modulator (PWM) Control Circuit with On-Chip 5 Volt Precision Reference			
	MC33060A	Motorola	
	MC34060A	Motorola	135
	MC35060A	† Motorola	
	TL594C	Motorola	
	TL594M	† Motorola	
Pulse Width Modulator, Regulating			
	SG1526B	† Linfinity Micro	
	SG2526B	Linfinity Micro	140
	SG3526B	Linfinity Micro	
	UC1526A	Unitrode	
	UC2526A	Unitrode	
	UC3526A	Unitrode	
Pulse Width Modulator, Single Uncommitted			
	TL496	TI	145
	TL497A	TI	
Pulse Width Modulator, Single-Ended			
	ML4823C	MicroLinear	
	ML4823I	MicroLinear	
	ML4823M	† MicroLinear	
	LAS4082	SemTech	150
	LAS4182	SemTech	
	UC1823	† Unitrode	
	UC1823/883B	† Unitrode	
	UC2823	Unitrode	
	UC3823	Unitrode	155
Pulse Width Modulator, Single-Ended/Push-Pull			
	CS3524	Cherry Semi	
	CS3524A	Cherry Semi	
	XR2524	Exar	
	XR3524	Exar	
	MB3759	Fujitsu	160
	ZN1066E	GEC Plessey	
	ZN1066J	GEC Plessey	
	CA1524	Harris	
	CA2524	Harris	
	CA3524	Harris	165
	LT1524	LinearTech	
	LT1526	† LinearTech	
	LT3524	LinearTech	
	SG1524	LinearTech	
	SG3524	LinearTech	170
	SG1524	† Linfinity Micro	
	SG1526	† Linfinity Micro	
	SG2524	Linfinity Micro	
	SG2526	Linfinity Micro	
	SG3524	Linfinity Micro	175
	SG3526	Linfinity Micro	
	SG1526	Motorola	
	SG2526	Motorola	
	SG3526	Motorola	
	NJM3524	NJR	180
	SG1524	† SGS-Thomson	
	SG2524	SGS-Thomson	
	SG3524	SGS-Thomson	
	TEA2018A	SGS-Thomson	
	TEA2019	SGS-Thomson	185
	IR3M02	Sharp	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
Pulse Width Modulator, Single-Ended/Push-Pull (Cont'd)			
	IR3M02A	Sharp	
	IR9494	Sharp	
	UC1524A	Unitrode	
	UC2524A	Unitrode	
	UC3524A	Unitrode	5
Pulse Width Modulator, Single-Ended, Totem Pole Outputs	MC33023	Motorola	
	MC34023	Motorola	
Pulse Width Modulator, 200 mA			
	LM1524	† National	
	LM2524	National	
	LM3524	National	10
Pulse-Width Modulator Control System (for switching regulators, motor-speed controllers)			
	XR2230	Exar	
Pulse-Width Modulator, Single Uncommitted			
	MC34060	Motorola	
	MC35060	† Motorola	
	LT1070	TI	
	MC34060	TI	15
Pulse-Width Modulator, Dual Uncommitted			
	GL494	GoldStar	
	LT1525A	† LinearTech	
	LT1527A	† LinearTech	
	LT3525A	LinearTech	
	SG1525A	† LinearTech	20
	SG1527A	† LinearTech	
	SG3525A	LinearTech	
	SG3527A	LinearTech	
	SG1524B	† Linfinity Micro	
	SG1525A	† Linfinity Micro	25
	SG1527A	Linfinity Micro	
	SG2524B	Linfinity Micro	
	SG3524B	Linfinity Micro	
	SG1525A	Motorola	
	SG1527A	Motorola	30
	SG2525A	Motorola	
	SG2527A	Motorola	
	SG3525A	Motorola	
	SG3527A	Motorola	
	LM1525A	† National	35
	LM1527A	† National	
	LM3525A	National	
	LM3527A	National	
	LAS3800	SemTech	
	SG1525A	† SGS-Thomson	40
	SG1527A	† SGS-Thomson	
	SG2525A	SGS-Thomson	
	SG2527A	SGS-Thomson	
	SG3525A	SGS-Thomson	
	SG3527A	SGS-Thomson	45
	SG2524	TI	
	SG3525A	TI	
	SG3527A	TI	
	TL493	TI	
	TL493C	TI	50
	TL494	TI	
	TL494C	TI	
	TL494I	TI	
	TL494M	† TI	
	TL495	TI	55
	TL495C	TI	
	TL594C	TI	
	TL594I	TI	
	TL595	TI	
	TL595C	TI	60
	UC3846	TI	
	UC3847	TI	
	UC494A	Unitrode	
	UC494AC	Unitrode	
	UC495A	Unitrode	65
	UC495AC	Unitrode	

Function	Device	Source	Line
PWM Control Circuit, High-Speed			
	MB3769	Fujitsu	
PWM Control Circuit, Dual			
	MB3775	Fujitsu	
PWM Controller, Current Mode			
	AS2842	Astec Semi	
	AS2843	Astec Semi	70
	AS2844	Astec Semi	
	AS2845	Astec Semi	
	UC2842	Astec Semi	
	UC2843	Astec Semi	
	UC2844	Astec Semi	75
	UC2845	Astec Semi	
	CS2842A	Cherry Semi	
	CS2843A	Cherry Semi	
	CS3842A	Cherry Semi	
	CS3843A	Cherry Semi	80
	GL3842	GoldStar	
	GL3843	GoldStar	
	GL3844	GoldStar	
	GL3845	GoldStar	
	MC33129	Motorola	85
	MC34129	Motorola	
	UC2842A	Motorola	
	UC2843A	Motorola	
	UC3842A	Motorola	
	UC3843A	Motorola	90
	UC3842	Philips	
	UC2842	TI	
	UC2843	TI	
	UC2844	TI	
	UC2845	TI	95
	UC1842	Unitrode	
	UC1842A	† Unitrode	
	UC1842A/883B	† Unitrode	
	UC1843	Unitrode	
	UC1843A	† Unitrode	100
	UC1843A/883B	† Unitrode	
	UC1844	Unitrode	
	UC1844A	† Unitrode	
	UC1844A/883B	† Unitrode	
	UC1845	Unitrode	105
	UC1845A	† Unitrode	
	UC1845A/883B	† Unitrode	
	UC1856	† Unitrode	
	UC1856/883B	† Unitrode	
	UC2842	Unitrode	110
	UC2842A	Unitrode	
	UC2843	Unitrode	
	UC2843A	Unitrode	
	UC2844	Unitrode	
	UC2844A	Unitrode	115
	UC2845	Unitrode	
	UC2845A	Unitrode	
	UC2856	Unitrode	
	UC3856	Unitrode	
PWM Controller, Current-Voltage Mode			
	ML1825M	† MicroLinear	120
	ML4809C	MicroLinear	
	ML4809I	MicroLinear	
	ML4809M	† MicroLinear	
	ML4810C	MicroLinear	
	ML4811C	MicroLinear	125
	ML4811I	MicroLinear	
	ML4811M	† MicroLinear	
	ML4825C	MicroLinear	
	ML4825I	MicroLinear	
	UC1825A	† Unitrode	130
	UC1825A/883B	† Unitrode	
	UC1825B	† Unitrode	
	UC1825B/883B	† Unitrode	
	UC2825A	Unitrode	
	UC2825B	Unitrode	135
	UC3825A	Unitrode	
	UC3825B	Unitrode	
PWM Controller, High Speed, Single-Ended			
	UC1823A	† Unitrode	
	UC1823A/883B	† Unitrode	
		(Continued)	

Function	Device	Source		Line
PWM Controller, High Speed, Single-Ended (Cont'd)				
	UC1823B	† Unitrode		140
	UC1823B/883B	† Unitrode		
	UC2823A	Unitrode		
	UC2823B	Unitrode		
	UC3823A	Unitrode		
	UC3823B	Unitrode		145
PWM Controller IC, Isolated, 120/220VAC Input, DC Output	PWR-SMP520	Power Integ		
PWM Controller, Programmable, Off Line				
	UC1841	† Unitrode		
	UC2841	Unitrode		
	UC3841	Unitrode		
PWM Power Supply IC, Isolated, 120VAC Input, 10W Regulated DC Output				
	PWR-SMP110	Power Integ		150
PWM Power Supply IC, Isolated, 120VAC Input, 20W Regulated DC Output				
	PWR-SMP120	Power Integ		
PWM Power Supply IC, Isolated, 30–100VDC Input, 5W Regulated DC Output				
	PWR-SMP400	Power Integ		
PWM Power Supply IC (120 Vac input, isolated and regulated DC output)				
	PWR-SMP3	Power Integ		
Reference and Op-Amp, 1.2 V–6.3 V				
	TDC4611	† TRWLSI		
Reference Voltage, –2.5 V				
	VRE111C	Thaler		155
	VRE111M	† Thaler		
Reference Voltage, –10 V				
	HS2701	Sipex		
	VRE121C	Thaler		
	VRE121M	† Thaler		
Reference Voltage, –10 V/10.24 V				
	REF08	AD		160
Reference Voltage, –10V				
	REF08A	† AD		
	REF08G	AD		
	REF08H	AD		
	VRE101C	Thaler		
	VRE101M	† Thaler		165
Reference Voltage, ± 2.5 V				
	VRE112C	Thaler		
	VRE112M	† Thaler		
Reference Voltage, ± 5 V				
	LT1029AC	LinearTech		
	LT1029AM	† LinearTech		
	LT1029C	LinearTech		170
	LT1029M	† LinearTech		
	VRE107C	Thaler		
	VRE107M	† Thaler		
	VRE127C	Thaler		
	VRE127M	† Thaler		175
Reference Voltage, ± 5 V, 5 V and 10 V, –5 V and –10 V or 5 V, –5 V, 10 V, –10 V (dual/single), Pin Programmable				
	AD588A	**AD**	**(3536)**	
	AD588B	**AD**	**(3536)**	
	AD588C	**AD**	**(3536)**	
	AD588J	**AD**	**(3536)**	
	AD588K	**AD**	**(3536)**	180
	AD588S	**† AD**	**(3536)**	
	AD588T	**† AD**	**(3536)**	
Reference Voltage, ± 10 V				
	AD2702J	**AD**	**(3536)**	
	AD2702L	**AD**	**(3536)**	
	AD2702S	**† AD**	**(3536)**	185
	AD2702U	**AD**	**(3536)**	
	AD2712K	**AD**	**(3536)**	
	AD2712L	**AD**	**(3536)**	
	AD688	**AD**	**(3536)**	
	AD688/883B	**† AD**	**(3536)**	190
	AD688S	**AD**	**(3536)**	
			(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Reference Voltage, ± 10 V (Cont'd)			
	52101	† Micropac	
	VRE102C	Thaler	
	VRE102M	† Thaler	
	VRE122C	Thaler	
	VRE122M	† Thaler	5
	VRE130M	† Thaler	
	VRE212C	Thaler	
	VRE212M	† Thaler	
Reference Voltage, ± 15 V			
	VRE135M	† Thaler	
Reference Voltage, Adjustable to 36 V			
	KA431	Samsung	10
Reference Voltage (high temperature)			
	VRE120	Thaler	
Reference Voltage, Programmable			
	LT1431C	LinearTech	
	LT1431I	LinearTech	
	LT1431M	† LinearTech	
	TL1431C	TI	15
	TL1431Q	TI	
	TL1431Y	TI	
	TL430	TI	
	TL431	TI	
	TL431AC	TI	20
	TL431AI	TI	
	TL431C	TI	
	TL431I	TI	
	TL431M	† TI	
Reference Voltage, 1.2 V			
	SR12D	GEC Plessey	25
	LM4041AI-1.2	National	
	LM4041BI-1.2	National	
	LM4041CI-1.2	National	
	LM4041DI-1.2	National	
	LM4041EI-1.2	National	30
	LM1004C-1.2	TI	
	LM1004M-1.2	† TI	
Reference Voltage, 1.2V			
	REF1004C-1.2	**Burr-Brown** (3467)	
	REF1004I-1.2	**Burr-Brown** (3467)	
Reference Voltage 1.220 V (two terminal active circuit)			
	MP5010	† MicroPwr	35
	LM113	† National	
	LM113-1	† National	
	LM113-2	National	
	LM313	National	
	MP5010	TeledyneC	40
Reference Voltage, 1.23			
	LM385-1.2	TI	
Reference Voltage, 1.23 V			
	AD589J	**AD** (3536)	
	AD589K	**AD** (3536)	
	AD589L	**AD** (3536)	
	AD589M	**AD** (3536)	45
	AD589S	† **AD** (3536)	
	AD589T	† **AD** (3536)	
	AD589U	† **AD** (3536)	
	ICL8069	Harris	
	ICL8069CC	Harris	50
	ICL8069CM	† Harris	
	ICL8069DC	Harris	
	ICL8069DM	† Harris	
	ICL8069	Maxim	
	ICL8069A	Maxim	55
	ICL8069B	Maxim	
	ICL8069D	Maxim	
	ICL8069M	† Maxim	
	LM185-1	† National	
	LM285-1	National	60
	LM385-1	National	
	LM185-1.2	TI	

(Continued)

Function	Device	Source	Line
Reference Voltage, 1.23 V (Cont'd)			
	LM285-1.2	TI	
	LM385B-1.2	TI	
Reference Voltage 1.235 V (two terminal active circuit)			
	LT1004C	LinearTech	65
	LT1004M	† LinearTech	
	LM285-1	Motorola	
	LM385-1	Motorola	
	LM185	† National	
	LM285	National	70
	LM385	National	
Reference Voltage, 1.25 V			
	TC04	TeledyneC	
Reference Voltage, 1.26 V (two terminal active circuit)			
	ZN423	GEC Plessey	
Reference Voltage 1.8 to 5.6 (two terminal active circuit)	TL103	TLSI	
Reference Voltage 1.8 to 5.6 V (two terminal active circuit)	LM103	‡ National	75
Reference Voltage, 1.8 V			
	SG303-1.8	Linfinity Micro	
Reference Voltage, 1.8V			
	SG103-1.8	Linfinity Micro	
Reference Voltage, 2 V			
	SG103-2.0	† Linfinity Micro	
	SG303-2.0	Linfinity Micro	
Reference Voltage, 2.2 V			
	SG103-2.2	† Linfinity Micro	80
Reference Voltage, 2.2V			
	SG303-2.2	Linfinity Micro	
Reference Voltage, 2.4 V			
	SG103-2.4	† Linfinity Micro	
	SG303-2.4	Linfinity Micro	
Reference Voltage, 2.45 V (two terminal active circuit)			
	ZN404	GEC Plessey	
	ZN458	GEC Plessey	85
	ZN458A	GEC Plessey	
	ZN458B	GEC Plessey	
Reference Voltage, 2.5			
	LM285-2	Motorola	
Reference Voltage, 2.5 V			
	ALD1603	AdvLinear	
	ALD1603A	AdvLinear	90
	ALD1603B	AdvLinear	
	AD1403	AD	
	AD1403A	AD	
	AD580J	AD	
	AD580K	AD	95
	AD580L	AD	
	AD580S	† AD	
	AD580T	† AD	
	AD580U	† AD	
	AD680	**AD** (3536)	100
	AD680J	**AD** (3536)	
	REF03	**AD** (3536)	
	REF03G	**AD** (3536)	
	REF43	**AD** (3536)	
	REF43B	† **AD** (3536)	105
	REF43F	**AD** (3536)	
	REF43G	**AD** (3536)	
	SR25D	GEC Plessey	
	SG1503	† Linfinity Micro	
	SG2503	Linfinity Micro	110
	SG3503	Linfinity Micro	
	MX580J	Maxim	
	MX580K	Maxim	
	MX580L	Maxim	
	MX580M	Maxim	115
	MX580S	† Maxim	
	MX580T	† Maxim	
	MX580U	† Maxim	
	LM385-2	Motorola	
	MC1403	Motorola	120
	MC1403A	Motorola	
	MC1503	† Motorola	

(Continued)

Function	Device	Source	Line
Reference Voltage, 2.5 V (Cont'd)			
	MC1503A	† Motorola	
	LM136-2	† National	
	LM136A-2	† National	125
	LM185-2	† National	
	LM236-2	National	
	LM236A-2	National	
	LM285-2	National	
	LM336-2	National	130
	LM368-2	National	
	LM385-2	National	
	TDB0136	SGS-Thomson	
	TDC0136	† SGS-Thomson	
	TC05	TeledyneC	135
	LM1004C-2.5	TI	
	LM1004M-2.5	† TI	
	LM136-25	† TI	
	LM185-2.5	TI	
	LM236-2.5	TI	140
	LM285-2.5	TI	
	LM336-2.5	TI	
	LM385-2.5	TI	
	LM385B-2.5	TI	
	LT1009	TI	145
	LT1009C	TI	
	LT1009I	TI	
	LT1009M	TI	
	VRE110C	Thaler	
	VRE110M	† Thaler	150
Reference Voltage, 2.5 V (trimmable output)			
	ZNREF025	GEC Plessey	
Reference Voltage, 2.5 V (1% tolerance)			
	REF25Z	GEC Plessey	
Reference Voltage, 2.5 (1% Tolerence)			
	REF25	GEC Plessey	
Reference Voltage, 2.5, 5, 7.5, and 10 V			
	AD584J	**AD** (3536)	
	AD584K	**AD** (3536)	155
	AD584L	**AD** (3536)	
	AD584S	† **AD** (3536)	
	AD584T	† **AD** (3536)	
	AD584U	† **AD** (3536)	
	MX584	Maxim	160
	MX584J	Maxim	
	MX584K	Maxim	
	MX584L	Maxim	
	MX584S	† Maxim	
	MX584T	† Maxim	165
	MX584U	† Maxim	
Reference Voltage, 2.5V			
	REF1004C-2.5	**Burr-Brown** (3467)	
	REF1004I-2.5	**Burr-Brown** (3467)	
	REF03	Calogic	
	LM136-2.5	LinearTech	170
	MAX872C	Maxim	
	MAX872E	Maxim	
	MAX873	Maxim	
	MAX873AC	Maxim	
	MAX873AE	Maxim	175
	MAX873AM	† Maxim	
	MAX873BC	Maxim	
	MAX873BE	Maxim	
	MAX873BM	† Maxim	
	LM4040AI-2.5	National	180
	LM4040BI-2.5	National	
	LM4040CI-2.5	National	
	LM4040DI-2.5	National	
	LM9140-2.5	National	
	VRE202C	Thaler	185
	VRE202M	† Thaler	
Reference Voltage, 2.7 V			
	SG103-2.7	† Linfinity Micro	
	SG303-2.7	Linfinity Micro	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Reference Voltage, 3 V			
	CS3903-K	Crystal	
	CS3903-T	† Crystal	
Reference Voltage, 3.0 V			
	SG103-3.0	† Linfinity Micro	
	SG303-3.0	Linfinity Micro	
Reference Voltage, 3.3 V			
	SG103-3.3	Linfinity Micro	5
	SG303-3.3	Linfinity Micro	
Reference Voltage, 3.6 V			
	SG103-3.6	† Linfinity Micro	
	SG303-3.6	Linfinity Micro	
Reference Voltage, 3.9 V			
	SG103-3.9	† Linfinity Micro	
	SG303-3.9	Linfinity Micro	10
Reference Voltage, 4 to 6 V Adjustable			
	KA336	Samsung	
Reference Voltage, 4 V (trimmable output)			
	ZNREF040	GEC Plessey	
Reference Voltage, 4.096			
	LM9140-4	National	
Reference Voltage, 4.096V			
	MAX874	Maxim	
Reference Voltage, 4.1 V			
	LM4040AI-4.1	National	15
	LM4040BI-4.1	National	
	LM4040CI-4.1	National	
	LM4040DI-4.1	National	
Reference Voltage, 4.3 V			
	SG103-4.3	† Linfinity Micro	
	SG303-4.3	Linfinity Micro	20
Reference Voltage, 4.5 V			
	CS3902-A	Crystal	
	CS3902-B	ℓ Crystal	
	CS3902-S	† Crystal	
	CS3902-T	† Crystal	
	VRE104C	Thaler	25
	VRE104M	† Thaler	
	VRE204C	Thaler	
	VRE204M	† Thaler	
Reference Voltage, 4.7 V			
	SG103-4.7	† Linfinity Micro	
	SG303-4.7	Linfinity Micro	30
Reference Voltage, 5 V			
	AD586G	**AD (3536)**	
	AD586J	**AD (3536)**	
	AD586K	**AD (3536)**	
	AD586L	**AD (3536)**	
	AD586M	**AD (3536)**	35
	AD586S	**AD (3536)**	
	AD586T	**AD (3536)**	
	REF02	‡ AD	
	REF02A	‡ AD	
	REF02C	‡ AD	40
	REF02D	AD	
	REF02E	AD	
	REF02H	AD	
	REF05	AD	
	REF05A	AD	45
	REF05B	† AD	
	REF02G	**Burr-Brown (3467)**	
	REF02M	**† Burr-Brown (3467)**	
	REF02P	**Burr-Brown (3467)**	
	REF02U	**Burr-Brown (3467)**	50
	REF05M	**† Burr-Brown (3467)**	
	REF02	Calogic	
	CAT507	Catalyst Semi	
	CAT507I	Catalyst Semi	
		(Continued)	
Reference Voltage, 5 V (Cont'd)			
	LT1027BC	LinearTech	55
	LT1027CC	LinearTech	
	LT1027DC	LinearTech	
	LT1027EC	LinearTech	
	REF02	† LinearTech	
	REF02A	† LinearTech	60
	REF02C	LinearTech	
	REF02D	LinearTech	
	REF02E	LinearTech	
	REF02H	LinearTech	
	MAX673	Maxim	65
	MAX673M	† Maxim	
	MAX675C	Maxim	
	MAX675M	† Maxim	
	MAX875AC	Maxim	
	MAX875AE	Maxim	70
	MAX875AM	† Maxim	
	MAX875BC	Maxim	
	MAX875BE	Maxim	
	MAX875BM	† Maxim	
	REF02	Maxim	75
	REF02A	Maxim	
	REF02C	Maxim	
	REF02D	Maxim	
	REF02E	Maxim	
	REF02H	Maxim	80
	LM136-5	† National	
	LM136A-5	† National	
	LM168-5	† National	
	LM236-5	National	
	LM236A-5	National	85
	LM268-5	National	
	LM336-5	National	
	LM336B-5	National	
	LM368-5	National	
	LM4040AI-5	National	90
	LM4040BI-5	National	
	LM4040CI-5	National	
	LM4040DI-5	National	
	LM9140-5	National	
	REF02	Raytheon	95
	REF02A	Raytheon	
	REF02C	Raytheon	
	REF02D	Raytheon	
	REF02E	Raytheon	
	REF02H	Raytheon	100
	VRE105C	Thaler	
	VRE105M	† Thaler	
	VRE125C	Thaler	
	VRE125M	† Thaler	
	VRE205C	Thaler	105
	VRE205M	† Thaler	
Reference Voltage, 5 V (trimmable output)			
	ZNREF050	GEC Plessey	
Reference Voltage, 5 V (1% tolerance)			
	REF50Z	GEC Plessey	
Reference Voltage, 5 V (1% tolerence)			
	REF50	GEC Plessey	
Reference Voltage, 5.1 V			
	SG103-5.1	† Linfinity Micro	110
	SG303-5.1	Linfinity Micro	
Reference Voltage, 5.6 V			
	SG103-5.6	† Linfinity Micro	
	SG303-5.6	Linfinity Micro	
Reference Voltage, 6.2 V			
	LM168-6	† National	
	LM268-6	National	115
	LM368-6	National	
Reference Voltage, 6.2 V (trimmable output)			
	ZNREF062	GEC Plessey	
Reference Voltage, 6.9 V Temperature Stabilized			
	LM199A	† LinearTech	
	LM399A	LinearTech	
	LM129	† National	
	LM199	† National	120
		(Continued)	
Reference Voltage, 6.9 V Temperature Stabilized (Cont'd)			
	LM199A	† National	
	LM299	National	
	LM299A	National	
	LM329	National	125
	LM399	National	
	LM399A	National	
	LM3999	National	
Reference Voltage, 6.95 V			
	LM199	† LinearTech	
	LM399	LinearTech	130
Reference Voltage, 8.192 V			
	AD689	AD	
	LM4040AI-8.2	National	
	LM4040BI-8.2	National	
	LM4040CI-8.2	National	
	LM4040DI-8.2	National	135
Reference Voltage, 10 V			
	AD587	**AD (3536)**	
	AD587J	**AD (3536)**	
	AD587K	**AD (3536)**	
	AD587L	**AD (3536)**	
	AD587S	**AD (3536)**	140
	AD587T	**AD (3536)**	
	AD587U	**AD (3536)**	
	REF10	AD	
	REF01	Burr-Brown	
	REF01A	Burr-Brown	145
	REF01B	Burr-Brown	
	REF01C	Burr-Brown	
	REF01G	**Burr-Brown (3467)**	
	REF01M	**† Burr-Brown (3467)**	
	REF01P	Burr-Brown	150
	REF01R	† Burr-Brown	
	REF01S	† Burr-Brown	
	REF01U	**Burr-Brown (3467)**	
	REF10M	**† Burr-Brown (3467)**	
	REF102	**Burr-Brown (3467)**	155
	CAT2700	Catalyst Semi	
	CAT2700I	Catalyst Semi	
	CAT2701	Catalyst Semi	
	CAT2701I	Catalyst Semi	
	MAX670C	Maxim	160
	MAX670M	Maxim	
	MAX671C	Maxim	
	MAX671M	Maxim	
	MAX672	Maxim	
	MAX672M	† Maxim	165
	MAX674C	Maxim	
	MAX674M	Maxim	
	MX581	Maxim	
	MX581J	Maxim	
	MX581K	Maxim	170
	MX581L	Maxim	
	MX581S	† Maxim	
	MX581T	† Maxim	
	MX581U	† Maxim	
	LM169	† National	175
	LM369	National	
	LM4040AI-10	National	
	LM4040BI-10	National	
	LM4040CI-10	National	
	LM4040DI-10	National	180
	HS2700	Sipex	
	HS2702	Sipex	
	VRE100C	Thaler	
	VRE100M	† Thaler	
	VRE120C	Thaler	185
	VRE120M	† Thaler	
	VRE210C	Thaler	
	VRE210M	† Thaler	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
Reference Voltage, 10 V (or −10 V)			
	AD2700J	AD	
	AD2700L	AD	
	AD2700S	† AD	
	AD2700U	† AD	
	AD2701J	**AD (3536)**	5
	AD2701L	**AD (3536)**	
	AD2701S	**† AD (3536)**	
	AD2701U	**† AD (3536)**	
	AD2710K	AD	
	AD2710L	AD	10
	AD581J	**AD (3536)**	
	AD581K	**AD (3536)**	
	AD581L	**AD (3536)**	
	AD581S	**† AD (3536)**	
	AD581T	**† AD (3536)**	15
	AD581U	**† AD (3536)**	
	REF01	**‡ AD (3536)**	
	REF01A	**‡ AD (3536)**	
	REF01C	**AD (3536)**	
	REF01E	**AD (3536)**	20
	REF01H	**AD (3536)**	
	REF10A	† AD	
	REF10B	† AD	
	REF10	Burr-Brown	
	REF101	**Burr-Brown (3467)**	25
	REF01	† LinearTech	
	REF01A	† LinearTech	
	REF01C	LinearTech	
	REF01E	LinearTech	
	REF01H	LinearTech	30
	MX2700J	Maxim	
	MX2700L	Maxim	
	MX2700S	Maxim	
	MX2700U	Maxim	
	MX2701J	Maxim	35
	MX2701K	Maxim	
	MX2701L	Maxim	
	MX2701S	† Maxim	
	MX2701U	† Maxim	
	MX2710L	Maxim	40
	REF01	Maxim	
	REF01A	Maxim	
	REF01C	Maxim	
	REF01D	Maxim	
	REF01E	Maxim	45
	REF01H	Maxim	
	REF01J	Maxim	
	REF01Z	Maxim	
	LH0070	† National	
	LM168-10	† National	50
	LM268-10	National	
	LM368-10	National	
	REF01	Raytheon	
	REF01A	Raytheon	
	REF01C	Raytheon	55
	REF01D	Raytheon	
	REF01E	Raytheon	
	REF01H	Raytheon	
Reference Voltage, 10 V (or−10 V)			
	REF102A	**Burr-Brown (3467)**	
	REF102B	**Burr-Brown (3467)**	60
	REF102C	**Burr-Brown (3467)**	
	REF102R	**Burr-Brown (3467)**	
	REF102S	**Burr-Brown (3467)**	
Reference Voltage, 10 V (trimmable output)			
	REF101J	**Burr-Brown (3467)**	
	REF101S	**† Burr-Brown (3467)**	65
	ZNREF100	GEC Plessey	
(Continued)			
Reference Voltage, 10 V (trimmable output) (Cont'd)			
	52065	† Micropac	
	52098	† Micropac	
Reference Voltage, 10.24 V			
	LH0071	National	
	LH0071-0	National	70
	LH0071-1	National	
	LH0071-2	‡ National	
Reference Voltage, 10V			
	MAX876AC	Maxim	
	MAX876AE	Maxim	
	MAX876AM	† Maxim	75
	MAX876BC	Maxim	
	MAX876BE	Maxim	
	MAX876BM	Maxim	
Reference Voltage, 10V (or −10V)			
	REF01	Calogic	
Reference Voltage, 1.26 V (1% tolerance)			
	REF12	† GEC Plessey	80
	REF12Z	GEC Plessey	
Reference Voltage, 2.5, 3V			
	AD780A	**† AD (3536)**	
	AD780B	**AD (3536)**	
	AD780S	**† AD (3536)**	
Reference Voltge, 1.5 V			
	CS3904-K	Crystal	85
	CS3904-T	† Crystal	
Regulating Pulse width Modulator			
	LM1524D	† National	
	LM2524D	National	
	LM3524D	National	
Regulating Pulse Width Modulator (7 to 40V operation)			
	SG1529	† Linfinity Micro	90
	SG2529	Linfinity Micro	
	SG3529	Linfinity Micro	
Regulation Control Circuit			
	LB1073A	AT&T	
Regulator Controller (for high current low dropout regulator)	UC1835	† Unitrode	
	UC1836	† Unitrode	95
	UC2835	Unitrode	
	UC2836	Unitrode	
	UC3835	Unitrode	
	UC3836	Unitrode	
Regulator Pulse Width Modulator			
	KA3524	Samsung	100
Regulator Pulse Width Modulator (dual source/sink output drivers)			
	KA3525A	Samsung	
Regulator with Low Voltage Detector and Reset			
	LA5601	Sanyo	
Reset IC/Low-Reset Input Voltage Detection			
	M51945A	Mitsubishi	
	M51945B	Mitsubishi	
Reset IC/Low-Reset Supply Voltage Detection w/Delay			
	M51951A	Mitsubishi	105
	M51951B	Mitsubishi	
	M51953A	Mitsubishi	
	M51953B	Mitsubishi	
	M51954A	Mitsubishi	
	M51954B	Mitsubishi	110
Resonant Controller, Multi-Mode, High Frequency			
	ML4816C	MicroLinear	
Resonant Mode Controller			
	MC33066	Motorola	
	MC34066	Motorola	
	UC1860	† Unitrode	
	UC1861	† Unitrode	115
	UC1861/883B	† Unitrode	
	UC1864	† Unitrode	
	UC1864/883B	† Unitrode	
	UC1865	† Unitrode	
	UC1865/883B	† Unitrode	120
(Continued)			
Resonant Mode Controller (Cont'd)			
	UC2861	Unitrode	
	UC2864	Unitrode	
	UC2865	Unitrode	
	UC3861	Unitrode	
	UC3864	Unitrode	125
	UC3865	Unitrode	
Resonant-Mode Controller			
	UC2860	Unitrode	
	UC3860	Unitrode	
RMS to DC Converter			
	AD536AJ	**AD (3531)**	
	AD536AK	**AD (3531)**	130
	AD536AS	**† AD (3531)**	
	AD536AS/883B	**† AD (3531)**	
	AD636J	AD	
	AD636K	AD	
	AD637J	**AD (3531)**	135
	AD637K	**AD (3531)**	
	AD637S	**AD (3531)**	
	AD637S/883B	**† AD (3531)**	
	AD736A	**AD (3531)**	
	AD736B	**AD (3531)**	140
	AD736J	**AD (3531)**	
	AD736K	**AD (3531)**	
	4340	Burr-Brown	
	4341	**Burr-Brown (3465)**	
	LH0091C	National	145
RMS to DC Converter (true RMS)			
	AD737A	**AD (3531)**	
	AD737B	**AD (3531)**	
	AD737J	**AD (3531)**	
	AD737K	**AD (3531)**	
RMS-to-DC Converter			
	AD536A	**AD (3531)**	150
	AD736	**AD (3531)**	
Sample and Hold Circuits			
	SHMHUMM	Datel	
Sample and Hold Circuits.			
	SHM45MM	**Datel (3569)**	
	SHM4860MM	**Datel (3569)**	
Sample and Hold Circuits			
	SHM945MC	**Datel (3569)**	155
Series Precision Binary Buffered Reference			
	LH7071	National	
Series Regulator (positive/negative output, up to 200 mA)	NJM2351	NJR	
Shunt Reference, Precision Adjustable			
	AS1431	Astec Semi	
Shunt Regulator			
	IR9431	Sharp	
Smart Power Switch			
	UC3720	Unitrode	160
SMPS Control Circuit			
	SG3524	Philips	
SMPS Controller, Current Mode			
	TC170C	TeledyneC	
Solid State Relay, AC/DC, SPST, NO			
	DIH126	Dionics	
	DIH126M	† Dionics	
	DIH127	Dionics	165
	DIH127M	† Dionics	
	DIH129	Dionics	
	DIH129M	† Dionics	
	DIH136	Dionics	
	DIH136M	† Dionics	170
	DIH149	Dionics	
	DIH149M	† Dionics	
	DIH169	Dionics	
	DIH169M	† Dionics	
Solid State Relay, DC, SPST, NO			
	DIH133	Dionics	175
	DIH139	Dionics	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Solid State Relay, DC, 2xSPST, NC	DIH135	Dionics	
Solid State Relay, DC, 2xSPST, NO	DIH134	Dionics	
Start-Up Controller, Off-Line	SG1540	† Linfinity Micro	
	SG2540	Linfinity Micro	
	SG3540	Linfinity Micro	5
Supervisory Power Supply Circuit (non-inverting voltage detector)	MAX8211	Maxim	
	MAX8211C	Maxim	
	MAX8211M	† Maxim	
	MAX8212	Maxim	
	MAX8212C	Maxim	10
	MAX8212M	† Maxim	
Supply System, Battery-Powered	MAX714E	Maxim	
	MAX714M	† Maxim	
	MAX715C	Maxim	
	MAX715E	Maxim	15
	MAX715M	† Maxim	
	MAX716C	Maxim	
	MAX716E	Maxim	
	MAX716M	† Maxim	
Supply Voltage Supervisor	TL7702AC	TI	20
	TL7702AI	TI	
	TL7702AM	† TI	
	TL7702BC	TI	
	TL7702BI	TI	
	TL7702BM	† TI	25
	TL7705AC	TI	
	TL7705AI	TI	
	TL7705AM	† TI	
	TL7705BC	TI	
	TL7705BI	TI	30
	TL7705BM	† TI	
	TL7709AC	TI	
	TL7709AI	TI	
	TL7712AC	TI	
	TL7712AI	TI	35
	TL7715AC	TI	
	TL7715AI	TI	
	TL7759C	TI	
Supply Voltage Supervisor (with precision voltage detector)	TL7757C	TI	
	TL7757I	TI	40
	TL7757M	† TI	
Supply Voltage Supervisor, Dual	TL7770-12C	TI	
	TL7770-12M	† TI	
	TL7770-12Q	TI	
	TL7770-15C	TI	45
	TL7770-15M	† TI	
	TL7770-15Q	TI	
	TL7770-5C	TI	
	TL7770-5M	† TI	
	TL7770-5Q	TI	50
Switch Mode Controller	HV9110	Supertex	
	HV9111	Supertex	
	HV9120	Supertex	
Switch Mode Power Supply Circuit (Switches up to 300 kHz)	**TDA4918A**	**Siemens (3774)**	
Switched Mode Power Supply Control Circuit	**TDA4700**	**Siemens (3773)**	55
	TDA4718	**Siemens (3773)**	
Switched Mode Power Supply Control Circuit (Lamp Ballast Control)	**TDA4817**	**Siemens (3774)**	
Switched Mode Power Supply Control Circuit (Power Factor Controller)	**TDA4815**	**Siemens (3773)**	
	TDA4818	**Siemens (3774)**	
	TDA4819	**Siemens (3774)**	60
Switched Mode Power Supply Control Circuit (push-pull output)	TDA4714A	Siemens	
	TDA4714B	Siemens	
	TDA4716	Siemens	
	TDA4716A	Siemens	
Switched-Mode Power Supply Battery Charger Control Circuit	TEA1088T	Philips	65
Switched-Mode Power Supply Control Circuit	NE5560	Philips	
	NE5561	Philips	
	NE5562	Philips	
	SE5560	Philips	
	SE5561	Philips	70
	SE5562	Philips	
	TDA8380	Philips	
Switched-Mode Power Supply Controller	NE5568	Philips	
Switching Controller, High Frequency, Single-Ended	ML4817C	MicroLinear	
Switching Controller, Phase Modulation	ML4818C	MicroLinear	75
Switching Controller (with power factor controller)	ML4819C	MicroLinear	
Switching Regulator Circuits	SI9110	Siliconix	
	SI9111	Siliconix	
	SI9112	Siliconix	
	SI9115	Siliconix	80
	SI9116	Siliconix	
	SI9120	Siliconix	
	SI9150	Siliconix	
	TL1451AC	TI	
	UC1524	† Unitrode	85
	UC1525A	† Unitrode	
	UC1526/883B	† Unitrode	
	UC1527A	† Unitrode	
	UC2524	Unitrode	
	UC2525A	Unitrode	90
	UC2527A	Unitrode	
	UC3524	Unitrode	
	UC3525A	Unitrode	
	UC3527A	Unitrode	
Switching Regulator Controller, 5 Volt Step-Down	LT1432	LinearTech	95
Switching Regulator, Step Up	S8435XF	Seiko Instr	
	S8436XF	Seiko Instr	
Switching Regulator, 0.9 to 5.5V, (for palmtop computer and flash memory applications)	MAX717	Maxim	
	MAX718	Maxim	
	MAX719	Maxim	100
	MAX720	Maxim	
	MAX721	Maxim	
	MAX723C	Maxim	
	MAX723E	Maxim	
Switching Regulator, 3.3 to 5.5V, (for palmtop computer and LCDs)	MAX722	Maxim	105
	MAX723	Maxim	
Switching Resonant Controller, Zero Voltage	ML4815C	MicroLinear	
Transient Suppressor	L3121	SGS-Thomson	
	L3122	SGS-Thomson	
Transient Voltage/Current Suppressor	L3101	SGS-Thomson	110
Transient Voltage Suppressor	LS5018	SGS-Thomson	
	LS5060	SGS-Thomson	
	LS5120	SGS-Thomson	
Transient Voltage Suppressor, 270 V, 1.3W	TPA270	SGS-Thomson	
Transient Voltage Suppressor, 270 V, 20W	TPC270	SGS-Thomson	115
Transient Voltage Suppressor, 270 V, 5W	TPB270	SGS-Thomson	
Transient Voltage Suppressor, 62 V, 1.3W	TPA62	SGS-Thomson	
Transient Voltage Suppressor, 62 V, 20W	TPC62	SGS-Thomson	
Transient Voltage Suppressor, 62 V, 5W	TPB62	SGS-Thomson	
Undervoltage Sensing Circuit (for 3 V or 5 V power supplies)	MC33164	Motorola	120
	MC34164	Motorola	
Voltage Converter, +5 V to ± 5 V	VI7660-1	Datel	
	VI7660-2	Datel	
	ICL7660C	**Harris (3638)**	
	ICL7660M	**† Harris (3638)**	125
	ICL7660S	**Harris (3638)**	
	ICL7660SC	**Harris (3638)**	
	ICL7660SI	**Harris (3638)**	
	ICL7660SM	**† Harris (3638)**	
	LTC1044C	LinearTech	130
	LTC1044M	† LinearTech	
	ICL7660C	Maxim	
	ICL7660M	Maxim	
	SI7660C	Siliconix	
Voltage Converter, +5V to ± 5V	LT1054C	TI	135
	LT1054I	TI	
Voltage Converter, +5V to –5V	**ICL7660**	**Harris (3638)**	
Voltage Converter, Converts +1.5 to +5.5V to –1.5 to –5.5V	MAX660C	Maxim	
	MAX660M	† Maxim	
Voltage Converter, converts +4.5V to +20V and –4.5V to –20V	**ICL7662**	**Harris (3638)**	140
	ICL7662C	**Harris (3638)**	
	ICL7662M	**† Harris (3638)**	
	NJU7662	**NJR (3705)**	
Voltage Converter, Converts +1.5 to +8V to –1.5 to –8V	MAX665C	Maxim	
	MAX665E	Maxim	145
	MAX665M	† Maxim	
Voltage Converter, converts +4.5V to +20V and –4.5V to –20V	SI7661	Siliconix	
Voltage Converter, Inverting, –5V or Programmable	MAX635C	Maxim	
	MAX635M	† Maxim	
Voltage Converter, Inverting, –12V or Programmable	MAX636C	Maxim	150
	MAX636M	† Maxim	
Voltage Converter, Inverting, –15V or Programmable	MAX637C	Maxim	
	MAX637M	† Maxim	
Voltage Converter (positive to negative)	ICL7662	† Maxim	
	SI7661	† Maxim	155
Voltage Converter, Step-Down, 5V or Programmable	MAX638C	Maxim	
	MAX638M	† Maxim	
Voltage Converter, Step-Up, +5V or Programmable	MAX631C	Maxim	
	MAX631M	† Maxim	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Function	Device	Source	Line
Miscellaneous (Cont'd)			
Voltage Converter, Step-Up, +5V or Programmable (Cont'd)			
	MAX641C	Maxim	
	MAX641M	† Maxim	
Voltage Converter, Step-Up, +12V or Programmable			
	MAX632C	Maxim	
	MAX632M	† Maxim	
	MAX642C	Maxim	5
	MAX642M	† Maxim	
Voltage Converter, Step-Up, +15V or Programmable			
	MAX633C	Maxim	
	MAX633M	† Maxim	
	MAX643C	Maxim	
	MAX643M	† Maxim	10
Voltage Converter, Step-Up, 1.15V to 1.6V			
	ICL645I	Harris	
Voltage Converter, Switched Capacitor			
	LTC1044M	TI	
Voltage Converter, Switched-Capacitor			
	ILC7660AM	† Maxim	
	ILC7660C	Maxim	
	ILC7660E	Maxim	15
	ILC7660I	Maxim	
	MAX1044C	Maxim	
	MAX1044E	Maxim	
	MAX1044M	† Maxim	
Voltage Converter with Regulator			
	UC1054C	Unitrode	20
	UC1054M	† Unitrode	
Voltage Converter, 5 to ±10V			
	MAX680C	Maxim	
	MAX680E	Maxim	
	MAX680M	† Maxim	
	MAX681BC	Maxim	25
	MAX681C	Maxim	
Voltage Detector			
	MB3761	Fujitsu	
Voltage Detector, Indicator, Regulator, (programmable zener)			
	ICL8211	**Harris** (3638)	
	ICL8211C	**Harris** (3638)	
	ICL8211M	† **Harris** (3638)	30
	ICL8212	**Harris** (3638)	
	ICL8212C	**Harris** (3638)	
	ICL8212M	† **Harris** (3638)	
Voltage Detector, 0.995–1.105V			
	S8051ANB	Seiko Instr	
Voltage Detector, 1.095 to 1.205			
	S8051ANR	Seiko Instr	35
Voltage Detector, 1.5V ± 2.4%			
	S80715AL	Seiko Instr	
	S80715AN	Seiko Instr	
Voltage Detector, 1.6V ± 2.4%			
	S80716AL	Seiko Instr	
	S80716AN	Seiko Instr	
Voltage Detector, 1.7V ± 2.4%			
	S80717AL	Seiko Instr	40
	S80717AN	Seiko Instr	
Voltage Detector, 1.795 to 2.005			
	S8051HN	Seiko Instr	
Voltage Detector, 1.8V ± 2.4%			
	S80718AN	Seiko Instr	
Voltage Detector, 1.9V ± 2.4%			
	S80719AN	Seiko Instr	
	S80719SL	Seiko Instr	45
	S80719SN	Seiko Instr	
Voltage Detector, 2.1V ± 2.4%			
	S80721AL	**Seiko Instr** (3762)	
	S80721AN	**Seiko Instr** (3762)	
Voltage Detector, 2.195 to 2.405			
	S8052ANB	Seiko Instr	
Voltage Detector, 2.2V ± 2.4%			
	S80722AL	Seiko Instr	50
	S80722AN	Seiko Instr	
Voltage Detector, 2.3V ± 2.4%			
	S80723AL	**Seiko Instr** (3762)	
	S80723AN	Seiko Instr	
	S80723SL	Seiko Instr	
	S80723SN	Seiko Instr	55
Voltage Detector, 2.4V ± 2.4%			
	S80724AL	Seiko Instr	
	S80724AN	Seiko Instr	
Voltage Detector, 2.5V ± 2.4%			
	S80725AN	Seiko Instr	
	S80725SL	Seiko Instr	
	S80725SN	Seiko Instr	60
Voltage Detector, 2.595 to 2.805			
	S8052ALY	Seiko Instr	
Voltage Detector, 2.595–2.805V			
	S8052ANY	Seiko Instr	
Voltage Detector, 2.6V ± 2.4%			
	S80726AL	Seiko Instr	
	S80726AN	Seiko Instr	
Voltage Detector, 2.7V ± 2.4%			
	S80727AL	Seiko Instr	65
	S80727SL	Seiko Instr	
	S80727SN	Seiko Instr	
Voltage Detector, 2.795 to 3.105			
	S8053ALB	Seiko Instr	
Voltage Detector, 2.8V ± 2.4%			
	S80728AL	Seiko Instr	
	S80728SL	Seiko Instr	70
	S80728SN	Seiko Instr	
Voltage Detector, 2.895 to 3.105			
	S8053HLB	Seiko Instr	
Voltage Detector, 2.9V ± 2.4%			
	S80729AL	Seiko Instr	
	S80729AN	Seiko Instr	
Voltage Detector, 2V ± 2.4%			
	S80720AL	Seiko Instr	75
	S80720SL	Seiko Instr	
	S80720SN	Seiko Instr	
Voltage Detector, 3.095 to 3.405			
	S8053ALR	Seiko Instr	
Voltage Detector, 3.1V ± 2.4%			
	S80731AH	Seiko Instr	
	S80731AN	Seiko Instr	80
Voltage Detector, 3.2V ± 2.4%			
	S80732AL	Seiko Instr	
Voltage Detector, 3.3V ± 2.4%			
	S80733AH	Seiko Instr	
	S80733AN	Seiko Instr	
Voltage Detector, 3.395 to 3.705			
	S8053ANO	Seiko Instr	
Voltage Detector, 3.4V ± 2.4%			
	S80734AN	**Seiko Instr** (3762)	85
Voltage Detector, 3.5V ± 2.4%			
	S80735AN	**Seiko Instr** (3762)	
	S80735SL	Seiko Instr	
	S80735SN	Seiko Instr	
Voltage Detector, 3.6V ± 2.4%			
	S80736AL	Seiko Instr	
	S80736AN	Seiko Instr	90
Voltage Detector, 3.7V ± 2.4%			
	S80737AL	Seiko Instr	
	S80737AN	Seiko Instr	
Voltage Detector, 3.8V ± 2.4%			
	S80738AL	Seiko Instr	
	S80738AN	Seiko Instr	
Voltage Detector, 3.9V ± 2.4%			
	S80739AL	Seiko Instr	95
	S80739AN	Seiko Instr	
Voltage Detector, 3.995 to 4.305			
	S8054ALB	Seiko Instr	
Voltage Detector, 3V ± 2.4%			
	S80730AN	**Seiko Instr** (3762)	
	S80730SL	Seiko Instr	
	S80730SN	Seiko Instr	100
Voltage Detector, 4.1V ± 2.4%			
	S80741AN	**Seiko Instr** (3762)	
Voltage Detector, 4.2V ± 2.4%			
	S80742AL	Seiko Instr	
	S80742AN	Seiko Instr	
	S80742SL	Seiko Instr	
	S80742SN	Seiko Instr	105
Voltage Detector, 4.295 to 4.605			
	S8054ALR	Seiko Instr	
Voltage Detector, 4.295–4.605V			
	S80744HL	**Seiko Instr** (3762)	
Voltage Detector, 4.3V ± 2.4%			
	S80743AL	Seiko Instr	
	S80743AN	Seiko Instr	
Voltage Detector, 4.4V ± 2.4%			
	S80744AL	Seiko Instr	110
	S80744AN	Seiko Instr	
Voltage Detector, 4.5V ± 2.4%			
	S80745AN	**Seiko Instr** (3762)	
	S80745SL	Seiko Instr	
	S80745SN	Seiko Instr	
Voltage Detector, 4.595 to 4.905			
	S8054ALO	Seiko Instr	115
Voltage Detector, 4.6V ± 2.4%			
	S80746AL	Seiko Instr	
	S80746AN	Seiko Instr	
Voltage Detector, 4.7V ± 2.4%			
	S80747AL	Seiko Instr	
	S80747AN	Seiko Instr	
Voltage Detector, 4.8V ± 2.4%			
	S80748AL	Seiko Instr	120
	S80748AN	Seiko Instr	
Voltage Detector, 4.895 to 5.205			
	S8054ALY	Seiko Instr	
Voltage Detector, 4.9V ± 2.4%			
	S80749AL	Seiko Instr	
	S80749AN	Seiko Instr	
Voltage Detector, 4V ± 2.4%			
	S80740AH	**Seiko Instr** (3762)	125
	S80740AN	**Seiko Instr** (3762)	
	S80740SL	Seiko Instr	
	S80740SN	Seiko Instr	
Voltage Detector, 5.1V ± 2.4%			
	S80751SL	Seiko Instr	
	S80751SN	Seiko Instr	130
Voltage Detector, 5V ± 2.4%			
	S80750AL	Seiko Instr	
	S80750AN	Seiko Instr	
	S80750SL	Seiko Instr	
Voltage Detector, 1.8V ± 2.4%			
	S80718AL	**Seiko Instr** (3762)	
Voltage Detector, 1.9V ± 2.4%			
	S80719AL	**Seiko Instr** (3762)	135

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR

LINEAR—Power Supply Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source
Voltage Detector, 1.995–2.205V	S8052ALB	Seiko Instr
Voltage Detector, 2.195–2.405V	S8052ALR	Seiko Instr
Voltage Detector, 2.295–2.505V	S8052HNM	Seiko Instr
Voltage Detector, 2.395–2.605V	S8052ALO	Seiko Instr
Voltage Detector, 2.5V ± 2.4%	**S80725AL**	**Seiko Instr (3762)**
Voltage Detector, 2.7V ± 2.4%	**S80727AN**	**Seiko Instr (3762)**
Voltage Detector, 2.8V ± 2.4%	**S80728AN**	**Seiko Instr (3762)**
Voltage Detector, 2.895–3.105V	S8053HNB	Seiko Instr
Voltage Detector, 2V ± 2.4%	**S80720AN**	**Seiko Instr (3762)**
Voltage Detector, 3.1V ± 2.4%	**S80731AL**	**Seiko Instr (3762)**
Voltage Detector, 3.2V ± 2.4%	**S80732AN**	**Seiko Instr (3762)**
Voltage Detector, 3.3V ± 2.4%	**S80733AL**	**Seiko Instr (3762)**
Voltage Detector, 3.4V ± 2.4%	**S80734AL**	**Seiko Instr (3762)**
Voltage Detector, 3.5V ± 2.4%	**S80735AL**	**Seiko Instr (3762)**
Voltage Detector, 3V ± 2.4%	**S80730AL**	**Seiko Instr (3762)**
Voltage Detector, 4.0V ± 2.4%	**S80740AL**	**Seiko Instr (3762)**
Voltage Detector, 4.1V ± 2.4%	**S80741AL**	**Seiko Instr (3762)**
Voltage Detector, 4.5–4.7V	S8054HN	Seiko Instr
Voltage Detector, 4.5V ± 2.4%	**S80745AL**	**Seiko Instr (3762)**
Voltage Detector, 4.50–4.70V	S8054HNM	Seiko Instr
Voltage Detector, 5.0V ± 2.4%	S80750SN	Seiko Instr
Voltage Divider, 4 Outputs	LA5311	Sanyo
Voltage Divider, 5 Outputs	LA5310	Sanyo
	LA5316	Sanyo
Voltage Doubler/Inverter, 1.5–10 V to 3–20 V	TC7662A	TeledyneC
Voltage Doubler/Inverter, 1.5–10V to 3 to 20V or −1.5 to −10V.	ICL7660	Maxim
	MAX1044	Maxim
	NJU7660	**NJR (3705)**
	SI7660A	Siliconix
	SI7661A	Siliconix
	SI7661C	Siliconix
	TC7660	TeledyneC
Voltage Doubler/Inverter, 3–15 V to 6–30 V, 100 mA	TC962	TeledyneC
Voltage Monitor	MAX8213AC	Maxim
	MAX8213AE	Maxim
	MAX8213AM	† Maxim
	MAX8213BC	Maxim
	MAX8213BE	Maxim
	MAX8213BM	† Maxim
	MAX8214AC	Maxim
	MAX8214AE	Maxim
	MAX8214AM	† Maxim
	MAX8214BC	Maxim
	MAX8214BE	Maxim
	MAX8214BM	† Maxim
Voltage Monitor (battery manager)	DS1259	Dallas
Voltage Monitor (battery manager with lithium cell)	DS1260	Dallas
Voltage Monitor (power monitor)	DS1231	Dallas
	DS1231S	Dallas
Voltage Monitor (with watchdog or activity timer)	DS1232	Dallas
Voltage Reference, 1.5 V and 3 V	CS3901-K	Crystal
	CS3901-T	Crystal
Voltage Regulator Control Circuit for Variable Switching Regulator	CA1523	Harris
Voltage Regulator (low drop out)	MAX667C	Maxim
	MAX667M	† Maxim
Voltage Regulator (low power)	MAX666C	Maxim
	MAX666M	† Maxim
Voltage Regulator, Step Up & Down	S8430AF	Seiko Instr
Voltage Regulator with Watchdog for Microprocessor/Controller Systems	UAA1300	Philips
Voltage Regulator, 110/220 Vac to 5Vdc, Adjustable output 1.3V to 10V at 50mA Over/under Voltage Detection, Full-wave Rectification	MAX600	Maxim
	MAX602	Maxim
	MAX610C	Maxim
	MAX610M	† Maxim
	MAX612C	Maxim
	MAX612M	† Maxim
Voltage Regulator, 110/220 Vac to 5Vdc, Fixed output, Variable Microprocessor Reset Half-wave rectification	MAX601	Maxim
	MAX611C	Maxim
	MAX611M	† Maxim
Voltage Sensing Circuit	SG1542	† Linfinity Micro
	SG2542	Linfinity Micro
	SG3542	Linfinity Micro
Voltage Supervisor IC	TL7705/A	SGS-Thomson
Voltage Switch, Automatic	AVS08	SGS-Thomson
	AVS10	SGS-Thomson
	AVS12	SGS-Thomson
Voltage to Current Converter, Isolated	2B22J	AD
	2B22K	AD
	2B22L	AD
Voltage to Current Converter, Isolated, Programmable Output	2B23J	AD
	2B23K	AD
Voltage to Current Converter (4 to 20 mA)	2B20A	AD
	2B20B	AD
Voltage to Frequency Converter	VFC3802	Adv Analog
	VFC3805	Adv Analog
	VFC3810	Adv Analog
	ADVFC32K	**AD (3535)**
	ADVFC32S	**AD (3535)**
	ADVFC32	**AD (3535)**
	AD537J	AD
	AD537K	AD
	AD537S	† AD
	AD654	**AD (3535)**
	AD654J	**AD (3535)**
	ISO109	Burr-Brown
	VFC100	**Burr-Brown (3472)**
	VFC100A	**Burr-Brown (3472)**
	VFC100B	**Burr-Brown (3472)**
	VFC110	**Burr-Brown (3472)**
	VFC110A	**Burr-Brown (3472)**
	VFC110B	**Burr-Brown (3472)**
	VFC110S	**† Burr-Brown (3472)**
	VFC121A	**Burr-Brown (3472)**
	VFC121B	**Burr-Brown (3472)**
	VFC32	**Burr-Brown (3472)**
	VFC32WM/883B	**Burr-Brown (3472)**
	VFC320	**Burr-Brown (3472)**
	TDB0131	SGS-Thomson
	IR9331	Sharp
Voltage to Frequency Converter, LCC Synchronized	**VFC100L**	**Burr-Brown (3472)**
Voltage to Frequency Converter (2 MHz)	**AD652A**	**AD (3535)**
	AD652B	**AD (3535)**
	AD652J	**AD (3535)**
	AD652K	**AD (3535)**
	AD652S	**† AD (3535)**
	MD3902	**MicroNet (3694)**
Voltage to Frequency Converter, 5 MHz	**MD3905**	**MicroNet (3694)**
Voltage to Frequency Converter, 10 MHz	**MD3910**	**MicroNet (3694)**
Voltage to Frequency/Frequency to Voltage Converter	A8400	Adv Analog
	A8402	Adv Analog
	AD650J	**AD (3535)**
	AD650K	**AD (3535)**
	AD650S	**† AD (3535)**
	VFC320B	**Burr-Brown (3472)**
	VFC320C	**Burr-Brown (3472)**
	VFC320S	**† Burr-Brown (3472)**
	VFC42	**Burr-Brown (3472)**
	VFC42M	**† Burr-Brown (3472)**
	VFC52	**Burr-Brown (3472)**
	VFC52M	**† Burr-Brown (3472)**
	VFC62	**Burr-Brown (3472)**

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Power Supply Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Voltage to Frequency/Frequency to Voltage Converter (Cont'd)			
	XR4151	Exar	
	MD3802	**MicroNet (3694)**	
	MD3805	**MicroNet (3694)**	
	MD3810	**MicroNet (3694)**	
	LM131	† National	5
	LM131A	‡ National	
	LM231	National	
	LM231A	National	
	LM331	National	
	LM331A	National	10
	RC4152	Raytheon	
	RC4153	Raytheon	
	TC9400	TeledyneC	
	TC9401	TeledyneC	
	TC9402	TeledyneC	15
Voltage-to-Current Converter/Transmitter	**XTR110**	**Burr-Brown (3462)**	
Voltage-to-Frequency and Frequency-to-Voltage Converter	MX650	Maxim	
Voltage-to-Frequency Converter	**ADVFC32**	**AD (3535)**	
	VFC121	**Burr-Brown (3472)**	
	VFQ1C	Datel	20
	VFQ1R	Datel	
	VFQ2C	Datel	
	VFQ3C	Datel	
Voltage-to-Frequency Converter (synchronized to external clock)	**VFC101J**	**Burr-Brown (3472)**	
	VFC101K	**Burr-Brown (3472)**	25
Voltage-to-Frequency Converter (10 kHz)	4725	TeledyneC	
Zero Voltage Switch	KA2804	Samsung	
Single Chip Power Supply, 5V to 24V output	**HV2405E**	**Harris (3638)**	
Single-Supply Bridge Transducer	**AD22055**	**AD (3513)**	
Dual Output Switchmode Regulator (+5 to ±12V or ±15V)	MAX742	† Maxim	30
Dual Over/Under-Voltage Detector	ICL7665	Maxim	
	ICL7665A	Maxim	
	ICL7665AC	Maxim	
	ICL7665B	Maxim	
Quad High-Side Power Switch	MAX625C	Maxim	35
	MAX625M	Maxim	
Three-Phase PWM Waveform Generator	MA818	GEC Plessey	
2A Switchmode Power Supply IC	L4972D	SGS-Thomson	
12 Bit, 1.25 MHz A/D Evaluation Board	ADCB500-1	Datel	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits

Active Filters

Function	Device	Source	Line
Band Split Filter (for duplex communication of voice and data)	MSM6976	OKI	
Band-Pass Butterworth, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR1BA1**	**Datel (3570)**	
	FLJ-UR2BA1	**Datel (3570)**	
Band-Pass Butterworth, Tunable (400 Hz to 10 kHz)	**FLJ-UR1BA2**	**Datel (3570)**	
	FLJ-UR2BA2	**Datel (3570)**	5
Cellular Phone Filter LSI with On-Chip Compandor	CXD1272	Sony	
Cellular Radio Telephone Filter Circuit	CXD1230	Sony	
	CXD1237	Sony	
Cellular Telephone Filter Circuit	CXD1271	Sony	
Codec with Filter, μ-Law	MSM6962	OKI	10
Filter, Band Pass, Sixth Order	TS8550	SGS-Thomson	
Filter, Band Pass, Eighth Order	TS8551	SGS-Thomson	
Filter, Bandpass (DTMF)	CH1295	Cermetek	
	CH1296	Cermetek	
	MT8865	Mitel	15
Filter, Bandsplit (DTMF)	MV8865	GEC Plessey	
Filter, Baseband and MSK Modem (for cordless telephone)	MSM6870-3	OKI	
	MSM6870-5	OKI	
Filter, Baseband (for cellular mobile telephone)	MSM6807	OKI	
Filter, C-Message (notch/program weighting)	RF5651A	EG&G-Reticon	20
Filter, CAFIR (Cascadable Adaptive Finite Impulse Response)	DSP56200	Motorola	
Filter, High Pass	RF5611A	EG&G-Reticon	
Filter, High Pass, Third Order	TS8530	SGS-Thomson	
Filter, High Pass, Sixth Order	TS8531	SGS-Thomson	
	TS8532	SGS-Thomson	25
Filter, Low Pass Butterworth, 8th Order	TS8514	SGS-Thomson	
Filter, Low Pass Chebychev, 8th Order	TS8513	SGS-Thomson	
Filter, Low Pass, Fifth Order	TS8510	SGS-Thomson	
Filter, Low Pass Programmable	S3528	American Micro	
Filter, Low Pass Speech (dual, tunable)	MC145414	Motorola	30
Filter, Low Pass, Seventh Order	TS8511	SGS-Thomson	
	TS8512	SGS-Thomson	
	SSI32F8101	**SiliconSys (3778)**	
	SSI32F8102	**SiliconSys (3778)**	
	SSI32F8103	**SiliconSys (3778)**	35
	SSI32F8104	**SiliconSys (3778)**	
Filter, Notch	RF5612A	EG&G-Reticon	
Filter, Notch, Sixth Order	TS8540	SGS-Thomson	
Filter, PCM Receive	AMS3065	Aptek	
Filter, PCM Transmit	AMS3064	Aptek	40
Filter, PCM Transmit/Receive	G8912B	CMD Micro	
	2912A	Intel	
	TP3040	National	
	TP3040-1	National	
	TP3040A	National	45
	TP3040A-1	National	
	MSM6912	OKI	
	ETC5040	SGS-Thomson	
	TCM2912B	TI	
	TCM2912C	TI	50
Filter, Second-Order Switched Capacitor	XR1010	Exar	
Filter, Switched Capacitor (low-pass 7-pole elliptic)	RF6609	EG&G-Reticon	
Filter, Switched Capacitor (triple telephone/communications filter)	RF6651A	EG&G-Reticon	
Filter, Telecom/Datacom Instrumentation	XR1020	Exar	
Filter/Tone Generator, Single Frequency Tunable Bandpass/Notch	S3526B	American Micro	55
Filter, Dual Switched Capacitor	LMF100	National	
Filter, Fourth Order Switched Capacitor (Stand Alone Mode with RD or Crystal)	XR1003	Exar	
	XR1004	Exar	
	XR1005	Exar	
	XR1006	Exar	60
	XR1007	Exar	
	XR1008	Exar	
Filter, Fourth-Order Switched Capacitor (Stand Alone Mode with RC or Crystal)	XR1002	Exar	
Filter, Seventh-Order Elliptic Low Pass	XR1015	Exar	
	XR1016	Exar	65
Halfband, 16-bit, 52 MHz	**HSP43216**	**Harris (3637)**	
Read Channel Filter	IMP42R53	IMP	
Receive Filter for 14-Bit ADC (programmable gain)	**AD7371**	**AD (3514)**	
Switched Capacitor Active Filter System, Mask Programmable	LMF120	National	
Switched Capacitor Butterworth Low-Pass Filter, Sixth Order	MF6	National	70
Switched Capacitor Butterworth Low-Pass Filter, 4th Order	MF4	National	
Switched-Capacitor Active Filter System (mask-programmable)	LMF121	National	
Switched-Capacitor Butterworth Low-Pass Filter, 4th Order	LMF40	National	
Switched-Capacitor Butterworth Low-Pass Filter, 6th Order	LMF60	National	
Telecom Instrumentation Filter	XR1020A	Exar	75
Voiceband Reconstruction/Antialiasing Filter Set	**AD7341J**	**AD (3514)**	
	AD7371J	**AD (3514)**	

Codecs

Function	Device	Source	Line
ADPCM Codec, 32K-bit/sec	MSM6981-01	OKI	
Audio Ringing Codec Filter (with DTMP and ringing generator)	**PSB2160**	**Siemens (3769)**	
Audio Ringing Codec Filter (with Speakerphone)	**PSB2165**	**Siemens (3769)**	80
Baseband Codec for Digital Cellular Telephone Applications	T7582	AT&T	
Codec, μ-Law	CD22354A	Harris	
	2910A	Intel	
	TP3020	National	
	TP3061	National	85
	TP5116A	National	
	MSM6917	OKI	
	M5116	SGS-Thomson	
	TCM2910A	TI	
Codec/μ-Law Filter	MV3507	GEC Plessey	90
Codec/μ-Law Filter with A/B Signalling	MV3507A	GEC Plessey	
Codec/μ-Law Filter with Optional Squelch	MV3509	GEC Plessey	
Codec, μ–255 Law (Companding)	TCM2909	TI	
Codec, A-Law	CD22357A	Harris	
	2911A-1	Intel	95
	TP3021	National	
	TP3062	National	
	TP5156A	National	
	M5156	SGS-Thomson	
Codec/A-Law Filter	MV3506	GEC Plessey	100
Codec/A-Law Filter with Optional Squelch	MV3508	GEC Plessey	
Codec, Audio Ringing Codec Filter (ARCOFI)	AM2160	AMD	
Codec Combination Controller (controls up to eight combo codec/filters)	KT8555	Samsung	
Codec Combination (D3/D4 and CCITT spec)	KT8554	Samsung	
	KT8557	Samsung	105
	KT8564	Samsung	
Codec, Continuously Variable Slope Delta Codec	MA367	GEC Plessey	
Codec, Data/Voice Storage and Retrieval	MX802	MX-COM	
Codec/Filter	MC1403	Motorola	
	M5913	SGS-Thomson	110
	M5914	SGS-Thomson	
	M5917	SGS-Thomson	
	TCM29C18	TI	
	TCM29C19	TI	
Codec/Filter, μ-Law	S3507	American Micro	115
	2916	Intel	
	MT8960	Mitel	
	MT8962	Mitel	
	MT8964	Mitel	
	MT8966	Mitel	120
	F30S54	National	
	F30S64	National	
	F3054	National	
	TP3051	National	
	TP3052	National	125
	TP3052-1	National	
	TP3053	National	
	TP3053-1	National	
	TP3054	National	
	TP3054-1	National	130
	TP3056	National	
	TP3064	National	
	MSM6810	OKI	
	MSM6812	OKI	
	MSM6997	OKI	135
	MSM6999	OKI	
	TCM29C16	TI	
	TCM2916	TI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR–Telecommunication Circuits (Cont'd)

Codecs (Cont'd)

Function	Device	Source	Line
Codec/Filter, µ-Law or A-Law	MC145501	Motorola	
	MC145502	Motorola	
	MC145503	Motorola	
	MC145505	Motorola	
Codec/Filter, µ-Law or A-Law Companding	TS5070	SGS-Thomson	5
	TS5071	SGS-Thomson	
Codec/Filter, µ-Law or A-Law (pin selectable)	29C50	Intel	
	29C51	Intel	
	2913	Intel	
	2914	Intel	10
	MC145500	Motorola	
	TCM29C14	TI	
	TCM2913	TI	
	TCM2914	TI	
Codec/Filter, µLaw	ETC5054	SGS-Thomson	15
Codec/Filter, µLaw, Serial Output with Power Amplifiers	ETC5064	SGS-Thomson	
Codec/Filter, A-Law	S3506	American Micro	
	MT8961	Mitel	
	MT8963	Mitel	
	MT8965	Mitel	20
	MT8967	Mitel	
	F30S67	National	
	TP3057	National	
	TP3057-1	National	
	TP3067	National	25
	MSM6811	OKI	
	MSM6813	OKI	
	MSM6962RS	OKI	
	MSM6963	OKI	
	MSM6983	OKI	30
	MSM6996	OKI	
	MSM6998	OKI	
	ETC5057	SGS-Thomson	
	TCM29C17	TI	
	TCM2917	TI	35
Codec/Filter, A-Law, Serial Output with Power Amplifiers	ETC5067	SGS-Thomson	
Codec/Filter Circuit	XRT3052	Exar	
	XRT3053	Exar	
	XRT3054	Exar	
	XRT3057	Exar	40
CODEC/Filter Combo, µ-Law	TP3068	National	
CODEC/Filter Combo, A-Law	TP3069	National	
Codec Filter (D3/D4 ans CCITT spec)	KT3040	Samsung	
	KT3040A	Samsung	
Codec/Filter, Pin Selectable µ-Law or A-Law	TCM29C13	TI	45
Codec/Filter (subscriber line audio-processing circuit-SLAC)	AM7901B	AMD	
	AM7901C	AMD	
CODEC, Military Delta Modulation	MX629	MX-COM	
Codec, Multi-Function, µ-Law	MSM6895	OKI	
Codec, Multi-Function, A-Law	MSM6896	OKI	50
Codec, Multimedia Audio, Parallel Interface	CS4231	Crystal	
	CS4248	Crystal	
Codec, Multimedia Audio, 16 Bit, 48 KHz	CS4215	Crystal	

Function	Device	Source	Line
Codec, PCM with Filter	MC145480	Motorola	
	7522	Rochester	55
	TCM29C13M	TI	
Codec, PCM with Filters (with sigma delta ADC and DAC, 12-bit linerity)	T7525	AT&T	
Codec, Pin Selectable µ-Law or A-Law	ZNPCM1	GEC Plessey	
Codec, Stereo Audio	CS4216	Crystal	
Codec, Transition Encoded Modulation	MT8950	Mitel	60
CODEC, Voice Storage and Retrieval	MX812	MX-COM	
Codec with Filter, µ-Law	MSM6982	OKI	
Codec with Time Slot Assignment, µ-Law	MSM6814	OKI	
Codec with Time Slot Assignment, A-Law	MSM6815	OKI	
Codec, Single Rail, µ-Law	MSM7508B	OKI	65
Codec, Single Rail, A-Law	MSM7509B	OKI	
Delta Modulation Codec	MX609	MX-COM	
Linear Codec	**AD28MSP02**	**AD (3507, 3511, 3514)**	
Military Delta Modulation Codec	MX619	MX-COM	
PCM Codec and Filter, Serial Interface	TP13054B	TI	70
	TP13057B	TI	
	TP13064B	TI	
	TP13067B	TI	
	TP3054B	TI	
	TP3057B	TI	75
	TP3064B	TI	
	TP3067B	TI	
PCM Codec/Filter	µPD9513AD	NEC	
	µPD9514AD	NEC	
	µPD9516AD	NEC	80
	µPD9602AD	NEC	
	µPD9604AD	NEC	
	µPD9622L	NEC	
	µPD9624L	NEC	
PCM CODEC/Filter for ISDN and Digital Phone Applications, Programmable	TP3075A	National	85
	TP3076A	National	
PCM CODEC/Filter, Programmable	TP3070	National	
	TP3070-X	National	
	TP3070A	National	
	TP3070A-X	National	90
	TP3071	National	
	TP3071-X	National	
	TP3071A	National	
	TP3071A-X	National	
PCM Codec-Filter	MC145554	Motorola	95
	MC145557	Motorola	
	MC145564	Motorola	
	MC145567	Motorola	
PCM Conference Call and Attenuation/Noise Suppression Circuit	M116F1	SGS-Thomson	
PCM Conference Chip	MC145611	Motorola	100

Function	Device	Source	Line
Pulse Code Modulated (PCM) Codec and Filter	TCM129C13	TI	
	TCM129C13A	TI	
	TCM129C14	TI	
	TCM129C14A	TI	
	TCM129C16	TI	105
	TCM129C16A	TI	
	TCM129C17	TI	
	TCM129C17A	TI	
	TCM29C13A	TI	
	TCM29C14A	TI	110
	TCM29C16A	TI	
	TCM29C17A	TI	
SASSD Circuit with SL1 Codec Interface	MA857	GEC Plessey	
Selective Call Codec	MX203	MX-COM	
Signal Processing Codec Filter (two PEB2060s)	**PEB2260**	**Siemens (3771)**	115
Trellis Codec, 7.5 Mbps	Q1875C-8N	Qualcomm	
Trellis Codec, 30 Mbps	Q1875C-30N	Qualcomm	
Trellis Codec, 75 Mbps	Q1875C-75N	Qualcomm	
Trellis Codec, 768 Kbps	Q1875I-1N	Qualcomm	

Compandors

Function	Device	Source	Line
Compander (channel 1 ± compandor, channel 2 ± expander, compressor)	SA575	Philips	120
Compander (internally configured as expandor and compressor)	**SA577**	**Philips (3740)**	
Compandor Circuit (noise reduction for cellular phones)	GL6551	GoldStar	
Compandor IC	MB3121	Fujitsu	
Compandor, Low Current	TK10650	Toko	
	TK10651	Toko	125
Compandor, Low Power	NE576	Philips	
	SA576	Philips	
	LA8632	Sanyo	
	LA8633	Sanyo	
Compandor (signal expander/compressor)	XR2216	Exar	130
	NE570	Philips	
	NE571	Philips	
	NE572	Philips	
	SA571	Philips	
	SA572	Philips	135
	TA31101	ℓ Toshiba	
	TA31102	Toshiba	
Compandor, Unity Gain Level Programmable	**NE577**	**Philips (3740)**	
	NE578	Philips	
Noise Reduction System (compandor/filter/voltage regulator)	TK10658	ℓ Toko	140
Noise Reduction System (compandor/op amp/voltage regulator)	TK10652	ℓ Toko	
	TK10659	ℓ Toko	
Noise Reduction System (compandor/pre-amplifier/buffer/voltage regulator)	TK10654	ℓ Toko	
	TK10655	Toko	

Crosspoint Switches

Function	Device	Source	Line
Cross Point Switch (8x8 Video)	MAX456	Maxim	145
Crosspoint Matrix Analog Switch (12x8)	M093	SGS-Thomson	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Crosspoint Switches (Cont'd)

Function	Device	Source	Line
Crosspoint Matrix Analog Switch (12x8) CMOS	M34930	SGS-Thomson	
Crosspoint Matrix Analog Switch (16x8) CMOS	M3494	SGS-Thomson	
Crosspoint Matrix Analog Switch(12x8) CMOS	M3493	SGS-Thomson	
Crosspoint Switch, CCITT G732	MA811	GEC Plessey	
Crosspoint Switch (double 4x4 matrix)	RC4444	Raytheon	5
Crosspoint Switch for PBX	U145M	AEG Corp	
Crosspoint Switch with Control Memory, 12x8x1	**SSI78A093A**	**SiliconSys (3781)**	
	SSI78A093B	SiliconSys	
Crosspoint Switch (2x8 matrix)	M089	SGS-Thomson	
Crosspoint Switch, 4x4	KT8592	Samsung	10
Crosspoint Switch (4x4 Matrix)	M402100B	Mitsubishi	
Crosspoint Switch (4x4 matrix with control memory)	CD22100	Harris	
	MC142100	Motorola	
	M22100	SGS-Thomson	
Crosspoint Switch (4x4x2 with control memory)	CD22101	Harris	15
	CD22102	Harris	
Crosspoint Switch (4x8 Matrix)	M402101B	Mitsubishi	
Crosspoint Switch, 8-Channel	DS1277	Dallas	
Crosspoint Switch (8x4 matrix)	MT8804A	Mitel	
Crosspoint Switch, 8x8x1 (with control memory)	CD74HCT22106	Harris	20
	CD74HC22106	Harris	
Crosspoint Switch (8x12 matrix)	MT8812	Mitel	
Crosspoint Switch, 12x8 (with control memory)	KT8593	Samsung	
Crosspoint Switch (12x8 with control memory)	**SSI78A093A/B**	**SiliconSys (3781)**	
Crosspoint Switch, 16x8	CD22M3493	Harris	25
	CD22M3494	Harris	
Crosspoint Switch (32x32 matrix)	SC11320	Sierra	
Digital Time/Space Crosspoint Switch	MT8981D	Mitel	
Digital Timer/Space Switch	MT8980D	Mitel	
16x16 Cross Point Switch (1.3 Gb/s)	**TQ8016M**	**TriQuint (3841)**	30
32x32 Cross Point Switch (800 Mb/s)	**TQ8032M**	**TriQuint (3841)**	

Data Communications

Function	Device	Source	Line
ADPCM Digital Signal Processor provdes coding/decoding functions required to process Adaptive Pulse Code Modulation Signals)	MB87068	Fujitsu	
ADPCM Digital Signal Processor (provides coding/decoding functions required to process Adaptive Pulse Code Modulation Signals)	MB87067	Fujitsu	
ADPCM Processor (transcoding PCM and ADPCM)	DS2168	Dallas	
ADPCM Transcoder	MC145532	Motorola	35
ADPCM-PCM Transcoder	DS2167	Dallas	
ARCNET Controller/Transceiver	NCR90C98	NCR	
	NCR90C98A	NCR	
ARCNET Controller/Transceiver/Hub with PC XT Bus Interface	NCR90C146	NCR	
ARCNET Controller/Transceiver with PC AT Bus Interface	NCR90C198	NCR	40
ARCNET Controller/Transceiver with PC XT Bus Interface	NCR90C126	NCR	
Asynchronous Receiver and Transmitter (UART)	XR16C450	Exar	
ATM/SMDS Physical Layer Protocol Processor	PM7321	PMC	
AUI Multiplexer	ML4642C	MicroLinear	
Bit Error Rate Tester (BERT)	RJ012	Silicom	45
Bit Synchronizer/PSK Demodulator	**STEL2110**	**STEL (3797)**	
	STEL2110A	**STEL (3797)**	
Block Phase Estimator (provides a phase reference for demodulating binary PSK or quadrature PSK data in the presence of phase roll)	**STEL2210**	**STEL (3797)**	
CEPT E1 Transceiver	PM6341	PMC	
CEPT Transceiver	DS2181	Dallas	50
Coded Data Transceiver (Manchester format)	AM7960	AMD	
Compression/Expansion Processor (with image bit-boundary processing)	AM7971	AMD	
Convolutional Encoder and Viterbi Decoder	STI5268	STEL	
Convolutional Encoder/Viterbi Decoder, 256 kb/s, K = 7	STEL5269	STEL	
	STEL5269RH	‡ STEL	55
Correlator/Accumulator, High Rate	**STEL2410**	**STEL (3797)**	
CTCSS Encoder/Decoder	MX365A	MX-COM	
DAA Card	DS2249	Dallas	
DAA Card, European	DS2249EU	Dallas	
DAA Card, Phantom	DS2249PH	Dallas	60
DAA Circuit	DS1360	Dallas	
Data Buffer, CCITT	XR2135A	Exar	
Data Buffer, 212A	XR2125	Exar	
Data Processor for Cellular Radio (part of chipset)	**UMA1000**	**Philips (3729)**	
Data Quantizer	ML4621C	MicroLinear	65
Data Quantizer, Fiber Optic	ML4622C	MicroLinear	
	ML4622I	MicroLinear	
	ML4624C	MicroLinear	
Data Quantizer, High Speed	ML6622C	MicroLinear	
Decoder, Forward Error Correction (decodes convolutional codes with Viterbi decoding algorithm, 2.1 Mbps)	SCOM2001B	† Spancom	70
	SCOM2001C1	Spancom	
Delta Modulation System, Continuously Variable Slope	HC55536	Harris	
	HC55564	Harris	
	MC3417	Motorola	
	MC3418	Motorola	75
Differential PSK Demodulator	**STEL2120**	**STEL (3797)**	
Digital Data Processor, Codirectional	XRT6165	Exar	
	XRT6166	Exar	
Digital Data Service Transceiver, All Rate Extended Range	LXT400	Level One	
Digital Downconverter/Carrier Tracker	**STEL2130**	**STEL (3797)**	80
	STEL2130A	**STEL (3797)**	
Driver/Receiver Combination, RS-232C, V-28	MC145406	Motorola	
DSX-1 Framer/Transceiver	PM4341A	PMC	
Elastic Buffer (4 Channels)	RJ0052	Silicom	
Encoder/Decoder, Manchester (conforms to StarLAN specifications)	MK5033N	SGS-Thomson	85
Error Corrector	RJ010	Silicom	
Ethernet Controller	NE86950B	Philips	
Ethernet/IEEE 802.3 LAN Controller	NCR92C390	NCR	
	NCR92C902	NCR	
Ethernet/IEEE 802.3 LAN Controller with Integrated MENDEC	NCR92C901	NCR	90
Ethernet Interface Transceiver, Universal	LXT901	Level One	
Ethernet Twisted Pair Receiver (implements IEEE 802.3 10 Base - T Media Attachment Unit)	NCR92C02A	NCR	
Ethernet Twisted-Pair Media Attachment	LXT902	Level One	
Ethernet Twisted-Pair to Coax Adapter	LXT906	Level One	
Exchange Power Controller, Quad (supplies power for up to four digital phone lines)	AM7938	AMD	95
E1 CRC Framer/Formatter	LXP2181A	Level One	
FAX Controller, Band Compression and Expansion	M66330	Mitsubishi	
FAX Controller, Graphic Processing Controller	M66332	Mitsubishi	
Fiber Optic LED Driver	ML4632C	MicroLinear	
Fiber Optic LED Driver, High Speed	ML6632C	MicroLinear	100
Filter, Digital	STEL3320	STEL	
Filter, Digital Matched	**STEL3340**	**STEL (3797)**	
FOIRL Transceiver	ML4661C	MicroLinear	
IEEE 802.3 LANPACER Controller	T7231	AT&T	
IEEE 802.3 Manchester Encoder/Decoder	NCR92C391	NCR	105
IEEE 802.3 Network Management Module	NCR92C105	NCR	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR

LINEAR—Telecommunication Circuits (Cont'd)

Data Communications (Cont'd)

Function	Device	Source
IEEE 802.3 StarLAN Hub Controller	MK5030	SGS-Thomson
IEEE 802.3 StarLAN Manchester Encoder/Decoder	MK5035	SGS-Thomson
IEEE 802.3 10BASE2 Transceiver	NCR92C392	NCR
Integrated Local Area Communications Controller (ILACC)	AM79C900	AMD
ISA Slave Host Interface Module	NCR92C143	NCR
LAN, ARCNET Chipset	NCR90C26	NCR
	NCR90C32	NCR
LAN Controller with Integrated MENDEC and AUI	NCR92C110	NCR
Local Area Network Controller for ETHERNET	MK7990	SGS-Thomson
Manchester Decoder and Interface Chip	T7210A	AT&T
Manchester Encoder/Decoder	NCR92C05A	NCR
Master Digital-Loop Transceiver, 80 kb/s	MC145422	Motorola
Master Digital-Loop Transceiver, 160 kb/s	MC145421	Motorola
Metering Pulse Receiver (50 kHz common mode)	AMS3052	Aptek
M13 Multiplexer	PM8313	PMC
Optical Communication Receiver	CXB1561	Sony
Phone Controller, Two Line	HM9320	Hualon Micro
	HM9321	Hualon Micro
Precision Coder (P-Coder)	STEL9200	STEL
Serial Communications Controller, Enhanced (two independent full-duplex channels)	Z85C30	AMD
Serial Communications Controller, Extended (single channel)	**SAB82526**	**Siemens (3769)**
Serial Communications Controller, Extended (with DMA)	**SAB82525**	**Siemens (3769)**
Serial Communications Controller, High-Level (HSCX)	AM82525	AMD
Serial Link Transmitter/Receiver, High Speed	CY7B921C	Cypress
	CY7B921I	Cypress
	CY7B921M	† Cypress
	CY7B922C	Cypress
	CY7B922I	Cypress
	CY7B922M	† Cypress
	CY7B923C	Cypress
	CY7B923I	Cypress
	CY7B923M	† Cypress
	CY7B931C	Cypress
	CY7B931I	Cypress
	CY7B931M	† Cypress
	CY7B932C	Cypress
	CY7B932I	Cypress
	CY7B932M	† Cypress
	CY7B933C	Cypress
	CY7B933I	Cypress
	CY7B933M	† Cypress
Serial Packet Controller	**SSI73M650**	**SiliconSys (3780)**
Slave Digital-Loop Transceiver, 80 kb/s	MC145426	Motorola
Slave Digital-Loop Transceiver, 160 kb/s	MC145425	Motorola
SONET Line Terminating Transceiver	PM5311	PMC
SONET/SDH Line Terminating Transceiver	PM5311SLTX	PMC
SONET/SDH Path Terminating Transceiver	PM5344	PMC
SONET/SDH Section Terminating Transceiver	PM5301SSTX	PMC
SONET/SDH Transport Overhead Transceiver	PM5343	PMC
SONET/SDH Tributary Unit Cross-Connect	PM5371	PMC
SONET/SDH Tributary Unit Payload Processor	PM5361	PMC
SONET Section Terminating Transceiver	PM5301	PMC
StarLAN, Ethernet/Cheapernet LAN Controller	MK5032	SGS-Thomson
StarLAN Station (compatible with MK5032)	MK50351	SGS-Thomson
STS–1 Payload Processor, Triple	PM5323	PMC
TCM Integrated Long Haul Transceiver	LXT131	Level One
TCM Integrated Transceiver	LXT130	Level One
TCM Integrated Quad Transceiver	LXT134	Level One
	LXT135	Level One
Telephone Transmission Circuit (dialer interface, and transmit level dynamic limiting)	TEA1064	Philips
Token Ring Physical Interface Circuit	ML6682	MicroLinear
Transceiver, Twisted Pair-PMD MLT–3	ML6671	MicroLinear
Twisted-Pair Medium Attachment Unit	T7220A	AT&T
Twisted-Pair Port Transceiver	T7240A	AT&T
T1 Receive Buffer	XRT5691	Exar
T1 Transceiver	PM4341	PMC
Universal Synthesizer, Low Power, for Radio Communication (part of chipset)	**UMA1014**	**Philips (3729)**
Viterbi Decoder (error detection device, 17Mbp/s)	Q1401C	Qualcomm
	Q1401M	† Qualcomm
	Q1401RHC	‡ Qualcomm
	Q1401RHM	‡ Qualcomm
Viterbi Decoder (for forward error correction)	STI2010	STEL
Viterbi Decoder, 2.5 Mbps	Q1650C-1N	Qualcomm
Viterbi Decoder, 10 Mbps	Q1601C-10N	Qualcomm
	Q1650C-2N	Qualcomm
	Q1650M-2L	† Qualcomm
Viterbi Decoder, 25 Mbps	Q1650C-3N	Qualcomm
Viterbi Decoder, 256 kbps	Q0256I-1N	Qualcomm
	STEL2040	STEL
Viterbi Decoder, 800 kbps	Q0256I-2N	Qualcomm
Vocoder, Variable Rate	Q4400I-1S1	Qualcomm
Single Chip Tranceiver Provides AES/EBU Ansi s4.40 interface for digital audio data	CA16C440	Newbridge
Dual Interface Station Chip	T7213	AT&T
Triple SONET/SDH Payload Processor	PM5323TSPP	PMC
10Base-FL Transceiver	ML4662C	MicroLinear
	ML4663C	MicroLinear
10Base-T Physical Interface Circuit	ML2652C	MicroLinear
10Base-T Transceiver	ML4651C	MicroLinear
	ML4652C	MicroLinear
	ML4657C	MicroLinear
	ML4658C	MicroLinear
10Base-T Transceiver (for multi-port repeaters)	ML4654C	MicroLinear
10BASE-T Twisted Pair Transceiver	NCR92C03-M	NCR

Dialers

Function	Device	Source
Call Progress Tone Decoder and Auto Busy Redial Controller	HM9200	Hualon Micro
	HM9220A	Hualon Micro
Dialer, Microprocessor Controlled (LD/DTMF)	MA525	GEC Plessey
Dialer, DTMF/Pulse	MB87008A	Fujitsu
	MB87009	Fujitsu
	MB87029	Fujitsu
	KS58A19	Samsung
	KS58B19	Samsung
	KS58C19	Samsung
	KS58D19	Samsung
Dialer, DTMF/Pulse with Redial	PCD3310	Philips
Dialer, DTMF/Pulse (with 10 number memory)	KS58A23	Samsung
	KS58B23	Samsung
	KS58C23	Samsung
	KS58D23	Samsung
	KS5822	Samsung
Dialer, Pulse	XRT5992	Exar
	MV4320	GEC Plessey
	MV4322	GEC Plessey
	MV4323	GEC Plessey
	MV4325	GEC Plessey
	MV4326	GEC Plessey
	MV4327	GEC Plessey
	STC2560	S-MOS
	STC2565	S-MOS
	M761	SGS-Thomson
Dialer, Pulse and DTMF with Redial	PCD3310A	Philips
Dialer, Pulse Repertory, 10 Number	MA5271	GEC Plessey
Dialer, Pulse Repertory, 20 Number	STC2570C	S-MOS
Dialer, Pulse/Tone	XRT5990	Exar
	MB87003	Fujitsu
	MB87004	Fujitsu
Dialer, Pulse/Tone with 18 One Touch Dial Memories	LC73711	Sanyo
Dialer, Pulse/Tone (CMOS)	LR48061	Sharp
	LR48221	Sharp
	LR48222	Sharp
	LR48231	Sharp
	LR48232	Sharp

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line
Dialers (Cont'd)			
Dialer, Pulse/Tone for Binary Code Input	LR4809	Sharp	
Dialer, Pulse/Tone Keypad Switchable with Matched Speech Circuit	MA550	GEC Plessey	
Dialer, Pulse/Tone Keypad Switchable with Redial	MA552	GEC Plessey	
Dialer, Pulse/Tone Repertory (nine 18-digit memory)	MC145412	Motorola	
	MC145413	Motorola	5
Dialer, Pulse/Tone Repertory, 4 Number	LR4807A	Sharp	
Dialer, Pulse/Tone Repertory, 10 Number	MA5272	GEC Plessey	
	MA5273	GEC Plessey	
	MA5274	GEC Plessey	
	STC2580C	S-MOS	10
	MK5375	SGS-Thomson	
	MK5376	SGS-Thomson	
	LR4803	Sharp	
Dialer, Pulse/Tone Repertory, 21 Number	LR48066	Sharp	
Dialer, Pulse/Tone Repertory, 24 Number	MA5452	GEC Plessey	15
	MA5453	GEC Plessey	
	MA547	GEC Plessey	
Dialer, Pulse/Tone Repertory (10 number memory)	MC145512	Motorola	
Dialer, Pulse/Tone Switchable	S7230	Seiko Instr	
	S7235	Seiko Instr	20
	S7237	Seiko Instr	
Dialer, Pulse/Tone with Microprocessor Interface	525	GEC Plessey	
Dialer, Pulse/Tone (with four memories, one touch/three touch/dial)	LR48202	Sharp	
Dialer, Pulse/Tone with Last Number Redial	MB87007A	Fujitsu	
	MA5262	GEC Plessey	25
	MA5263	GEC Plessey	
	MA5402	GEC Plessey	
	MA5403	GEC Plessey	
	MA5412	GEC Plessey	
	MA5413	GEC Plessey	30
	MK5370	SGS-Thomson	
	MK5371	SGS-Thomson	
	MK53721	SGS-Thomson	
	MK53731	SGS-Thomson	
	MK53762	SGS-Thomson	35
Dialer, Pulse/Tone (with LCD driver)	LR48106	Sharp	
Dialer, Pulse/Tone with 20 One Touch Dial Memories	LR48203A	Sharp	
	LR48251	Sharp	
	LR48252	Sharp	
Dialer, Pulse/Tone (with 10 number memory)	LR4802A	Sharp	40
	LR48021	Sharp	
Dialer, Pulse/Tone with 20 Memories (one-touch/two-touch dial)	LR48063	Sharp	
	LR48064	Sharp	
Dialer, Pulse/Tone with 20 One Touch Dial Memories	LR48067	Sharp	
Dialer, Pulse with Last Number Redial	MA522	GEC Plessey	45
	MA542	GEC Plessey	
	52981	GEC Plessey	
Dialer, Pulse with Last Number Redial and Speech Network	MA528	GEC Plessey	
Dialer, Pulse with Redial	KS5805A	Samsung	
	KS5805B	Samsung	50
Dialer, Pulse with Redial (pin 2 is tone output)	KS58D05	Samsung	
Dialer, Pulse with Redial (pin 2 is Vref)	KS58C05	Samsung	
Dialer, Pulse with Redial (32 digit redial)	KS58E05	Samsung	
Dialer, Repertory	MK53761	SGS-Thomson	
Dialer, Repertory, 10 Number	BCL41748	R&E Intl	55
Dialer, Switchable (LD/DTMF)	MA541	GEC Plessey	
	MA545	GEC Plessey	
	MA585	GEC Plessey	
	MA587	GEC Plessey	
	MA589	GEC Plessey	60
Dialer, Tone	LC7365N	Sanyo	
	LR4087B	Sharp	
	LR4089B	Sharp	
Dialer, Tone/Pulse Switchable (with redial)	GM6390	GoldStar	
Dialer, Tone/Pulse Switchable (15 number memory)	GM6388	GoldStar	65
Dialer, Tone/Pulse (with redial)	KS58006	Samsung	
Dialer, Tone with Last Number Redial	MA531	GEC Plessey	
Dialer, Tone with Last Number Redial and Speech Network	MA530	GEC Plessey	
Dialer, Tone with Speech Network and DC Line Voltage Regulator	LB1008A	AT&T	
	MC34010A	Motorola	70
	MC34011A	Motorola	
Dialer with Redial (DTMF)	MA535	GEC Plessey	
Dialer, 20-Station Switchable Repertory	S7241	Seiko Instr	
Tone Dialer	HM9187	Hualon Micro	
Tone Encoder/Decoder (for MIL-STD-141A and Fed Std 1045 protocols)	SRT141AED	SpaceResearch	75
	SRT141ALE	SpaceResearch	
Tone/Pulse Switchable Dialer with Redial	HM9101AY	Hualon Micro	
	HM9101BY	Hualon Micro	
	HM9102C	Hualon Micro	
	HM9102CD	Hualon Micro	80
Tone/Pulse Switchable Dialer with Redial, Handfree and Hold Function	HM91510A	Hualon Micro	
	HM91510B	Hualon Micro	
Tone/Pulse Switchable Dialer with One Key Redial/Save, Handfree and Hold Function	HM91520A	Hualon Micro	
	HM91520B	Hualon Micro	
Tone/Pulse Switchable Dialer, 3 Memory with Save, Handfree and Hold Function	HM91530A	Hualon Micro	85
	HM91530B	Hualon Micro	
Tone/Pulse Switchable Dialer, 4 Memory	HM9104	Hualon Micro	
	HM9104C	Hualon Micro	
Tone/Pulse Switchable Dialer, 5 Memory with Save, Handfree and Hold Function	HM91550A	Hualon Micro	
	HM91550B	Hualon Micro	90
Tone/Pulse Switchable Dialer, 10 Memory	HM9110B	Hualon Micro	
	HM9110C	Hualon Micro	
		(Continued)	
Tone/Pulse Switchable Dialer, 10 Memory (Cont'd)	HM9110D	Hualon Micro	
	HM9110E	Hualon Micro	
	HM9112A	Hualon Micro	95
	HM9112C	Hualon Micro	
Tone/Pulse Switchable Dialer, 10 Memory, with Handfree Control Function	HM9119	Hualon Micro	
Tone/Pulse Switchable Dialer, 10 Memory with Save, Handfree and Hold Function	HM91610A	Hualon Micro	
	HM91610B	Hualon Micro	
	HM91620A	Hualon Micro	100
	HM91620B	Hualon Micro	
Tone/Pulse Switchable Dialer, 14 Memory	HM9113A	Hualon Micro	
	HM9113C	Hualon Micro	
Tone/Pulse Switchable Dialer, 15 Memory	HM9114A	Hualon Micro	
	HM9114C	Hualon Micro	105
Tone/Pulse Switchable Dialer, 15 Memory with Save, Handfree and Hold Function	HM91650A	Hualon Micro	
	HM91650B	Hualon Micro	
Tone/Pulse Switchable Dialer, 20 Memory, with Handfree Control Function	HM9120	Hualon Micro	
	HM9121	Hualon Micro	
	HM9121C	Hualon Micro	110
Tone/Pulse Switchable Dialer, 20 Memory, with Save, Handfree and Hold Function	HM9122A	Hualon Micro	
	HM9122C	Hualon Micro	
	HM9123A	Hualon Micro	
	HM9123C	Hualon Micro	
With Matched Speech Circuit	MA554	GEC Plessey	115
DTMF Generators/Receivers			
Call Progress and Tone Detector (detects special information tones and error tones)	M984	Teltone	
Call Progress Tone Detector	NE5900	Philips	
	SSI75T980	**SiliconSys (3781)**	
	M980	Teltone	
	M981	Teltone	120
	M982	Teltone	
Call Progress Tone Generator (generates standard tones)	M991	Teltone	
DTMF Decoder	MSM6843	OKI	
DTMF Integrated Receiver	G8870	CMD Micro	
	G8870C	CMD Micro	125
	G8871C	CMD Micro	
	G8872C	CMD Micro	
DTMF Integrated Receiver (European Version)	G8870-1	CMD Micro	
	G8870C-1	CMD Micro	
DTMF Integrated Transceiver	G8880-1	CMD Micro	130
	G8880-2	CMD Micro	
	G8888	CMD Micro	
	G8888-1	CMD Micro	
	G8888-2	CMD Micro	
DTMF Receiver	MB87017B	Fujitsu	135
	HM9202	Hualon Micro	
	HM9203	Hualon Micro	
	HM9204	Hualon Micro	
	HM9270	Hualon Micro	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

DTMF Generators/Receivers (Cont'd)

Function	Device	Source	Line
DTMF Receiver (CMOS)	LC7385	Sanyo	
DTMF Receiver (hex output code)	MC145436	Motorola	
DTMF Receiver, Integrated	MV8870	GEC Plessey	
	MV8870-1	GEC Plessey	
DTMF Receiver with Dial Tone Suppression	KT3170	Samsung	5
DTMF Receiver, 5V, Low Power	CD22202E	Harris	
	CD22203E	Harris	
DTMF Receiver, 5V, Low Power Subscriber	CD22204	Harris	
DTMF Tone Dialer	MSM6224RS	OKI	
	MSM6234RS	OKI	10
DTMF Tone Transceiver (with early detect and call-progress detection)	**SSI75T2091**	**SiliconSys (3781)**	
Pseudo-Random Noise Code Generator	**STEL1032**	**STEL (3797)**	
Receiver, DTMF	M8870	Teltone	
	M8880	Teltone	
	M8888	Teltone	15
Repertory Dialer, Tone/Pulse Switchable	MSM6052	OKI	
	MSM6352-20RS	OKI	
Repertory Dialer, 15-Memory Tone/Pulse Switchable	MSM6263-01RS	OKI	
Subscriber Line Interface Circuit	MSA4709	OKI	
Tone Decoder	XR2567	Exar	20
	XR2567M	† Exar	
	MV8860	GEC Plessey	
	MV8862	GEC Plessey	
	MV8863	GEC Plessey	
	MT8860	Mitel	25
	LMC567	National	
	IR3N05/N	Sharp	
Tone Decoder/Encoder	S7119BF	Seiko Instr	
	S7119CF	Seiko Instr	
Tone Decoder, MF	**SSI78A207**	**SiliconSys (3781)**	30
Tone Decoder (operates from 0.01 Hz to 500 kHz)	LM567C	National	
Tone Decoder (operates from 0.01 Hz to 500 kHz)	XR2211C	Exar	
	XR2211M	† Exar	
	XR567AC	Exar	
	XR567AM	† Exar	35
	NE567	Philips	
Tone Decoder, PABX	MSM6920	OKI	
Tone Decoder, Terminal	MSM6945	OKI	
Tone Encoder	TCM5092	TI	
	TCM5094	TI	40
Tone Generator	S7116A	Seiko Instr	
Tone Generator (CCITT R1 tones)	M993	Teltone	
Tone Generator (DTMF)	MV5087	GEC Plessey	
	MV5089	GEC Plessey	

(Continued)

Function	Device	Source	Line
Tone Generator (DTMF) (Cont'd)	GL6801	GoldStar	45
	CD22859	Harris	
	TP5088	National	
	TP5089	National	
	μPC767	NEC	
	PCD3312	Philips	50
	EFG7189	SGS-Thomson	
	TCM5087	TI	
	TCM5089	TI	
Tone Generator (multifrequency)	AMS3501	Aptek	
Tone Receiver Circuit, Dual (with filters)	AMS3210	Aptek	55
Tone Receiver, DTMF	AMS3201	Aptek	
	AMS88205-5NC	Aptek	
	CS202	Crystal	
	CS203	Crystal	
	CS204	Crystal	60
	CS8870-I	Crystal	
	CD22202	Harris	
	CD22203	Harris	
	CD22204E	Harris	
	MH88305	Mitel	65
	MT3270	Mitel	
	MT3271	Mitel	
	MT3370	Mitel	
	MT3371	Mitel	
	SC11202	Sierra	70
	SC11203	Sierra	
	SC11204	Sierra	
	SC11270	Sierra	
	SC11271	Sierra	
	SSI75T201	**SiliconSys (3781)**	75
	SSI75T202	**SiliconSys (3781)**	
	SSI75T203	**SiliconSys (3781)**	
	SSI75T204	**SiliconSys (3781)**	
	M927	Teltone	
	M947	Teltone	80
Tone Receiver, DTMF, Ext Clock	MT3170	Mitel	
	MT3171	Mitel	
Tone Receiver, DTMF, for British Telecom	MT8870D	Mitel	
Tone Receiver, DTMF, for CEPT Spec	MT8870D-1	Mitel	
Tone Receiver, MFR1 (hybrid)	AMS3101	Aptek	85
Tone Receiver, MFR2 Backward Tone Receiver (hybrid)	AMS3103	Aptek	
Tone Receiver, MFR2 Forward Tone Receiver (hybrid)	AMS3104	Aptek	
Tone Receiver, 12 kHz	AMS3050	Aptek	
Tone Receiver, 16 kHz	AMS3051	Aptek	
Tone Ringer	ZN488E	GEC Plessey	90
	GL6840A	GoldStar	
	LA8500	Sanyo	
	LA8501P	Sanyo	
	ML8204	SGS-Thomson	
	ML8205	SGS-Thomson	95
	IR3N32/N	Sharp	
	IR3N34/N	Sharp	
Tone Ringer Driver	TCM1531	TI	
	TCM1532	TI	
	TCM1536	TI	100
	TCM1539	TI	

Function	Device	Source	Line
Tone Ringer (operates from ring signal, drives piezoelectric element)	LB1004A	AT&T	
	LB1005A	AT&T	
	LB1005B	AT&T	
	LB1005C	AT&T	105
	MC34012	Motorola	
	MC34017	Motorola	
Tone Ringer (operates from ring signal, drives speaker)	CS8204	Cherry Semi	
	CS8205	Cherry Semi	
	XRT8205	Exar	110
	MC34012-1	Motorola	
	MC34012-2	Motorola	
	MC34012-3	Motorola	
	M764	SGS-Thomson	
	TCM1520A	TI	115
Tone Ringer (2-tone)	L3240	SGS-Thomson	
Tone Ringer (2-tone)	LS1240	SGS-Thomson	
	LS1241	SGS-Thomson	
Tone Transceiver, DTMF	MT8880C	Mitel	
	MT8880C-1	Mitel	120
	SSI75T2089	**SiliconSys (3781)**	
Tone Transceiver, DTMF, with Adaptive Micro Interface	MT8889C	Mitel	
	MT8889C-1	Mitel	
Tone Transceiver (DTMF) with Call Progress Detection	**SSI75T2090**	**SiliconSys (3781)**	
Tone Transceiver, DTMF, with Intel Micro Interface	MT8888C	Mitel	125
	MT8888C-1	Mitel	
Transceiver, DTMF	SC11280	Sierra	
	SC11289	Sierra	
	SC11290	Sierra	
Transcoder, ADPCM (32/24/16/8 kb/s)	SC11360	Sierra	130
	SC11362	Sierra	
Transmission Circuit w/ Dialer Interface, Low Voltage	TEA1068	Philips	
Dual Tone Generator (touchtone frequencies)	PCD3311	Philips	

Line Interface Circuits

Function	Device	Source	Line
Analog, Interface Circuit (for modem application)	TLC32040C	TI	
	TLC32040I	TI	135
	TLC32041C	TI	
	TLC32041I	TI	
	TLC32042C	TI	
	TLC32042I	TI	
Analog Interface Circuit, Wideband	TLC32046	TI	140
Asynchronous/Synchronous Converter (interface between asynchronous DTE and synchronous modem)	RJ009	Silicom	
CEPT Line Interface	LC1135B	AT&T	
Codirectional Interface, 64 Kbs	XRT6164	Exar	
Control Unit with Parallel Interface	L3090	SGS-Thomson	
Control Unit with Parallel/Serial Interface	L3030	SGS-Thomson	145
Control Unit with Serial Interface	L3010	SGS-Thomson	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Line Interface Circuits (Cont'd)

Function	Device	Source
DASL, Digital Adaptor for Subscriber Loops	TP3402	National
Data Access Arrangement Circuit	CH1810	Cermetek
	CH1811	Cermetek
	CH1816	Cermetek
	CH1818	Cermetek
	CH1827	Cermetek
	CH1840	Cermetek
	XE0004	XECOM
Data Access Arrangement Circuit (BABT approved)	CH1828	Cermetek
	CH1830	Cermetek
Data Set Interface, Asynchronous/Synchronous Converter	MC145428	Motorola
Diagnostic Generator, CCITT V.54	RJ008	Silicom
Digital Line Interface Controller	TP3120	National
	TP3122	National
Digital Network Interface Circuit (DNIC)	MT8972A	Mitel
Digital Network Interface Circuit (ISDN compatible)	MT8971	Mitel
	MT8972	Mitel
Digital Trunk Interface (CEPT)	MH89790	Mitel
	MT8979	Mitel
Digital Trunk Interface Circuit, CEPT	MT8920	Mitel
Digital Trunk Interface Circuit, DS1/ESF	MH89760	Mitel
	MT8977	Mitel
Digital Trunk Interface, T1/ESF	MT8976	Mitel
DS–3 Line Interface with Receive Equalizer	**SSI78P7200**	**SiliconSys (3781)**
DS1 Line Interface	CS6152-I	Crystal
	CS6152A-I	Crystal
	SSI78P233	**SiliconSys (3781)**
DS1 to VTI.5 Asynchronous Bus Interface (works at STS–1 or STS–3 byte rates)	TXC-04001	TranSwitch
Encoder/Decoder, Manchester (conforms to StarLAN specifications)	MK5033N	SGS-Thomson
E1 CEPT/ISDN Primary Rate Interface Transceiver	LXT318	Level One
HDB3/AMI Equipment Line Interface	TCM2203	TI
	TCM2204A	TI
International Telephone Line Interface Circuit	CH1834	Cermetek
	XE1000	XECOM
ISDN Basic Access Controller (full duplex, 4-wire operation)	YM7303	Yamaha
ISDN Basic Access Echo-Cancelling 2B1Q U Transceiver	TP3410	National
ISDN Burst Transceiver Circuit	PEB2095	Siemens
ISDN, Burst Transceiver Circuit (full duplex for 2-wire transmission line)	AM2095	AMD
ISDN Communications Controller (for LAPD protocol)	**PEB2070**	**Siemens (3769)**
ISDN D-Channel Exchange Controller (4 PEB2070 ICCs)	**PEB2075**	**Siemens (3770)**
ISDN Data Controller	AM79C32A	AMD
ISDN Digital Exchange Controller (IDEC)	AM2075	AMD
ISDN Echo Cancellation Circuit	PEB20901	Siemens
	PEB20902	Siemens
	PEB2091	**Siemens (3771)**
ISDN Echo Cancellation Circuit (IEC)	AM20901	AMD
	AM20902	AMD
ISDN Echo Cancellation Circuit (IEC-Q)	AM2091	AMD
ISDN Primary Access Transceiver	**PEB2236**	**Siemens (3771)**
ISDN Primary Access Transceiver (supports CEPT and T1 formats)	PEB2235	Siemens
ISDN R Interface USART	TP3460	National
ISDN S Interface Device	TP3420	National
	TP3420A	National
ISDN, S/T Bus Interface Circuit (implements the 4-wire S/T interface used to link voice/data ISDN terminals)	AM2081	AMD
ISDN S/T Interface Device with GCI (General Circuit Interface)	TP3421	National
ISDN Subscriber Access Controller	PEB2085	Siemens
ISDN Subscriber Access Controller (ISAC-S)	AM2085	AMD
ISDN Subscriber Access Controller (with UPO Interface)	AM20950	AMD
ISDN Suscriber Access Controller	**PEB2086**	**Siemens (3769)**
ISDN Terminal Adapter Circuit (ITAC)	AM2110	AMD
ISDN Terminal Adaptor	**PSB2110**	**Siemens (3769)**
ISDN, U Interface Chip	MC145472	Motorola
ISDN Dual Data Link Controller (DDLC)	MC145488	Motorola
Line Interface Circuit	L3000	SGS-Thomson
Line Interface Circuit, Duplex DS3 (B3ZS codec)	TXC-02001	TranSwitch
Line Interface (data access arrangement)	**SSI73M376**	**SiliconSys (3781)**
Line Interface (DS3)	**SSI78P236**	**SiliconSys (3781)**
Line Interface, Receiver (for CEPT and T1 networks)	DS2187	Dallas
Line Interface (STS–1)	**SSI78P2361**	**SiliconSys (3781)**
Line Interface, Transmit (for CEPT and T1 networks)	DS2186	Dallas
Line Interface (34Mbit/s)	**SSI78P2362**	**SiliconSys (3781)**
Local Area Network Controller for ETHERNET	MK7990	SGS-Thomson
Loop Extender Circuit	MH89726	Mitel
	MH89728	Mitel
Memory Time Switch, 4K Speech, 16x8 I/O	**PEB2045**	**Siemens (3771)**
	PEF2045	Siemens
Multiplex/Demultiplex Circuit (AMI/B8ZS coded)	TXC-03301	TranSwitch
Multiplexer, 3-to-1 (three STS–1 serial signals into one STS–3 parallel signal)	TXC-02201	TranSwitch
Musical Instrument Digital Interface Communication and Service Controller	**YM3802**	**Yamaha (3864)**
Parallel Access Circuit (S/P or P/S, 1024 Channels)	MT9085	Mitel
PCM Conference Call and Attenuation/Noise Suppresion Circuit	M116F1	SGS-Thomson
PCM Conference Chip	MC145611	Motorola
	PEB2245	**Siemens (3771)**
PCM/DSP Interface, Variable Frequency	TCM129C23	TI
	TCM29C23	TI
PCM/DSP Interface, Variable Frequency, Low Power	TCM29C26	TI
PCM Elastic Store	MJ1474	GEC Plessey
PCM Interface Controller (controls up to 32 ISDN or 64 voice subscribers)	AM2055	AMD
PCM Interface Controller, Extended	PEB2056	Siemens
PCM Interface Controller, Extended (linecard controller for ISDN applications)	**PEB2055**	**Siemens (3770)**
PCM Interface Controller (linecard controller for analog loop applications)	**PEB2052**	**Siemens (3770)**
PCM Line Interface	CS61535-I	Crystal
	CS61535A-I	Crystal
	XRT61574	Exar
PCM Line Interface, Low Power	XRT56L85	Exar
PCM Line Interface (1.544 or 2.048 MHz data rate)	CS61534	Crystal
PCM Line Interface (2048 kbps)	**SSI78P234**	**SiliconSys (3781)**
PCM Line Interface, 3rd Order	XRT3400	Exar
PCM Line Receiver	XRT5676	Exar
PCM Line Receiver and Clock Recovery Circuit	LIU01	AD
	XRT5650	Exar
	XRT5750	Exar
R-Interface Module (RIM), Implements the Rate Adaption Function within a Terminal Adaptor	MH89500	Exar
	MH89500	Mitel
Reverse Line Interface Circuit	AMS2044	Aptek
Ring Detector	TCM1506B	TI
Ring Detector and Calling Line Identification	MC145447	Motorola
S Bus Interface Transceiver (for S and Q Bit messages)	**PEB2081**	**Siemens (3771)**
S/T Interface Transceiver (for ISDN)	MC145474	Motorola
	MC145475	Motorola

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Line Interface Circuits (Cont'd)

Function	Device	Source
S-Bus Interface Circuit (implements 4-wire S/T interface used to link voice/data terminals to an ISDN)		
	AM2080	AMD
	AM2080B	AMD
Serial Interface Adapter for ETHERNET		
	MK68592	SGS-Thomson
	MK7992	SGS-Thomson
Serial Time Division Multiplexed (TDM) Voice/Data Interface	CHI	AT&T
STS12 Line Interface Module		
	PM5712A	PMC
Subcriber Line Interface Circuit		
	AM79531	AMD
	AM79574	AMD
Subcriber Line Interface Circuit, Caller Identification		
	MT8841	Mitel
Subcriber Line Interface Circuit, Metering		
	AM79M574	AMD
Subsciber Line Interface Circuit		
	AM79571	AMD
Subscriber Line Audio Circuit		
	MV3010	GEC Plessey
Subscriber Line Audio Processing Circuit (SLAC)		
	AM7905A	AMD
Subscriber Line Audio-Processing Circuit, Dual (DSLAC)		
	AM79C02	AMD
	AM79C02A	AMD
	AM79C03	AMD
	AM79C03A	AMD
	AM79C04	AMD
	AM79C04A	AMD
Subscriber Line Interface Circuit		
	AM7942	AMD
	AM7943	AMD
	AM7943A	AMD
	AM79530	AMD
	AM79534	AMD
	AM79535	AMD
	AM79573	AMD
	AM7958	AMD
	MA79532	AMD
	AMS2006	Aptek
	AMS3081	Aptek
	AMS3082	Aptek
	SL373	GEC Plessey
	SL374	GEC Plessey
	SL7950	GEC Plessey
	SL7953	GEC Plessey
	HC5502B	Harris
	HC5504B	Harris
	HC5504DLC	Harris
	HC5509B	Harris
	MH88500	Mitel
	MC3419C	Motorola
	μPD7063L	NEC
	μPD7151L	NEC
	μPD7161L	NEC
	TDB7711	SGS-Thomson
	TDB7722	SGS-Thomson
	TCM4205A	TI
Subscriber Line Interface Circuit (DAA)		
	TEA7868	SGS-Thomson
Subscriber Line Interface Circuit, Digital Adaptor (a TCM ISDN compatible,two wire, short loop transceiver)		
	TP3401	National
Subscriber Line Interface Circuit, High-Level Metering		
	AM79HM53	AMD
Subscriber Line Interface Circuit, ISDN, PABX		
	MT8910	Mitel
Subscriber Line Interface Circuit, Metering		
	AM79M531	AMD
	AM79M534	AMD
		(Continued)

Function	Device	Source
Subscriber Line Interface Circuit, Metering (Cont'd)		
	AM79M535	AMD
	AM79M57	AMD
	AM79M571	AMD
	SL376	GEC Plessey
Subscriber Line Interface Circuit (performs 2-wire to 4-wire conversion)		
	TCM4204A	TI
	TCM4207A	TI
Subscriber Line Interface Circuit (SLIC)		
	PBL3762	**Ericsson (3608)**
	PBL3762A	**Ericsson (3608)**
	PBL3764	**Ericsson (3608)**
	PBL3764A	**Ericsson (3608)**
	PBL3765	**Ericsson (3608)**
	PBL3766	**Ericsson (3608)**
	PBL3767	**Ericsson (3608)**
	PBL3796	**Ericsson (3608)**
	PBL3797	**Ericsson (3608)**
	PBL3798	**Ericsson (3608)**
	PBL3799	**Ericsson (3608)**
	MC3419-1L	Motorola
Subscriber Line Interface Circuit with Magnetic Compensation		
	TP3200	National
	TP3204	National
Subscriber Line Interface Circuit, 2W/4W		
	MH88610	Mitel
Subscriber Line Interface Circuit (24 V)		
	AMS2406	Aptek
	AMS2408	Aptek
Subscriber Line Interface Circuit–24V		
	HC5524	Harris
Subscriber Line Interface Module		
	TP3210	National
	TP3211	National
Subscriber Line Protection Circuit		
	LB1201A	AT&T
	LB1221A	AT&T
Subscriber Loop Interface Circuit		
	MC33120	Motorola
Subscriber Network Interface Circuit (CCITT 1.430 and T Interface Compatible)		
	MT8930	Mitel
	MT8931	Mitel
Supernet Chipset for the Fiber Distributed Data Interface (RAM buffer controller)		
	AM79C81	AMD
	AM79C82	AMD
	AM79C83	AMD
	AM7984A	AMD
	AM7985A	AMD
Suscriber Line Interface Circuit, Programmable		
	MH88620	Mitel
	MH88625	Mitel
	MH88632	Mitel
Suscriber Line Interface Circuit, 2W/4W		
	MH88524	Mitel
	MH88600	Mitel
	MH88628	Mitel
Suscriber Line Interface Circuit, 2W/4W, FAX/Modem		
	MH88400	Mitel
Suscriber Line Protection Circuit		
	MH89101	Mitel
Telephone Interface Circuit		
	LH1028B	AT&T
Telephone Line Interface Circuit		
	CH1812	Cermetek
	CH1815	Cermetek
Telephone Line Interface Circuit (with correct detection)		
	CH1813	Cermetek

Function	Device	Source
Telephone Line Interface, International DAA Circuit		
	CH1814	Cermetek
Trunk Interface		
	AMS2051	Aptek
	L3845	SGS-Thomson
Twisted-Pair Transceiver Interface (IEEE 802.3 compatible)	**NE86C92**	**Philips (3724)**
T1/CEPT Medium Haul PCM Line Interface		
	DS2145	Dallas
	DS2146	Dallas
T1/CEPT PCM Line Interface		
	CS61574	Crystal
	CS61574A	Crystal
	CS61575	Crystal
	CS6158	Crystal
T1 CSU/ISDN Primary Rate Interface Transceiver		
	LXT310	Level One
	MT8926	Mitel
T1 Line Interface (line driver)		
	XRT5675	Exar
T1 Network Interface Unit (for 1.544 Mbps T1 services)		
	DS2190	Dallas
T1 Network Interface Unit (NIU)		
	DS2190-003	Dallas
V.35 Interface Transmitter/Receiver		
	XRT3588	Exar
	XRT3589	Exar
Voice-Band Analog Interface Circuit		
	TLC32044C	TI
	TLC32044I	TI
	TLC32044M	† TI
	TLC32045C	TI
	TLC32045I	TI

Modem Circuits

Function	Device	Source
Analog Interface Circuit (for modems)		
	TLC32040C	TI
	TLC32040I	TI
	TLC32041C	TI
	TLC32041I	TI
	TLC32042C	TI
	TLC32042I	TI
Analog Processor, for DSP V.22bis Modems	**SSI73M214**	**SiliconSys (3781)**
Async/Sync Converter (for modem systems from 600 to 19.2K baud)	SPX6002	Seponix
Bell 208A/B and Bell 201C Modem Data Pump		
	R208/201	Rockwell
Codec/Filter, μLaw		
	ETC5054	SGS-Thomson
Codec/Filter, μLaw, Serial Output with Power Amplifiers		
	ETC5064	SGS-Thomson
Codec/Filter, A-Law		
	ETC5057	SGS-Thomson
Codec/Filter, A-Law, Serial Output with Power Amplifiers	ETC5067	SGS-Thomson
Cordless Telephone Modem Circuit		
	CXD1233	Sony
Data Access Arrangement Circuit		
	CH1817	Cermetek
Data Access Arrangement Circuit, Caller ID		
	CH1817C	Cermetek
Data Access Arrangement Circuit, Low Power		
	CH1817L	Cermetek
Delta Sigma Modulator/Demodulator		
	ZNPCM2	GEC Plessey
Domestic Telephone Line Interface		
	XE0002B	XECOM

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line
Modem Circuits (Cont'd)			
Facsimile/Data Modem Analog Front End (complete CODEC and filter)	NS32FX210	National	
Fascimile Modem Analog Processor	SC11086	Sierra	
	SC11196	Sierra	
FAX Modem, Group 3 Fax Capability at 9600 bps	LC8920	Sanyo	
	YTM414	**Yamaha (3865)**	5
Filter, Fourth Order Switched Capacitor (Stand Alone Mode with RC or Crystal)	XR1001	Exar	
FSK Modem	TCM3105DWE	TI	
	TCM3105DWL	TI	
	TCM3105JE	TI	
	TCM3105JL	TI	10
	TCM3105NE	TI	
	TCM3105NL	TI	
FSK Modem, 1200 Baud	**SSI73M223**	**SiliconSys (3781)**	
Full-Duplex Modem Data Pump Device Set, 2400 bps	RC2324DP/2	< Rockwell	
High Speed Modem, V.32	XR3200	Exar	15
Integrated Data/Fax/Voice Modem Device Set	RC96V24AC	< Rockwell	
Intelligent Data/Fax/Voice Modem	CL-MD9624AT	Cirrus	
	CL-MD9624EC	Cirrus	
Interface, ISDN user-network, basic access, full duplex	**YM7405**	**Yamaha (3865)**	
Low-Power Integrated Data/Fax/Voice Modem Device Set, 14,400 bps	RC144ACL	< Rockwell	20
	RC96ACL	< Rockwell	
Modem Card	DS2245	Dallas	
Modem Circuit, Advanced Controller for Modems up to 9600 bps	SC11031	Sierra	
	SC11040	Sierra	
	SC11041	Sierra	25
	SC11042	Sierra	
	SC11043	Sierra	
Modem Circuit, Analog/Digital Front End, (part of chip-set PHY1001)	PHY202	Phylon Inc.	
Modem Circuit, Analog Front End for G2 and G3 FAX Machines	TC35103	Toshiba	
Modem Circuit, Analog Front End for High-Speed V.26, V.27, V.29 and V.33 modems	SC11033	Sierra	30
Modem Circuit, Analog Front End Receiver	TS68950	SGS-Thomson	
	TS68951	SGS-Thomson	
Modem Circuit, Analog Front End XMIT/RCVR, Clock Generator	TS68952	SGS-Thomson	
Modem Circuit, Bell 103	SC11002	Sierra	
Modem Circuit, Bell 103 (+5 volt)	SC11003	Sierra	35
Modem Circuit, Bell 103 and 212A, CCITT V.21 and V.22, 300/1200 bps (with programmable gain)	SC11015	Sierra	
Modem Circuit, Bell 103, Bell 212A and CCITT V.21/V.22	SC11014	Sierra	
Modem Circuit, Bell 103 with Power Down Mode (300 bps)	STC9424C	S-MOS	
Modem Circuit, Bell 103/113	CH1262	Cermetek	
	CH1267	Cermetek	40
		(Continued)	
Modem Circuit, Bell 103/113 (Cont'd)	CH1280	Cermetek	
	MM74HC942	National	
Modem Circuit, Bell 103/113/108, Bell 202 and CCITT V.21/V.23	AM7911	AMD	
Modem Circuit, Bell 103/212A and CCITT V.21, V.22 and V.22 bis	SC11006	Sierra	
Modem Circuit, Bell 103/212A, CCITT V.21 and V.22, 300/1200 bps	SC11016	Sierra	45
Modem Circuit, Bell 103/212A, CCITT V.21/V.22	SC11004	Sierra	
Modem Circuit, Bell 103 (300 baud)	MC145443	Motorola	
Modem Circuit, Bell 103 (300 bps)	STC9422C	S-MOS	
Modem Circuit, Bell 202 or CCITT V.23	TCM3105	TI	
Modem Circuit, Bell 212A	CH1770	Cermetek	50
Modem Circuit, Bell 212A and CCITT V.22, DPSK	TS7515	SGS-Thomson	
Modem Circuit, Bell 212A Demodulator	XR2122	Exar	
Modem Circuit, Bell 212A Modulator	XR2121	Exar	
Modem Circuit, Bell 212A or 103	F1212	National	
Modem Circuit, Bell 300 Baud	MSM6946	OKI	55
Modem Circuit, Bell 1200 baud	MSM6947	OKI	
Modem Circuit, Bell 201/CCITT V.26 Compatible (2400 bps filter combo)	RM5636B	EG&G-Reticon	
Modem Circuit, Bell 212A, CCITT V.22	XR2130	Exar	
Modem Circuit, Bus Interface with UART register set, (part of chip-set PHY2100)	PHY301	Phylon Inc.	
Modem Circuit, CCITT V.21/V.23, Bell 103/113/202/140	EF7910	SGS-Thomson	60
Modem Circuit, CCITT V.21/V.23, Bell 103/113/202/148	AM7910	AMD	
Modem Circuit, CCITT V.21 with Power Down Mode (300bps)	STC9423C	S-MOS	
Modem Circuit, CCITT V.21 (300 baud)	MC145442	Motorola	
Modem Circuit, CCITT V.21 (300 bps)	STC9421C	S-MOS	
Modem Circuit, CCITT V.22/V.21, 1200 bps	**SSI73K222S**	**SiliconSys (3780)**	65
	SSI73K222SL	**SiliconSys (3780)**	
Modem Circuit, CCITT V.22 (1200/600 baud)	µAV22	National	
Modem Circuit, CCITT V.22bis	XR2400	Exar	
Modem Circuit, CCITT (1200 baud)	MSM3953	OKI	
	MSM6927	OKI	70
Modem Circuit, CCITT (300 baud)	MSM6926	OKI	
Modem Circuit, Controller for SC11004, SC11014and SC11015 300/1200 bps modems	SC11017	Sierra	
Modem Circuit, Controller for SC11006, 300/1200/2400 bps	SC11011	Sierra	
Modem Circuit, Controller for SC11016 300/1200 bps modem	SC11027	Sierra	
	SC11028	Sierra	75
	SC11037	Sierra	
Modem Circuit, Controller for Sierra SC11006 Modem (2400 baud)	SC11019	Sierra	
	SC11020	Sierra	
	SC11021	Sierra	
	SC11022	Sierra	80
	SC11023	Sierra	
	SC11074	Sierra	
	SC11075	Sierra	
Modem Circuit, Controller for 300/1200 bps modem	SC11007	Sierra	
	SC11008	Sierra	85
Modem Circuit, Data, FAX, CCITT T.4/.30, V.42, 9600/7200/4800/2400 bps	**GTM407**	**Yamaha (3865)**	
Modem Circuit, Data, FAX, Voice, Bell 103/202/212A, CCITT V.21/.22/.22bis/.23/.26bis/.27/.29, 9600/7200/4800/2400/1200/300 bps	**YTM403**	**Yamaha (3865)**	
Modem Circuit, Data Over Voice	MT8840	Mitel	
Modem Circuit, Digital Signal Processor, (part of chip-set PHY1001)	PHY105	Phylon Inc.	
	PHY115	Phylon Inc.	90
Modem Circuit, FAX, Bell 103, CCITT V.21/.23/.27,.29, 9600/7200/4800/2400/300 bps	**YTM401**	**Yamaha (3865)**	
Modem Circuit, FAX, CCITT T.4/.30, 9600/7200/4800/2400 bps	**YTF409**	**Yamaha (3865)**	
Modem Circuit, FAX Modem (9600 bps)	**YM7109**	**Yamaha (3865)**	
Modem Circuit, FSK Autodial Modem (Bell 103, 113, 108 and CCITT V.21 compatible)	AM79101	AMD	
Modem Circuit, FSK Modulator/Demodulator	XR210	Exar	95
	XR210M	† Exar	
Modem Circuit, Full Bell 212A/103 Compatible, 1200/300 bps	XE1201	XECOM	
	XE1203	XECOM	
Modem Circuit, Full Duplex 1200/300 bps (212A and 103 compatible)	PT212AT	OnChip Sys	
Modem Circuit, Full Duplex 1200/600 bps (V.22 compatible)	PTV22P	OnChip Sys	100
Modem Circuit, Hart Modem	NCR20C12	NCR	
Modem Circuit, Low Power (5 V with V.23 mode for European applications)	**SSI73K322SL**	**SiliconSys (3780)**	
Modem Circuit Minimum Shift Key (MSK) Modem	MX809	MX-COM	
Modem Circuit, MSK	µPD6302	NEC	
Modem Circuit, MSK (1200 baud for cordless phones)	MB86460	Fujitsu	105
Modem Circuit, Power Line and Twisted Pair	NE5050	Philips	
Modem Circuit, PSK Modulator/Demodulator, Bell 201/212A, CCITT V.22/V.26	XR2123	Exar	
	XR2123A	Exar	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Modem Circuits (Cont'd)

Function	Device	Source
Modem Circuit, Twisted Pair Modem (implements Manchester or level encoding)	MC68185	Motorola
Modem Circuit (UART, 16C450 compatible)	SSI73M1450	SiliconSys
	SSI73M2450	SiliconSys
	SSI73M450L	SiliconSys
	SSI73M450LF	SiliconSys
Modem Circuit (up to 1200 baud)	**SSI73K302SL**	**SiliconSys (3780)**
Modem Circuit (up to 1200 baud, V.23/V.21 modes)	**SSI73K321SL**	**SiliconSys (3780)**
Modem Circuit, V.22bis, Provides the DSP Portion of the system,such as A/D, D/A (part of XR-2401/02 chip set)	XR2402C	Exar
Modem Circuit, V.22bis, 2400, 1200, 200 bps (part of XR-2401/02 chip set)	XR2401C	Exar
Modem Circuit with built-in DTMF for Cellular Applications	CXD1270	Sony
Modem Circuit (300 bps)	STC9420C	S-MOS
Modem Circuit, 1200 bps	STC9120C	S-MOS
Modem Circuit, 1200 bps Modem Module	CH1776	Cermetek
Modem Circuit, 1200 bps MSK (minimum shift keying)	MB87002	Fujitsu
Modem Circuit, 1200 bps with Serial Interface	XE1214B5	XECOM
Modem Circuit, 1200 bps with 8250B Interface	XE1212BL5	XECOM
Modem Circuit, 1200/300 bps, Bell 103/212A	**SSI73K212SL**	**SiliconSys (3780)**
Modem Circuit, 1200/300 bps, Bell 212A/103	**SSI73K212**	**SiliconSys (3780)**
	SSI73K212S	**SiliconSys (3780)**
Modem Circuit, 1200/300 bps, Bell 212A/103, CCITT V.22/.21 with Integral 16C450 UART.	**SSI73K222U**	**SiliconSys (3780)**
Modem Circuit, 1200/300 bps, Bell 212A/103, Low Power K212	**SSI73K212L**	**SiliconSys (3780)**
Modem Circuit 1200/300 bps, BELL 212A/103/202ST	**SSI73K302L**	**SiliconSys (3780)**
Modem Circuit 1200/300bps, CCITT V.23/.21	**SSI73K321L**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300 bps, BELL 202/103, CCITT V.23/.21	**SSI73K312L**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300 bps, CCITT V.22/.21	**SSI73K221S**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300 bps, CCITT V.22/.21, Bell 212A/103	**SSI73K222**	**SiliconSys (3780)**
	SSI73K222L	**SiliconSys (3780)**
Modem Circuit, 1200/600/300 bps, CCITT V.23/.22/.21, Low Power, European applications	**SSI73K322L**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300 bps, Low Power SSI73K221S	**SSI73K221SL**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300/75 bps, BELL 212A, CCITT V.22bis/.22/.21, Low Power K224	**SSI73K324L**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300bps, CCITT V.22/.21	**SSI73K221**	**SiliconSys (3780)**
Modem Circuit, 1200/600/300bps, V.22/.21, Low Power K221	**SSI73K221L**	**SiliconSys (3780)**
Modem Circuit, 2400 bps Data, MNP5, MNP10, V.42bis, 9600 bps FAX	XE9624E	XECOM
Modem Circuit, 2400 bps Data, MNP5, 9600 bps Send FAX	XE2496M	XECOM
Modem Circuit, 2400 bps Data, 9600 bps Send FAX	XE2496	XECOM
Modem Circuit, 2400 bps Full Duplex Modem Data Pump (CCITT V.22 bis, V.22 A/B, V.21, Bell 212A and Bell 103)	RC2424DP/1	Rockwell
Modem Circuit, 2400 bps Modem Module, V.22 bis, V.21, Bell 212A and Bell 103	CH1782	Cermetek
Modem Circuit, 2400 bps with Serial Interface	XE2401	XECOM
Modem Circuit, 2400 bps with 8250B Interface	XE2401P	XECOM
Modem Circuit, 2400/1200/300 bps, BELL 212A/103, CCITT V.22bis/.22/.21 ITH AT Command Interpreter	**SSI73D2240**	**SiliconSys (3780)**
	SSI73D2247	**SiliconSys (3780)**
	SSI73D2247Z	**SiliconSys (3780)**
	SSI73D2248	**SiliconSys (3780)**
Modem Circuit, 2400/1200/300 bps, CCITT V.22bis/.22/.21, MNP5 Protocol	**SSI73D2348**	**SiliconSys (3780)**
Modem Circuit, 2400/1200/600/300 bps, V.22bis/.22/.21, Low Power K224	**SSI73K224L**	**SiliconSys (3780)**
	SSI73K224SL	**SiliconSys (3780)**
Modem Circuit, 2400 bps Modem	SC11024	Sierra
	11026	Sierra
Modem Circuit, 9600 bps Half-Duplex FAX Modem	TC35108	Toshiba
Modem Circuits, MSK Modem	MX439	MX-COM
Modem Circuits, 1200 Baud Minimum Shift Key (MSK) Modem	MX519	MX-COM
Modem Circuits, 1200 and 2400 Baud MSK Modem for FM Radio Links	MX469	MX-COM
Modem Circuits, 1200 Baud MSK Modem For Trunked Radio	MX429	MX-COM
	MX529	MX-COM
Modem Controller, AT Command Set	XR2405	Exar
Modem, Echo-Cancelling Analog Front End	**AD28MSP01**	**AD (3507, 3511, 3514)**
Modem Filter, Bell 212A/CCITT V.22	XR2126	Exar
	XR2129	Exar
	SC11000	Sierra
	SC11001	Sierra
	SC11005	Sierra
Modem Filter, Bell 212A/CCITT V.22	XR2127	Exar
	XR2128	Exar
Modem Filter, CCITT V.21, V.23, V.26	XR1001	Exar
Modem Filter Combination, V.29/Bell 209, Delay Equalizer, and 3 kHz Lowpass	RM5638A	EG&G-Reticon
Modem Filter, FSK Bell 103	XR2103	Exar
	XR2103A	Exar
Modem Filter, PSK Bell 212A	XR2120	Exar
Modem Filter (300 baud)	RM5631A	EG&G-Reticon
Modem Filter (2400 baud), V.22 b/s	RM5635A	EG&G-Reticon
Modem, FSK Modulator	XR2206	Exar
	XR2206	Exar
Modem Interface and Receiver Filter Circuit (300 baud modem)	CH1230	Cermetek
Modem Module, 2400 bps	CH1785	Cermetek
Modem Receiver, FSK (IEEE 802.4)	NE5081	Philips
Modem System, FSK	XR14412V	Exar
Modem Transmitter, FSK (IEEE 802.4)	NE5080	Philips
Modem, V.21	XR2100	Exar
Modem with MNP	DS2245M	Dallas
Modem, Single Chip, V.23/V.21	XR2321	Exar
MSK Modem	MSM6948	OKI
	MSM6948V	OKI
MSK Modem (low power)	MSM6948-3	OKI
MSK Modem, 1200/2400 Baud (for wireless system)	MSM6882-3	OKI
	MSM6882-5	OKI
Optical Modem Circuit	CS8124	Crystal
Synchronous CDP Modem	RJ002	Silicom
Terminal Adapter, DTE to ISDN, 600 thru 64K bps	**YTD402**	**Yamaha (3865)**
UART for Peripheral/Modem Control	KS5812	Samsung
V.22bis Data Pump	RC2424DPL	Rockwell
V.22bis Data Pump with Fax and Voice Support	RC96V24DP	Rockwell
V.22bis Data Pump with Fax Support	RC9624DP	Rockwell
V.22bis Integrated Modem with AT Commands	RC224AT	Rockwell
	RC224ATL	Rockwell
V.22bis Integrated Modem with AT Commands and Fax Support	RC224ATF	Rockwell

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Modem Circuits (Cont'd)

Function	Device	Source
V.22bis/V.23 Data Pump	RC2324DPL	Rockwell
V.22bis/V.23 Data Pump with Fax Support	RC9623DP	Rockwell
V.22bis/V.26 Data Pump with Fax and Voice Support	RC96V26DP	Rockwell
V.26bis/Bell 201B/C Data Pump	R24BKJ	Rockwell
V.26bis/V.27ter Data Pump	RC24BKJ	Rockwell
V.29 Modem Data Pump	R96DP	Rockwell
V.29 Modem Data Pump with Fast Train	R96FT	Rockwell
V.32 Modem, Logic and Interface	SC11083	Sierra
V.32 Two-Wire Data/Fax Modem	RC96DP	Rockwell
V.32 Two-Wire Data/Fax Modem with Voice	RC96DPL	Rockwell
V.32bis Two-Wire Data/Fax Modem	RC144DP	Rockwell
V.32bis Two-Wire Data/Fax Modem with Voice	RC144DPL	Rockwell
V.33 Modem Data Pump	R144DP	Rockwell
V.33/V.32 Modem Data Pump with 12000 bps Mode	RC1496/12	Rockwell
V.33/V.32bis Modem Data Pump	RC144DP-LL	Rockwell
	RC144DPL-LL	Rockwell
	RC1496/14	Rockwell
V–22B,V–22,V–21,V–23,BELL–103,212 Modem Chip Set	TC75C25	SGS-Thomson
V–32,V–22B,V–22,V–21,V–23,BELL–212,103 Modem Chip Set	TS75C32	SGS-Thomson
World-Wide Integrated Data/Fax Modem Device Set, 14,400 bps	RC144ACW	< Rockwell
	RC96ACW	< Rockwell
2400 bps Fast Modem Advanced Controller (FMAC)	SC11061	Sierra
2400 bps Modem	SC11046	Sierra
2400 bps Universal Modem Advanced Controller (UMAC)	SC11091	Sierra
	SC11095	Sierra
4800/9600 bps Modem with V.22bis	SC11044	Sierra
	SC11054	Sierra
4800/9600 bps Modem with V.22bis, V.23 and Caller I.D	SC11045	Sierra
	SC11055	Sierra
9600 bps Fascimile Modem DSPs	SC11066	Sierra
	SC11077	Sierra
	SC11087	Sierra
	SC11088	Sierra
	SC11198	Sierra
9600 bps FaxEngine Set	R96FE	Rockwell
9600 bps Modem	R96MFX	Rockwell
9600 bps Modem with Error Detection	R96EFX	Rockwell
9600 bps Modem with Error Detection and DTMF Reception	R96DFX	Rockwell
	R96VFX	Rockwell
9600bps Fax Modem with HDLC Error Detection	SPX9600	Seponix
14400 bps Modem	R144EFX	Rockwell
12 Channel Multiplexor	RJ001	Silicom

Modulators

Function	Device	Source
Balanced Modulator/Demodulator	AD630A	AD
	AD630B	AD
	AD630J	AD
	AD630K	AD
	AD630S	AD
	AD630S/883B	† AD

Miscellaneous

Function	Device	Source
ADPCM Array	DS2157	Dallas
	DS2158	Dallas
ADPCM Processor Chip (16/24/32Kbps)	DS2165	Dallas
	DS2165Q	Dallas
ADPCM System	DS2264	Dallas
	DS2268	Dallas
Amplifier, Telephone Audio	MC34119	Motorola
Analog Front End	MSM6949	OKI
	MSM6950	OKI
	MSM6950B	OKI
Analog Front End for Multi-Standard Modem	MSM6951B	OKI
Audio Amplifier (for speakerphone applications)	XRT34119	Exar
Audio Processor, AMPS/NAMPS System	MX826	MX-COM
Audio Processor, Companding and Amplifier (for cellular radio chipset)	**NE5750**	**Philips (3729)**
Audio Processor, DBS 800 System	MX806A	MX-COM
Audio Processor, Filter and Control Section (for cellular radio chipset)	**NE5751**	**Philips (3729)**
Audio Processor, NMT System	MX816	MX-COM
Audio Processor, Radiocom 2000 System	MX836	MX-COM
Audio Signaling Processor	MX803	MX-COM
Automobile Telephone Audio Processor	MB86490	Fujitsu
Baseband I/O Converter	**AD7005**	**AD (3507, 3514)**
Battery Feed (–48V)	LB1011A	AT&T
	LB1012A	AT&T
B82S Transcoder	XRT5670	Exar
Call Progress Tone Detector	HM9220E	Hualon Micro
Caller I.D. with Ring Detection	SC11212	Sierra
Caller ID Circuit	AMS3144	Aptek
Caller Identification Circuit	SC11210	Sierra
	SC11211	Sierra
CCITT Signalling System Controller	MK5027	SGS-Thomson
Cellular Radio Telephone DATA SAT Circuit	CXD1231	Sony
CEPT Line Card	DS2281	Dallas
Clock Extraction Module	EF7332	SGS-Thomson
Clock Recovery Circuit	T7032	AT&T
Clock Recovery Circuit (for FDDI and wire applications)	T7035	AT&T
CMOS CCITT, X.25 LAPB/LAPD Controller	MK5025	SGS-Thomson
Communication Terminal Module	EF7333	SGS-Thomson
Compandor Circuit (noise reduction for cellular phones)	TK10651	Toko
Cordless Telephone Base Subsystem (audio processing and tone signalling on one chip)	PCT13	OnChip Sys
Cordless Telephone Handset Base Controller	HM94001	Hualon Micro
Cordless Telephone Handset Controller	HM94000	Hualon Micro
Cordless Telephone Handset Subsystem (audio processing and tone signalling on one chip)	PCT14	OnChip Sys
Cordless Telephone Signal Processor	LA8606M	Sanyo
CTCSS Encoder	MX315A	MX-COM
CTCSS Encoder/Decoder	MX165A	MX-COM
	MX175	MX-COM
	MX265A	MX-COM
	MX275	MX-COM
	MX365A	MX-COM
Current Regulator (for PABX current sources, telephone line terminations, 10 mA rating)	IXCP10M35	IXYS
	IXCP100M35	IXYS
	IXCP35M35	IXYS
Current Sensing/Voltage Sensing and Ring Detect Interface	CH1809	Cermetek
Data Access Arrangement Circuit, Caller ID	CH1845	Cermetek
DDS IF Modulator	**AD7008**	**AD (3514)**
Dejitter Buffer, Quad (processes four DS1 signals)	TXC-03351	TranSwitch
DES Processor	DS2160	Dallas
Digital Answering Machine	D6205A11	DSP Group
Digital Answering Machine Processor	DS2132	Dallas
	DS2132Q	Dallas
Digital Answering Machine with FlexiSpeech	D6235A11	DSP Group
Digital Answering Machine with Speakerphone	D6275A11	DSP Group
Digital Line Transceiver (PBX)	MSM6955	OKI
Digital Power Controller (for multibutton telephone station sets)	LB1019	AT&T
	LB1019A	AT&T
Digital Speech ASIC	D6005A-71	DSP Group
	D6005A-71B	DSP Group
	D6105A-71	DSP Group

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Digital Speech Processor	D6005B-11A	DSP Group	
	D6055A-11A	DSP Group	
	D6065A-11	DSP Group	
	D6105A-11	DSP Group	
	D6135A-11	DSP Group	5
	D6305A-11	DSP Group	
Digital Subscriber Controller	AM79C30	AMD	
	AM79C30A	AMD	
Digital Switch Module (DSM)	MA8112	GEC Plessey	
	MS2002	GEC Plessey	10
Digital Switching Matrix (2x32)	MT8982	Mitel	
Digital Switching Matrix (128x128)	M044	SGS-Thomson	
Digital Switching Matrix (256x256)	MT8985	Mitel	
	M088	SGS-Thomson	
Digital Switching Matrix (2Kx16)	MT9080	Mitel	15
Digital Telephone Answering Device	D7002A-11	DSP Group	
Digital Telephone Circuit (D-Phone)	MT8994	Mitel	
	MT8995	Mitel	
	MT9094	Mitel	
Digital Telephone Circuit (H-Phone)	MT8992	Mitel	20
	MT8993	Mitel	
	MT9092	Mitel	
Digital Trunk PLL, T1/CEPT	MT8940	Mitel	
	MT8941	Mitel	
Digital Trunk Transmit Equalizer, T1	MH89761	Mitel	25
Driver/Receiver Combination, RS–232C, V–28	MC145404	Motorola	
	MC145408	Motorola	
	MC145406	Philips	
DS1 Loop Divider (41KW)	41KW	AT&T	
DS3 Framer (provides all processing to format a DS3 signal)	TXC-03401	TranSwitch	30
Encoder/Decoder/Clock Regenerator (HDB3)	MV1442	GEC Plessey	
Encoder/Decoder (HDB3)	MV1448	GEC Plessey	
Enhanced CEPT Line Card	DS2284	Dallas	
Enhanced T1 Line Card	DS2283	Dallas	
ET/T3/STS–1 Analog Line Receiver	CS6300	Crystal	35
E3/T3/STS–1 Analog Line Receiver	CS6301	Crystal	
Fascimile and Data Modem Analog Processor	SC11092	Sierra	
	SC11094	Sierra	
FAX Image Processor (64 Grad)	M66333FP	Mitsubishi	
FAX Pixel Processor (performs shading correction and image processing)	TC35180	Toshiba	40
FDDI Basic Media Access Controller	DP83261	National	
FDDI Clock Distribution Device	DP83241	National	
FDDI Media Access Controller	AM79C830A	AMD	
FDDI Physical Data Receiver	AM79866C	AMD	
FDDI Physical Data Transmitter	AM79865C	AMD	45
FDDI Physical Layer Controller	AM79C864C	AMD	
	DP83251	National	
FDDI Physical Layer Device (conforms to ANSI X3T9.5)	T7351A	AT&T	
Filter and Detector (FAD), Digital	MS2014	GEC Plessey	
FM System (for cellular radio chipset)	**NE605**	**Philips (3734)**	50
FM Transmitter (for cordless phones)	MC2831	Motorola	
Format Converter, 8-Bit	MA803	GEC Plessey	
Frame Aligner, PCM to System, 2048/4096K bps	**PEB2035**	**Siemens (3771)**	
Frame Aligner/Time Slot Zero Receiver	MA808	GEC Plessey	
Frequency Discriminator (disconnects or switches phone upon detection of a specific tone)	**LS7501**	**LSI Comp (3683)**	55
	LS7502	**LSI Comp (3683)**	
	LS7503	LSI Comp	
	LS7504	**LSI Comp (3683)**	
	LS7505	**LSI Comp (3683)**	
	LS7506	**LSI Comp (3683)**	60
	LS7507	**LSI Comp (3683)**	
	LS7508	**LSI Comp (3683)**	
	LS7509	**LSI Comp (3683)**	
	LS7510	**LSI Comp (3683)**	
Frequency Synthesizer (for radio communication equipment)	**UMA1016XT**	**Philips (3756)**	65
Frequency Synthesizer, 1.1 GHz	LMX1501A	National	
	LMX1511	National	
	LMX2315	National	
Frequency Synthesizer, 2 GHz	LMX2320	National	
Front End Processor for Multi-Standard Modem	MSM6994-02	OKI	70
FSK Demodulator/Tone Decoder	NJM2211	NJR	
FSK IF Amplifier, Detector	MC13055	Motorola	
FSK Receiver, Wideband	MC3356	Motorola	
Full-Duplex Scrambler for Cordless Telephones	MX118	MX-COM	
G.721 Transcoder	VP23010	VLSI Tech	75
Gain Control Circuit with Balance Impedance Switching	MA571	GEC Plessey	
GSM Baseband I/O Port	**AD7001**	**AD (3507, 3514)**	
	AD7002	**AD (3507, 3514)**	
Hands-Free Circuit for All Range Sets	TEA7540	SGS-Thomson	
HDB3/AMI Encoder/Decoder	TCM2202	TI	80
	TCM2222	TI	
HDB3 Encoder	MJ1440	GEC Plessey	
HDB3 to NRZ Binary Encoder/Decoder	MA815	GEC Plessey	
HDB3 Transcoder, with Error Detection (10 kb/s to 2.048 Mb/s)	CD22103A	Harris	
High Performance AFE, V.22bis	XR2402A	Exar	85
HLDC Controller	MK5021	SGS-Thomson	
HSC Encoder/Decoder	MX203Q	MX-COM	
HSC Tone Encoder	MX013	MX-COM	
Integrated Telephone System	SC11390	Sierra	
ISDN, Micro Power Pulse Width Modulator	UC1883	† Unitrode	90
	UC1885	† Unitrode	
	UC2883	Unitrode	
	UC2885	Unitrode	
	UC3883	Unitrode	
	UC3885	Unitrode	95
Limiter (limits voltage on two-wire speech)	U225B	AEG Corp	
Line Sense Relay (senses telephone line current from 20 to 125 mA)	M949	Teltone	
Line Status Detector, telephone off-hook/severed line/ring	CH1808	Cermetek	
Link Controller for Signaling System	**PEB3040**	**Siemens (3771)**	
Loopback Control (2,713 Hz)	SC11330	Sierra	100
Loopback Detector	XRT2713	Exar	
Loud Speaker Amplifier	TEA7031	SGS-Thomson	
	TEA7531	SGS-Thomson	
	TEA7532	SGS-Thomson	
Memory Time Switch (time/space switch for large networks)	**PEB2047**	**Siemens (3771)**	105
Memory Time Switch (time/space switch for small networks)	**PEB2046**	**Siemens (3771)**	
Metering Pulse Detector (12 to 16 kHz)	AMS3089	Aptek	
Modem Analog Front End (MAFE)	SC11296	Sierra	
	SC11297	Sierra	
Multi-Function Telecommunication Circuit (DTMF generator/receiver, 300 baud modem)	MSM6888B	OKI	110
	MSM7516	OKI	
Multi-Rate Clock Adapter	LXP610	Level One	
PCM Line Repeater, T1, T148C and 2 Mb/s (two-chip set)	XRT5600	Exar	
	XRT5620	Exar	
	XRT5720	Exar	115
PCM Line Repeater, T1, 1.544 Mb/s	CD22301	Harris	
PCM Macrocell Demonstrator	MV1403	GEC Plessey	
PCM Receiver	MJ1472	GEC Plessey	
	MJ1473	GEC Plessey	
PCM Repeater	RPT82	AD	120
	RPT83	AD	
	RPT85	AD	
	RPT87	**AD (3514)**	
	XRC240	Exar	
	XRC262	Exar	125
	XRC262Z	Exar	
	XRC277	Exar	
PCM Repeater (for E1 carrier systems)	LXT313	Level One	
	LXT316	Level One	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
PCM Repeater (for T1 carrier systems)			
	LXT312	Level One	
	LXT315	Level One	
PCM Repeater/Receiver			
	XRT56L22	Exar	
PCM Repeater, Two-Chip Set (TIC)			
	XRC587	Exar	
	XRC588	Exar	5
PCM Repeaters			
	RPT86	**AD (3514)**	
PCM Signal Monitor			
	SP1450B	GEC Plessey	
	SP1455B	GEC Plessey	
PCM Transceiver			
	XRT5681	Exar	
PCM Transceiver, R1, 1 channel			
	M986-1R1	Teltone	10
PCM Transceiver, R1, 2 channel			
	M986-2R1	Teltone	
PCM Transceiver, R2, 1 channel			
	M986-1R2	Teltone	
PCM Transceiver, R2, 2 channel			
	M986-2R2	Teltone	
PCM Transceiver, T1			
	XRT5684	Exar	
	XRT5690	Exar	15
PCM Transceiver (8Mbit)			
	XRT5683	Exar	
PCM Transcoder			
	HC5560	Harris	
PCM 8-bit Format Converter			
	MJ1410	GEC Plessey	
Phase/Frequency Discriminator, Ultrahigh Speed			
	AD9901K	**AD (3514)**	
Piezoelectric SAW Band Pass Filters			
	F5CB	Fujitsu	20
Private Squelch CTCSS Encoder/Decoder			
	MX375	MX-COM	
Programmable Amplifier, Telephone Line Delay Equalizer	AT76C10C	ATMEL	
	AT76C10E-C	ATMEL	
	AT76C10E-I	ATMEL	
	AT76C10E-M	† ATMEL	25
	AT76C10I	ATMEL	
	AT76C10M	† ATMEL	
Read Channel Filter			
	IMP42R53	IMP	
Relay Driver (for 48 V telephone relays)			
	UDN2585A	Allegro Micro	
	UDN2588A	Allegro Micro	30
	LS1014A	AT&T	
	DS1687	† National	
	DS3686	National	
	DS3687	National	
Relay Driver (for 48 V telephone relays) See also Interface, Memory and Peripheral Drivers			
	UDN2580A	Allegro Micro	35
Relay Driver, Quad Negative Voltage			
	DS3680	National	
Ring Detector	TCM1506B	TI	
	TCM1512B	TI	
Ring Detector (operates from 14 to 66 Hz)			
	ZN480E	GEC Plessey	
	ZN480J	† GEC Plessey	40
Ring Detector (operates from 16 to 68 Hz)			
	LB1006A	AT&T	
Ring Driver	TCM1501B	TI	

Function	Device	Source	Line
Scrambler Circuit with Compandor			
	TK10661	ℓ Toko	
	TK10665	ℓ Toko	
Scrambler, Voiceband, Full-Duplex			
	MX108DW	MX-COM	45
Selective Call Tone Decoder			
	MX003	MX-COM	
Sequential Tone Encoder			
	MX503	MX-COM	
Serial Packet Controller			
	SSI73M1650	**SiliconSys (3780)**	
Shift Register, Dual 1008 Bit			
	MA802	GEC Plessey	
SLIC Battery Feed			
	LB1276AF	AT&T	50
Solid State Relay, Form B			
	LH1298	AT&T	
Solid State Relay, Form C, Monolithic			
	LH1296	AT&T	
Solid State Relay, High Voltage			
	LH1056	AT&T	
	LH1061	AT&T	
	LH1085	AT&T	55
	LH1156	AT&T	
	LH1191	AT&T	
	LH1192	AT&T	
	LH1193	AT&T	
Solid State Relay, Low Capacitance			
	LH1541	AT&T	60
Solid State Relay, Protected Power Feed			
	LH1571	AT&T	
Solid State Relay, Dual 1 Form A, High Voltage			
	LH1504	AT&T	
	LH1505	AT&T	
	LH1520	AT&T	
	LH1522	AT&T	65
	LH1524	AT&T	
Solid State Relay, Dual 1 Form B, High Voltage			
	LH1521	AT&T	
	LH1523	AT&T	
Solid State Relay, 1 Form A/B, 1 Form C, High Voltage			
	LH1502	AT&T	
	LH1512	AT&T	70
Solid State Relay, 1 Form A, High Voltage			
	LH1500	AT&T	
	LH1510	AT&T	
	LH1516	AT&T	
	LH1517	AT&T	
	LH1518	AT&T	75
	LH1519	AT&T	
	LH1530	AT&T	
	LH1540	AT&T	
Solid State Relay, 1 Form B, High Voltage			
	LH1501	AT&T	
	LH1511	AT&T	80
Solid State Relay, 1 Form C, High Voltage			
	LH1527	AT&T	
	LH1537	AT&T	
Solid State Relay, 2 Form A, High Frequency			
	LH1514	AT&T	
Solid State Relay, 2 Form A, High Voltage			
	LH1503	AT&T	
	LH1513	AT&T	85
SONET Overhead Terminator–1 (SOT–1)			
	TXC-03001	TranSwitch	
Speakerphone Circuit			
	CS262	Cherry Semi	
	CS272	Cherry Semi	
	PBL3786	**Ericsson (3609)**	
	PBL3786/2	**Ericsson (3609)**	90
	PBL3786/4	**Ericsson (3609)**	
		(Continued)	

Function	Device	Source	Line
Speakerphone Circuit (Cont'd)			
	XRT6420-2	Exar	
	XRT6425	Exar	
	IR3N81A	Sharp	
	PSB45030	**Siemens (3769)**	95
Speakerphone Circuit, Voice Switched			
	XRT34118	Exar	
	MC34018	Motorola	
	MC34118	Motorola	
Speakerphone Circuit (volume pre-set)			
	IR3N84	Sharp	
Speakerphone Circuit (with speech network)			
	IR3N83	Sharp	100
Speakerphone (two-chip set)			
	XRT6420	Exar	
	XRT6421	Exar	
Speech Circuit for Electronic Telephones			
	U4056B	AEG Corp	
	U4056B1	AEG Corp	
	U454B	AEG Corp	105
	PBL3726-X	**Ericsson (3608)**	
	PBL3781	**Ericsson (3609)**	
	PBL3781/2	**Ericsson (3609)**	
	XRT5995	Exar	
	GL6901	GoldStar	110
	MC34014	Motorola	
	TP5700	National	
	TP5700A	National	
	TEA1060	Philips	
	TEA1061	Philips	115
	TEA1067	Philips	
	LS356	SGS-Thomson	
	LS656	SGS-Thomson	
Speech Circuit for Telephone Set			
	LA8510	Sanyo	
	LA8515N	Sanyo	120
Speech Circuit, Telephone Speech Network (with dialer interface)	MC34114	Motorola	
Speech Circuit (very low drop)			
	L3280	SGS-Thomson	
Speech Circuit, Voice Scrambler (for communication transmitter and receiver)			
	LC8931	Sanyo	
Speech Circuit With Power Management			
	TEA7063	SGS-Thomson	
Speech Circuit (2-wire to 4-wire)			
	LS285	SGS-Thomson	125
Speech/Data Encryption Processor			
	DVS200	GEC Plessey	
Speech Network and Tone Dialer			
	MC34013	Motorola	
Speech Network (for ECM receiver)			
	IR3N82	Sharp	
Speech Network, Low Voltage			
	GL6965	GoldStar	
	GL6981	GoldStar	130
Speech Network (provides 2- to 4-wire interface between a telephone loop and a handset)			
	LB1071A	AT&T	
Speech Recognition System, Speaker Dependent			
	TC8861	Toshiba	
	TC8862	Toshiba	
	TMP80C50AU	Toshiba	
Speech Recorder Card			
	DS2270	Dallas	135
	DS2270E	Dallas	
Speech System			
	DS2271	Dallas	
Split Finger Circuit (for modem function in the cellular mobile phone)			
	MSM6808	OKI	
	MSM6818	OKI	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Telecommunication Circuits (Cont'd)

Miscellaneous (Cont'd)

Function	Device	Source	Line
Sub-Audio Signaling Processor			
	MX805	MX-COM	
Switch, Bilateral (for remote subscriber line test unit)			
	LB1060A	AT&T	
Synchronous to Asynchronous Converter			
	TS7538	SGS-Thomson	
Telemicro Card			
	DS2244T	Dallas	
Telephone IC (zero ohm receiver output impedance)			
	LB1009B	AT&T	5
Telephone IC (600 ohm receiver output impedance)			
	LB1009A	AT&T	
Telephone Line Equalizer			
	ML2020C	MicroLinear	
	ML2020I	MicroLinear	
	ML2021C	MicroLinear	
	ML2021I	MicroLinear	10
Telephone, Low Power FM IF Amplifier			
	IR3N06	Sharp	
Telephone Power Supply Circuit			
	TEA1081	Philips	
Telephone Ringer Circuit (with multiple programmable tones)	PCD3360	Philips	
Telephone Speech Circuit			
	PBL3726-16	**Ericsson (3608)**	
	PBL3726-18	**Ericsson (3608)**	15
	PBL3726-19	**Ericsson (3608)**	
	PBL3726-6	**Ericsson (3608)**	
Teleset Audio Interface (CPU to audio control)			
	MC145429	Motorola	
Teletext, Color Video Display Generator (NAPLPS protocol)	R6549	Rockwell	
Time Slot Access Circuit			
	MJ1446	GEC Plessey	20
Time Slot Assigner Circuit			
	MA5981	GEC Plessey	
	MA5983	GEC Plessey	
Time Slot Interchange Circuit			
	MC145601	Motorola	
Time Slot Zero Receiver			
	MJ1445	GEC Plessey	
Time Slot Zero Transmitter			
	MJ1444	GEC Plessey	25
Token Ring Jitter Attenuator (IEEE 802.5 network)			
	CS80600	Crystal	
Tone Decoder	XR567	Exar	
Tone Decoder (operates from 0.01 Hz to 500 kHz)			
	RC2211C	Raytheon	
	RC2211M	† Raytheon	
Tone Detector	ML2031C	MicroLinear	30
	ML2031I	MicroLinear	
	ML2032C	MicroLinear	
	ML2032I	MicroLinear	
Transcoder, ADPCM (32/24/16/8 kb/s)			
	SC11360	Sierra	
	SC11362	Sierra	35
Transient Voltage Suppressor, Dual (for telephone line protection)	TCM1030	TI	
	TCM1060	TI	
Transmission Circuit w/ Dialer Interface, Low Voltage			
	TEA1068	Philips	
Transmitter, Two-Wire, 4 to 20 mA (DIE package designed to be Integrated into transducer hybrids)			
	XTR101 DIE	**Burr-Brown (3462)**	
T1/CEPT Elastic Store			
	DS2175	Dallas	40

Function	Device	Source	Line
T1/CEPT Jitter Attenuator Circuit			
	DS2188	Dallas	
T1/CEPT PCM Jitter Attenuator			
	CS61600-I	Crystal	
T1 Controller	DS2141	Dallas	
T1 ESF Framer/Formatter			
	LXP2180A	Level One	
T1/E1 Clock Adapter			
	LXP600A	Level One	45
	LXP602	Level One	
	LXP604	Level One	
T1/E1 Elastic Store (for level one primary rate interface)			
	LXP2175	Level One	
T1/E1 Integrated Short Haul Transceiver			
	LXT301	Level One	
T1/E1 Integrated Short Haul Transceiver (with receive jitter attenuation)			
	LXT300	Level One	50
	LXT304A	Level One	
	SSI78P300	**SiliconSys (3781)**	
	SSI78P304A	**SiliconSys (3781)**	
T1/E1 Integrated Short Haul Transceiver (with transmit jitter attenuation)			
	LXT305	Level One	
	LXT305A	Level One	55
T1/E1 Integrated Quad Receiver			
	LXT324	Level One	
T1/E1 Integrated Quad Receiver (with loss of signal detection circuit)			
	LXT325	Level One	
T1 FDL Controller/Monitor			
	DS2282	Dallas	
T1 Isolation Card			
	DS2290	Dallas	
T1 Line Card	DS2280	Dallas	60
T1 Line Monitor Circuit			
	DS2182	Dallas	
T1 Long Loop Card			
	DS2291	Dallas	
T1 Receiver Buffer			
	DS2176	Dallas	
	LXP2176	Level One	
T1 Repeater Equalization Hybrid Module			
	XRTM044H	Exar	65
T1, Serial T1 Transceiver (193E,S)			
	DS2180	Dallas	
T1 Transceiver	VP14341	VLSI Tech	
T3/STS–1 Analog Line Receiver			
	CS7295	Crystal	
UHF GaAs Antenna Switch, SPDT			
	MRFIC2003	Motorola	
Universal Voice-Signal Conditioner			
	LB1068B	AT&T	70
Videotext, Error Correction			
	MSM6254	OKI	
Voice Frequency Level Expander			
	LB1026A	AT&T	
Voice Messaging Processor			
	DS2130Q	Dallas	
Voice Recognition Circuit (voice analysis, recognition and system control)			
	T6658A	Toshiba	
Voice Recording/Playback Circuit, Uses Adaptive Delta Modulation	TC8830A	Toshiba	75
	TC8831	Toshiba	
	TC8832	Toshiba	
Voice Transmission Privacy Circuit			
	DVS100	GEC Plessey	

Function	Device	Source	Line
Voice-Band Analog Interface Circuit			
	TLC32044C	TI	
	TLC32044I	TI	80
	TLC32045C	TI	
	TLC32045I	TI	
Single Analog Front End- VC–22B,V–22			
	TS7542	SGS-Thomson	
Dual SPDT Wideband Video T Switch			
	DG542A	† Siliconix	
Triple Sonet STS Payload Processor			
	VP15323	VLSI Tech	85
Quad Filter Array for Cellular Telephones			
	MX366	MX-COM	
	MX386	MX-COM	
Quad SPST Wideband Video T Switch			
	DG540A	† Siliconix	
	DG541A	† Siliconix	
One Chip Telephone			
	PBL3780	Ericsson	90
	PBL3780/2	Ericsson	
4-Bit Microcomputer for Telephone Set			
	S7292AF	Seiko Instr	
8 Second Voice Record/Playback Device			
	ISD1208	ISD	
10 Second Voice Record/Playback Device			
	ISD1110	ISD	
	ISD1210	ISD	95
12 Second Voice Record/Playback Device			
	ISD1212	ISD	
16 Second Voice Record/Playback Device			
	ISD1016A	ISD	
20 Second Voice Record/Playback Device			
	ISD1020A	ISD	
25 Second Voice Record/Playback Device			
	ISD2425	ISD	
32 Second Voice Record/Playback Device			
	ISD2432	ISD	100
38 Second Voice Record/Playback Device			
	ISD2438	ISD	
50 Second Voice Record/Playback Device			
	ISD2450	ISD	
60 Second Voice Record/Playback Device			
	ISD2560	ISD	
75 Second Voice Record/Playback Device			
	ISD2575	ISD	
90 Second Voice Record/Playback Device			
	ISD2590	ISD	105
10Base-T Hub Transceiver			
	LXT903	Level One	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Timers

Function	Device	Source	Line
CMOS Timer (dual)			
	KS556	Samsung	
CMOS Timer (high performance)			
	KS555H	Samsung	
Countdown Power Timer			
	ULQ2436M	Allegro Micro	
Event/Hour Meter, 5–1/2 Digit LCD Drive			
	ICM7249	Harris	
	ICM7249I	Harris	5
Fixed Binary Control (with counter)			
	ICM7242	Maxim	
	ICM7242C	Maxim	
Internal Current Source			
	XR320	Exar	
Low Power Precision Timer			
	HI-7555	† Holt	
Low Voltage CR Timer			
	TC9160	Toshiba	10
Micropower, Long Range (microseconds to days)			
	XR2243	Exar	
Precision	LM122	† National	
	LM2905	National	
	LM3905	National	
Precision, Long Term (3 seconds to 1 week)			
	MW107	AnalogSys	15
	MW197	AnalogSys	
Programmable (includes a counter for long time delays) Binary Control			
	XR2240C	Exar	
	XR2240M	† Exar	
	ICM7242	Harris	
	ICM7242C	Harris	20
	ICM7242I	Harris	
	LS7210	**LSI Comp (3681)**	
	ICM7240	Maxim	
	ICM7240C	Maxim	
	ICM7250	Maxim	25
	ICM7250C	Maxim	
	ICM7260	Maxim	
	ICM7260C	Maxim	
	MC14541BC	Motorola	
	µA2240C	TI	30
Programmable Timer			
	ZN1036D	GEC Plessey	
	ZN1036E	GEC Plessey	
Programmable Timer (for 50/60 Hz line freq.)			
	SAE0532	Siemens	
Time Base Generator			
	SSI32D4661	**SiliconSys (3779)**	
Timer	XRL555	Exar	35
	XR555C	Exar	
	XR555M	† Exar	
	CA555	† Harris	
	CA555C	Harris	
	LM555C	Harris	40
	NE555	Harris	
	MC1455	Motorola	
	LM555C	National	
	NJM555	NJR	
	NE555	Philips	45
	SA555	Philips	
	SE555	† Philips	
	SE555C	Philips	
	LM555	SGS-Thomson	
	355A/C	TeledyneC	50
	NE555	TI	
	NE555Y	TI	
	SA555	† TI	
	SE555	† TI	
Timer, CMOS, 2.5 MHz, Micropower			
	ALD1502	† AdvLinear	55
Timer (CMOS 555), Low Power			
	GLC555	GoldStar	
	ICM7555	Harris	
	ICM7555C	Harris	
	ICM7555I	Harris	
	ICM7555M	† Harris	60
	ICM7555	Maxim	
	ICM7555M	Maxim	
	KS555	Samsung	
Timer (CMOS 555), 1V, 2 MHz, Micropower			
	ALD555-1	† AdvLinear	
Timer (CMOS 555), 2 MHz, Micropower			
	ALD555	† AdvLinear	65
Timer (CMOS 556), Low Power			
	ICM7556M	Maxim	
Timer, CMOS, 1V, 2.5 MHz, Micropower			
	ALD1504	† AdvLinear	
Timer/Counter Timer (0.1 second to 50 hours)			
	M51849	Mitsubishi	
Timer, CR	S8081B	Seiko Instr	
Timer, LinCMOS			
	TLC555C	TI	70
	TLC555I	TI	
	TLC555M	† TI	
Timer, LinCMOS, High Speed, Low Power			
	TLC551C	TI	
	TLC551Y	TI	
Timer, LinCMOS, 1-Volt Operation			
	TLC552C	ℓ TI	75
Timer, Long Range			
	BU2302	ROHM	
	BU2302F	ROHM	
Timer (pulse width from µs to hours for output)			
	BA222	ROHM	
Timer, Serial Output			
	S3500A3	Seiko Instr	
Timer (TTL compatible)			
	LMC555	National	80
	LM555	National	
Timer with ÷12 Counter (time constant 7200 RC)			
	ZN1034E	GEC Plessey	
Timer with Counter, (time constant 128 RC)			
	XR2242C	Exar	
	XR2242M	† Exar	
Single Timer	KA555	Samsung	85
Dual, CMOS, 2.5 MHz, Micropower			
	ALD2502	† AdvLinear	
Dual (CMOS 556) Low Power			
	GLC556	GoldStar	
	ICM7556	Harris	
	ICM7556I	Harris	
	ICM7556M	† Harris	90
	ICM7556	Maxim	
Dual, CMOS, 1V, 2 MHz, Micropower			
	ALD2504	† AdvLinear	
Dual (dual 555)			
	XRL556C	Exar	
	XRL556M	† Exar	
	XR556C	Exar	95
	XR556M	† Exar	
	MC3456	Motorola	
	µA556C	National	
	LM556	† National	
	LM556C	National	100
	NE556	Philips	
	NE556-1	Philips	
	SA556	Philips	
	SE556	† Philips	
	LM556	SGS-Thomson	105
	NE556	TI	
	SA556	TI	
Dual (dual 555), Pinout Variations			
	XR2556C	Exar	
	XR2556M	† Exar	
Dual (dual 555)			
	NJM556	NJR	110
Dual Monostable Multivibrator			
	BA225F	ROHM	
	BA226F	ROHM	
Dual Precision Timers (microseconds to hours operation)			
	SE556	† TI	
	SE556C	† TI	
Dual Timer (dual 555)			
	KA556	Samsung	115
Dual Timer, LinCMOS			
	TLC556C	TI	
	TLC556I	TI	
	TLC556M	† TI	
	TLC556Y	TI	
Quad, CMOS, 2 MHz, Micropower			
	ALD4501	† AdvLinear	120
Quad, CMOS, 1V, 2 MHz, Micropower			
	ALD4503	† AdvLinear	
Quad, Current Sink Output			
	XR558C	Exar	
	XR558M	† Exar	
	NE558	Philips	
Quad, Current Source Output			
	XR559C	Exar	125
	XR559M	† Exar	
Quad Timer	KA558	Samsung	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices

Function	Device	Source
Microprocessor Power Supply System Voltage Regulator	LM2984C	National
Sine Wave Reference (for transducer excitation)	SWR200C	Thaler
	SWR200M	† Thaler
AC, Line Current Consumption Circuit for Switch Mode Power Supplies	**TDA4814**	**Siemens (3773)**
AC Phase Control	TEA1007	AEG Corp
	U211B	AEG Corp
AC Power Controller (external mechanical switch control, 10 levels of output power)	**LS7310**	**LSI Comp (3683)**
	LS7311	**LSI Comp (3683)**
AC Power Controller (external touch control, 10 levels of output power)	**LS7312**	**LSI Comp (3683)**
	LS7313	**LSI Comp (3683)**
AC Vector Controller	**AD2S100**	**AD (3523)**
	AD2S110	AD
Active Filter, Band-Pass Cauer/Elliptical, Tunable (10 Hz to 2 kHz)	**FLJ-R3BA1**	**Datel (3570)**
	FLJ-R3BA2	**Datel (3570)**
Active Filter, Band-Reject Butterworth, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR2EA1**	**Datel (3570)**
	FLJ-UR2EA2	**Datel (3570)**
Active Filter, High-Pass Butterworth, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR4HA1**	**Datel (3570)**
Active Filter, High-Pass Butterworth, Tunable (400 Hz to 5 kHz)	**FLJ-UR4HA2**	**Datel (3570)**
Active Filter, High-Pass Chebyshev, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR4HB1**	**Datel (3570)**
Active Filter, High-Pass Chebyshev, Tunable (400 Hz to 5 kHz)	**FLJ-UR4HB2**	**Datel (3570)**
Active Filter, Low-Pass Butterworth, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR4LA1**	**Datel (3570)**
Active Filter, Low-Pass Butterworth, Tunable 400 Hz to 20 kHz)	**FLJ-UR4LA2**	**Datel (3570)**
Active Filter, Low-Pass Cauer/Elliptical, Tunable (10 Hz to 2 kHz)	FLJ-D5LA1	Datel
	FLJ-D5LA2	Datel
	FLJ-D6LA1	Datel
	FLJ-D6LA2	Datel
	FLJ-R8LA1	**Datel (3570)**
	FLJ-R8LA2	**Datel (3570)**
	FLJ-R8LB1	**Datel (3570)**
	FLJ-R8LB2	**Datel (3570)**
Active Filter, Low-Pass Chebyshev, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR4LB1**	**Datel (3570)**
Active Filter, Low-Pass Chebyshev, Tunable (400 Hz to 20 kHz)	**FLJ-UR4LB2**	**Datel (3570)**
Active Filter, Low-Pass/High-Pass Butterworth, Tunable (40 Hz to 1.6 kHz)	**FLJ-UR2LH1**	**Datel (3570)**
	FLJ-UR2LH2	**Datel (3570)**
Active Filter, Resistor Programmable	**FLJ-R3**	**Datel (3570)**
	FLJ-R8	**Datel (3570)**
	FLJUR1	Datel
	FLJUR2	Datel
	FLJUR4	Datel
	FLT-U2	**Datel (3570)**
	FLTU2-M	**Datel (3570)**
	RU5621A	EG&G-Reticon
	RU5622A	EG&G-Reticon
Active Filter, Voltage Programmable	**FLJ-VB**	**Datel (3570)**
	FLJ-VH	**Datel (3570)**
	FLJ-VL	**Datel (3570)**
Active Filter, 4th Order, Continuous Time	MAX275AC	Maxim
	MAX275AE	Maxim
	MAX275AM	† Maxim
	MAX275BC	Maxim
	MAX275BE	Maxim
	MAX275BM	† Maxim
Active Filter, 8th Order, Continuous Time	MAX274AC	Maxim
	MAX274BC	Maxim
Active Filters	RU5620A	EG&G-Reticon
Active Filters (See also Linear - Telecommunications Circuits)	**UAF21**	**Burr-Brown (3466)**
	UAF41	**Burr-Brown (3466)**
	CH1290	Cermetek
	CH1296	Cermetek
	LTC1059C	LinearTech
	LTC1059M	† LinearTech
	LTC1060C	LinearTech
	LTC1061C	LinearTech
	LTC1061M	† LinearTech
	LTC1062C	LinearTech
	LTC1062M	† LinearTech
	LTC1064C	LinearTech
	LTC1064M	† LinearTech
	AF150	National
	AF151	National
Active Load	RC7331	Raytheon
	RC7332	Raytheon
Active Load with Inhibit Mode	**AD1315K**	**AD (3537)**
Active Load with Inhibit Mode (for semiconductor test systems, ATE)	**AD1315**	**AD (3537)**
Air-Core Meter Driver	LM1819	National
Analog Computational Unit (ACU), Realtime	AD538A	AD
	AD538B	AD
	AD538S	AD
	AD538S/883B	† AD
Analog Current Input Isolation Module	SCM5B32	Burr-Brown
Analog Delay Line (bucket brigade device, 1024 samples)	RD5108A	EG&G-Reticon
Analog Delay Line (bucket brigade device, 256 samples)	RD5106A	EG&G-Reticon
Analog Delay Line (bucket brigade device, 512 samples)	RD5107A	EG&G-Reticon
Analog I/O Port (with 14-bit ADC and 14-bit DAC)	**AD7868T**	**AD (3507, 3514)**
	AD7869	**AD (3507, 3510, 3514)**
	AD7869J	**AD (3507, 3510, 3514)**
Analog I/O Port (with 4-channel, 8-bit ADC, 11-bit and two 8-bit DACs)	**AD7774**	**AD (3507)**
	AD7774K	**AD (3507)**
Analog I/O System (two-channel, 8-bit ADC; two 8-bit DACs)	**AD7769**	**AD (3507, 3509, 3516)**
Analog I/O System (two-channel, 8-bit ADC, two 8-bit DACs)	**AD7769J**	**AD (3507, 3509, 3516)**
Analog I/O System (12-bit ADC with T/H amplifier)	**AD7868**	**AD (3507, 3514)**
Analog Input Isolation Module, Strain-Gage	SCM5B38	Burr-Brown
Analog Multiplier	AD532SD/883B	† Burr-Brown
	AD534TD/883B	† Burr-Brown
	AD632TD/883B	† Burr-Brown
	MPY10056/883B	† Burr-Brown
	4213VM/883B	† Burr-Brown
Analog Multiplier/Divider, Four Quadrant	**AD734**	**AD (3525)**
	AD734A	**AD (3525)**
	AD734B	**AD (3525)**
	AD734S	**AD (3525)**
	AD734S/883B	**† AD (3525)**
	AD834A	**AD (3525)**
	AD834J	**AD (3525)**
	AD834S	**AD (3525)**
	AD834S/883B	**† AD (3525)**
Analog Multiplier (mult, div, squaring)	**AD633**	**AD (3525)**
Analog Multiplier (multiplication, division, squaring)	**AD633J**	**AD (3525)**
Analog Shift Register (Bucket Brigade Device) Dual 512 Stage, (acts as a variable delay line in the audio frequency range)	MN3001	Panasonic
	MN3003	Panasonic
	MN3010	Panasonic
Analog Shift Register (Bucket Brigade Device, 1024 stage)	MN3007	Panasonic
	MN3204	Panasonic
	MN3207	Panasonic
Analog Shift Register (Bucket Brigade Device, 128 Stage)	MN3006	Panasonic
Analog Shift Register (Bucket Brigade Device, 2048 stage)	MN3008	Panasonic
Analog Shift Register (Bucket Brigade Device, 256 Stage)	MN3009	Panasonic
Analog Shift Register (Bucket Brigade Device, 3328 stage)	MN3011	Panasonic
Analog Shift Register (Bucket Brigade Device) (3,5,190 stages)	MN3012	Panasonic
Analog Shift Register (Bucket Brigade Device, 4096 stage)	MN3005	Panasonic
Analog Shift Register (Bucket Brigade Device, 512 stage)	MN3002	Panasonic
	MN3004	Panasonic
Analog Shift Register Clock Generator/Driver	MN3101	Panasonic
Analog Switch Array (8x12 crosspoint array)	MT8814	Mitel
Analog Video Switch and Amplifier (CMOS/BiMOS)	CA3256	Harris
Attenuator, 3 1/2-Digit BCD, digitally controlled	AD7525K	AD
	AD7525T	† AD
Balanced Mixer, Double Balanced with Oscillator	**NE602**	**Philips (3732)**
	SA602	**† Philips (3732)**
Balanced Modulator/Demodulator	AD630	AD
	SL640C	GEC Plessey
	SL641C	GEC Plessey
	SG1496	Linfinity Micro
	SG1596	† Linfinity Micro
	MC1496	Motorola
	MC1596	† Motorola
	LM1496	National
	LM1596	† National
	MC1496	Philips
	MC1596	† Philips
	LS025	SGS-Thomson
Ballast Controller	ML4830C	MicroLinear

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Bandgap Reference, 2.5 V	TC05A	TeledyneC	
	TC05AM	TeledyneC	
Battery Capacity Monitor/Charge Controller for Battery Pack or System Integration	bq2011	Benchmarq	
	bq2013	Benchmarq	
Battery Capacity Monitor for Battery Pack or System Integration	bq2010	Benchmarq	5
	bq2012	Benchmarq	
Battery Charger, Sealed Lead Acid	UC3906	Unitrode	
Battery Fast Charge IC for Nickel Cadium Batteries	bq2003	Benchmarq	
Battery Monitor, Pulse-Load Type	CS2516	Cherry Semi	
Bit Rate Generator	MC145411	Motorola	10
Blowout Resistant Transistor (simulates 40 V transistor with special protection)	LM195	† National	
	LM295	National	
	LM395	National	
Boost Converter (1 V to 5 V @1 amp)	MAX646	Maxim	
Boost Converter (1 V to 5 V @40 mA)	MAX644	Maxim	15
Boost Converter (2 V to 5 V @40 mA)	MAX645	Maxim	
Bridge Transducer Switch	UC3704	Unitrode	
Capacitive Touch Light Dimmer Circuit (3-levels of brightness and off)	HI2417	Holt	
Carrier Current Transceiver	LM1893	National	
	LM2893	National	20
CCD Clock Driver	LB8901M	Sanyo	
CCD Signal Processor	LA7261M	Sanyo	
	IR3P69	Sharp	
	IR3P81A	Sharp	
	IR3P82A	Sharp	25
	IR3P92	Sharp	
	IR3P97	Sharp	
	IR3P98	Sharp	
	IR3P99	Sharp	
CCD Sync Signal Generator	LZ93B53	Sharp	30
	LZ93N19	Sharp	
	LZ93N67	Sharp	
	LZ95D26	Sharp	
CCD Timing and Sync Generator	LC9904A	Sanyo	
CCD Timing Generator	LZ93F31	Sharp	35
	LZ93N61	Sharp	
	LZ95D34	Sharp	
	LZ95D42	Sharp	
CCD Vertical Clock Driver	LR36683	Sharp	
CDS (Correlated Double Sampling) Chip for CCD	IR3P66	Sharp	40
	IR3P68	Sharp	
Clock Generator, Programmable	**AD730J**	**AD (3541)**	
Comparator for Lamp Monitoring (continuous status checks for five bulbs)	**AD22001**	**AD (3513)**	
	AD22002	**AD (3513)**	
Comparator, Programmable Quad, Micropower	LP365	National	45
Comparator, Read Chain Data	TL712	TI	
Comparator, Window	CMP100	Burr-Brown	
Comparator, Window (Internally set limits)	MK104	AnalogSys	
Comparator, Dual, ECL Compatible	µA6687M	† National	
	µA6687V	National	50
Constant Current Source, 1 µA to 10 mA	LM234	LinearTech	
	LM334	LinearTech	
	LM134	† National	
	LM234	National	
	LM334	National	55
Continous Dimmer Light Switch with Seperate Up/Down Controls	**LS7534**	**LSI Comp (3682)**	
Continuous Dimmer Light Switch with Seperate Up/Down Controls	**LS7535**	**LSI Comp (3682)**	
Control, Power Supply	TDA2582	Philips	
Controller, AC Power	**LS7314**	**LSI Comp (3683)**	
	LS7315	**LSI Comp (3682)**	60
Controller, Switch Mode Power Supply	UC2850	Unitrode	
	UC3850	Unitrode	
Converter, LVDT to digital, 14 bit	**2S54**	**AD (3523)**	
Converter, LVDT to digital, 16 bit	**2S56**	**AD (3523)**	
Converter, 1-Bit D/A Converter (for Audio applications)	CXD2558	Sony	65
Coordinate Converter (polar to cartesian)	5090A	OEI	
Crosspoint Switch (4x1 video)	GX414	Gennum	
CRT Geometry/Focus Corrector	C310	Intronics	
	C311	Intronics	
	C312	Intronics	70
	C410	† Intronics	
	C411	† Intronics	
Crystal Oscillator	12561	† Motorola	
Current Loop Receiver (4–20 mA to 0–5 V conversion)	**RCV420**	**Burr-Brown (3461)**	
	RCV420A	**Burr-Brown (3461)**	75
	RCV420B	**Burr-Brown (3461)**	
	RCV420K	**Burr-Brown (3461)**	
Current Mirror, Adjustable Ratio	TL010C	TI	
	TL010I	TI	
Current Mirror, Adjustable Ratio NPN	TL010	TI	80
Current Mode Controller	UC2844	Motorola	
	UC2845	Motorola	
	UC3844	Motorola	
	UC3845	Motorola	
Current Mode Controller, Dual Channel	MC33065	Motorola	85
	MC34065	Motorola	
Current Reference, 100µA	**REF200A**	**Burr-Brown (3467)**	
Current Sensing Latch	SG1549	† Linfinity Micro	
	SG2549	Linfinity Micro	
	SG3549	Linfinity Micro	90
Current Source, Dual (two 100 µA sources and a current mirror)	**REF200**	**Burr-Brown (3467)**	
Current Source, 4-Bit	µA9650C	National	
Current Source, 7 A Constant	HS7067	National	
	HS7107	National	
Current Transmitter with Bridge Excitation and Linearization	**XTR104A**	**Burr-Brown (3462)**	95
	XTR104B	**Burr-Brown (3462)**	
Current Transmitter with RTD Excitation and Linearization	**XTR103A**	**Burr-Brown (3462)**	
	XTR103B	**Burr-Brown (3462)**	
Current Transmitter (4–20 mA)	**AD694**	**AD (3533)**	
	AD694A	**AD (3533)**	100
	AD694B	**AD (3533)**	
	AD694J	**AD (3533)**	
Current/Voltage Mode PWM Controller	UC1825	† Unitrode	
	UC1825/883B	† Unitrode	
	UC2825	Unitrode	105
	UC3825	Unitrode	
Current-Mode Control (1 MHz hysteretic)	CS320	Cherry Semi	
	CS321	Cherry Semi	
Current-Mode PWM Controller	SG1842	† Linfinity Micro	
	SG1843	† Linfinity Micro	110
	SG1846	† Linfinity Micro	
	SG1847	† Linfinity Micro	
	SG2842	Linfinity Micro	
	SG2843	Linfinity Micro	
	SG2846	Linfinity Micro	115
	SG2847	Linfinity Micro	
	SG3842	Linfinity Micro	
	SG3843	Linfinity Micro	
	SG3846	Linfinity Micro	
	SG3847	Linfinity Micro	120
	UC1842	† SGS-Thomson	
	UC2842	SGS-Thomson	
	UC3842	SGS-Thomson	
	UC1845	† Unitrode	
	UC1846	† Unitrode	125
	UC1846/883B	† Unitrode	
	UC1847	† Unitrode	
	UC1847/883B	† Unitrode	
	UC2845	Unitrode	
	UC2846	Unitrode	130
	UC2847	Unitrode	
	UC3846	Unitrode	
	UC3847	Unitrode	
Data Acquisition Controller for A/D Converter (ASCII Output)	CY600	Cybernetic	
Data Acquisition Subsystem (ADC, DAC, bandgap reference)	**AD7669**	**AD (3507, 3509, 3516)**	135
Data Acquisition Subsystem, 16 Channel Analog Front-End for 12-Bit ADC	AD1362	AD	
	AD1362K	AD	
	AD1362S	AD	
	AD1362S/883B	† AD	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Device

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source
Data Acquisition Subsystem, 20-Bit	**AD79024**	**AD (3511)**
Data Acquisition System (hybrid)	**HDAS524C**	**Datel (3569)**
	HDAS528C	**Datel (3569)**
	HDAS534C	**Datel (3569)**
	HDAS538	**Datel (3569)**
	HDAS75C	**Datel (3569)**
	HDAS76C	**Datel (3569)**
	HDAS76MC	**Datel (3569)**
Data Acquisition System, Eight Channel (12-bit resolution)	**MN7150-8**	**MicroNet (3691)**
Data Acquisition System, 4 Channel Differential, 13-Bit A/D	ML2200CC	MicroLinear
Data Acquisition System, 4-Channel 12-Bit (30 kHz sampling rate)	**AD7874**	**AD (3510)**
Data Acquisition System, 6 Channel, Sample/Hold, Pulse Width Output	µA9708	National
Data Acquisition System, 8 Channel Differential, 16 Channel Single Ended, Sample/Hold, 12-Bit Conversion (2 device set)	**AD363K**	**AD (3539)**
	AD363S	**† AD (3539)**
	AD364J	**AD (3539)**
	AD364K	**AD (3539)**
	AD364S	**† AD (3539)**
	AD364T	**† AD (3539)**
	HDAS8MC	**Datel (3569)**
	HDAS8MM	**† Datel (3569)**
Data Acquisition System, 8 Channel (expandable), Sample/Hold, 8-Bit Conversion	**MN7120**	**MicroNet (3691)**
	MN7120H	**† MicroNet (3691)**
Data Acquisition System, 8 Channel, Sample/Hold, 12-Bit A/D	**MN7140**	**MicroNet (3691)**
	MN7140H	**† MicroNet (3691)**
Data Acquisition System, 8 Channel Single-Ended (12-Bit, 250 KHz)	**HDAS538M**	**Datel (3568)**
	HDAS538MM	**Datel (3569)**
Data Acquisition System (8 channel, 16-bit with mux, ref, clock and tri-state outputs)	SP9480	Sipex
Data Acquisition System, 8 Channel, 8-Bit Conversion, Microprocessor Compatible	AD7581A	AD
	AD7581B	AD
	AD7581C	AD
	AD7581J	AD
	AD7581K	AD
	AD7581L	AD
	ZN437E	GEC Plessey
	ZN437J	† GEC Plessey
	MP7581A	MicroPwr
	MP7581B	MicroPwr
	MP7581C	MicroPwr
	MP7581J	MicroPwr
	MP7581K	MicroPwr
	MP7581L	MicroPwr
	MP7581S	† MicroPwr
	MP7581T	† MicroPwr
	MP7581U	† MicroPwr
	ADC0808	National
	ADC0809	National
Data Acquisition System (8 differential channels, 12-bit resolution)	SDM863	Burr-Brown
	SDM873	Burr-Brown
Data Acquisition System, 8-Channel, 12-Bit A/D Converter with Reference, Clock, Three-State Outputs, Microprocessor Interface	HS9410J	Sipex
	HS9410K	Sipex
	HS9410S/B	† Sipex
	HS9410T	† Sipex
Data Acquisition System, 10-Bit	LTC1090AC	LinearTech
Data Acquisition System, 10-Bit Serial (2-channel)	LTC1091AC	LinearTech
Data Acquisition System, 10-Bit Serial (6-channel)	LTC1093AC	LinearTech
	LTC1093C	LinearTech
Data Acquisition System, 10-Bit with Reference	LTC1095BC	LinearTech
	LTC1095BM	† LinearTech
	LTC1095CC	LinearTech
	LTC1095CM	† LinearTech
Data Acquisition System, 12 Bit A/D Converter (0.024% FSR), 16 Single-Ended Inputs and S/H Amplifier	SDM872A	Burr-Brown
	SDM872B	Burr-Brown
	SDM872J	Burr-Brown
	SDM872K	Burr-Brown
	SDM872R	Burr-Brown
	SDM872S	Burr-Brown
	SDM873A	Burr-Brown
	SDM873B	Burr-Brown
	SDM873J	Burr-Brown
	SDM873K	Burr-Brown
	SDM873R	Burr-Brown
	SDM873S	Burr-Brown
Data Acquisition System, 12-Bit A/D Converter (0.024 % FSR), 16 Single-Ended Inputs, and S/H Amplifier	SDM862A	Burr-Brown
	SDM862B	Burr-Brown
	SDM862J	Burr-Brown
	SDM862K	Burr-Brown
	SDM862R	† Burr-Brown
	SDM862S	† Burr-Brown
	SDM863A	Burr-Brown
	SDM863B	Burr-Brown
	SDM863J	Burr-Brown
	SDM863K	Burr-Brown
	SDM863R	† Burr-Brown
	SDM863S	† Burr-Brown
Data Acquisition System, 16 Channel or 8 Channel Differential, 12-Bit A/D	AD369K	AD
	SDM854	Burr-Brown
	SDM856	Burr-Brown
	SDM857	Burr-Brown
	HS362	Sipex
Data Acquisition System, 16 Channel, Sample/Hold, 12-Bit Conversion	**HDAS16MC**	**Datel (3569)**
	HDAS16MM	**† Datel (3569)**
Data Acquisition System, 16 Channel, 12-Bit A/D	MP3275	MicroPwr
	MP3276	MicroPwr
Data Acquisition System, 16 Channel 8-Bit Conversion	ADC0816C	National
	ADC0817C	† National
Data Acquisition System, 16 Element or 8 Channel Differential, Sample/Hold, 12-Bit Conversion	DAS5712	Adv Analog
	DAS5714	Adv Analog
	DAS5716	Adv Analog
Data Acquisition System (16 single-ended channels, 12-bit resolution)	SDM862	Burr-Brown
	SDM872	Burr-Brown
Data Acquisition System, 16 Channel (12-bit resolution)	**MN7150-16**	**MicroNet (3691)**
Data Acquisition System, 4 Channel Differential (12-Bit, 250 KHz)	**HDAS534M**	**Datel (3569)**
	HDAS534MC	**Datel (3569)**
Data Acquisition System, 8 Channel Single-Ended (12-Bit, 250 KHz)	**HDAS538MC**	**Datel (3569)**
DC-to-DC Converter Control Circuit	MC33063A	Motorola
Delay Line, CMOS	BT630	Brooktree
Delay Line, Dual Channel	BT622	Brooktree
Delay Line, Quad Channel	BT624	Brooktree
Detector/Alarm System (with integral drivers for piezoelectric and mechanical horns)	CA3164A	Harris
DFT Processor (buried channel CCD)	RT5601B	EG&G-Reticon
Differential Amplifier (unity gain)	**INA117A**	**† Burr-Brown (3461)**
	INA117B	**† Burr-Brown (3461)**
	INA117K	**Burr-Brown (3461)**
	INA117P	**Burr-Brown (3461)**
	INA117S	**Burr-Brown (3461)**
Digital Decimation Filter, Dual Channel	DF1750	Burr-Brown
Digital Filter, Dual Channel, 8x Oversampling	DF1700	Burr-Brown
Digital Gain Set, for setting gain of op-amps	LF13006	National
	LF13007	National
Digital to Resolver/Synchro Converter	DSC11520	ILC-DDC
Digital to Synchro and Digital to Resolver Converter, 14-Bit	DSC644	ILC-DDC
Digital to Synchro Converter, 14-Bit	DSC544	ILC-DDC
Digital-to-Resolver Converter	**DRC1745**	**AD (3523)**
	DRC1746	**AD (3523)**
Digital-to-Resolver Converter (with auto-nulling option)	**AD2S65**	**AD (3523)**
	AD2S66	**AD (3523)**
Direct Frequency Synthesizer, Up-to 400 MHz (square, triangular, or sine wave output)	SP2002	GEC Plessey
Divider (See also Multipliers/Dividers below)	AD535J	AD
	AD535K	**AD (3514)**
	DIV100	**Burr-Brown (3466)**
Driver, Switch Driver, for Power Transistors	SG3629	Linfinity Micro
Driver, Dual High Current MOSFET Compatible Output Driver	UC1706	† Unitrode
	UC3706	Unitrode
Driver, Dual, High-Current MOSFET Output	UC1707	† Unitrode
	UC3707	Unitrode
Driver, Dual 24 V MOSFET	LTC1255C	LinearTech
	LTC1255I	LinearTech
Driver, Three Channel MOSFET	LTC1163C	LinearTech
Driver, Four Channel	LAS8091P	SemTech
Earth Leakage Detector (for use in earth circuit interrupters)	KA2807	Samsung
Electro-Optic Sensor System (amplifier detects modulated signals, pulse or analog output)	MU110	AnalogSys

Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Electronic Key (multikey) Circuit	DS1205S	Dallas	
Electronic Switching Circuit (for ignition applications)	CA3165	Harris	
EMI Filter (4 A input current)	AFC461	Adv Analog	
Equalizer	ML202	MicroLinear	
Fiber Optic Data Link Controller	GA9043	TriQuint	5
Fiber Optic Receiver, 200–1000 Mbaud	GA9042	TriQuint	
Fiber Optic Transmitter, 200–1000 Mbaud	GA9041	TriQuint	
Filter, Adaptive High-Pass (with independent gain block)	LS581	Gennum	
Filter, Decimation Digital (delta sigma type)	**CXD2555**	**Sony (3795)**	
Filter, Digital Comb (NTSC/PAL)	**CXD2011**	**Sony (3794)**	10
Filter, Digital (100 dB, for CD player)	CXD1244	Sony	
Filter, Digitally Programmable Low Pass	MAX270C	Maxim	
	MAX270M	† Maxim	
	MAX271C	Maxim	
	MAX271M	† Maxim	15
Filter, Low Pass, Programmable, Sixth Order Bessel (2 MHz to 13 MHz)	IMP42C455-13	IMP	
	IMP42C455-13A	IMP	
	IMP42C455-13B	IMP	
	IMP42C455-15	IMP	
	IMP42C455-15A	IMP	20
	IMP42C455-20B	IMP	
	IMP42C455-5	IMP	
	IMP42C455-8	IMP	
	IMP42C555-13	IMP	
	IMP42C555-13A	IMP	25
	IMP42C555-15	IMP	
	IMP42C555-15A	IMP	
	IMP42C555-8	IMP	
Filter, Low Pass, Programmable, 8th Order Equiripple-Type	IMP42C451	IMP	
Filter, Low Pass, Seventh Order Elliptic	XR1015	Exar	30
	XR1016	Exar	
Filter, Lowpass, Clock Tunable, Very Low Offset, 5th Order Butterworth	LTC1063	LinearTech	
Filter, Lowpass, Linear Phase, Group Delay Equalized, 8th Order	LTC1064-7	LinearTech	
	LTC1164-7	LinearTech	
	LTC1264-7	LinearTech	35
Filter, Lowpass, 8th Order Butterworth	LT1064-2	LinearTech	
Filter, Lowpass, 8th Order Clock Sweepable Cauer	LT1064-4	LinearTech	
Filter, Lowpass, 8th Order Linear Phase	LT1064-3	LinearTech	
Filter, Switched Capacitor (general purpose)	RF5615A	EG&G-Reticon	
	RF6609A	EG&G-Reticon	40
Filter, Switched Capacitor, Lowpass (8th order)	MAX293C	Maxim	
	MAX293E	Maxim	
	MAX294C	Maxim	
	MAX294E	Maxim	
	MAX297C	Maxim	45
	MAX297E	Maxim	
Filter, Switched Capacitor (notch filter)	RF6651A	EG&G-Reticon	

Function	Device	Source	Line
Filter, Switched Capacitor (1/3 octave bandpass)	RM5604A	EG&G-Reticon	
Filter, Switched Capacitor (5th order highpass)	RF5611A	EG&G-Reticon	
Filter, Switched Capacitor (6th order bandpass)	RF5614A	EG&G-Reticon	50
	RF5616A	EG&G-Reticon	
Filter, Switched Capacitor (7th order lowpass)	RF5609A	EG&G-Reticon	
Filter, Switched-Capacitor, Butterworth Fourth-Order Low-Pass	TLC04C/MF4A-50	TI	
	TLC04I/MF4A-50	TI	
	TLC04M/MF4A-50	TI	55
	TLC14C/MF4A-100	TI	
	TLC14I/MF4A-100	TI	
	TLC14M/MF4A-100	TI	
Filter, Switched-Capacitor (programmable)	TSGF04	SGS-Thomson	
	TSGF08	SGS-Thomson	60
	TSGF12	SGS-Thomson	
Filter, Switched-Capacitor, Dual Universal	TLC10/MF10A	TI	
	TLC20/MF10C	TI	
Filter, Universal Active	**UAF42AG**	**Burr-Brown (3466)**	
	UAF42AP	**Burr-Brown (3466)**	65
Filter, Dual, Universal High Frequency Switched Capacitor	ML2111BC	MicroLinear	
	ML2111BI	MicroLinear	
	ML2111BM	† MicroLinear	
	ML2111CC	MicroLinear	
	ML2111CI	MicroLinear	70
	ML2111CM	† MicroLinear	
Filter, Dual, Universal Switched Capacitor	ML2110BC	MicroLinear	
	ML2110BI	MicroLinear	
	ML2110BM	† MicroLinear	
	ML2110CC	MicroLinear	75
	ML2110CI	MicroLinear	
	ML2110CM	† MicroLinear	
Filter, Quad Universal	LT1164	LinearTech	
Filter, 2-Dimension	RF5C67	Ricoh	
Flasher (LED)	LM3909	National	80
Fluid Detector (oscillator, balance detector)	LM1830	National	
Fluid Level Detector (non-flammable fluids)	LM1042	National	
Frequency-to-Voltage Converter	**451**	**AD (3535)**	
	453	**AD (3535)**	
Frequency-to-Voltage Converter (precision)	CS2907	Cherry Semi	85
	CS2917	Cherry Semi	
	XR2917	Exar	
	LM2907	National	
	LM2917	National	
	L290	SGS-Thomson	90
	L291	SGS-Thomson	
	L292	SGS-Thomson	
	LM2907	TI	
	LM2917	TI	
FSK Data Receiver (for radio paging circuits)	SL6639	GEC Plessey	95
Function Generator, D/A Controller	CY360	Cybernetic	
Function Generator, 25MHz, High Speed	MAX038	Maxim	
Gain/Attenuator Block	ML203	MicroLinear	

Function	Device	Source	Line
Gain Control, programmable gain/loss control	SC11310	Sierra	
Gain Control, Programmable gain/loss control with EEPROM	SC11410	Sierra	100
	SC11411	Sierra	
	SC22310	Sierra	
Gallium Arsenide MESFET, Low Noise, Broad Band	OTL067	Optotek	
Gear Tooth Sensor	UGN3056	Allegro Micro	
Ground Fault Interrupter	LM1851	Raytheon	105
Ground Fault Interrupter Controller, Two Wire	RV4140	Raytheon	
Ground Fault Interrupter, Low Power	RV4141	Raytheon	
Ground Fault Interrupter, Low Power (for 120 or 220 volt systems)	RV4145	Raytheon	
Hall Effect Devices (sense magnetic field) See also Digital-Other Digital Devices	TL172C	TI	
	TL173C	TI	110
	TL3013	TI	
	TL3101	TI	
Hall Effect Switches (senses magnetic field)	UGN3120U	Allegro Micro	
	UGN3140U	Allegro Micro	
	UGS3119U	Allegro Micro	115
	UGS3120U	Allegro Micro	
	UGS3140U	Allegro Micro	
Hall-Effect Switch (for alternating magnetic field)	TLE4901F	Siemens	
Inductive Proximity Switch (with shortcircuit protection)	TCA505A	Siemens	
	TCA505B	Siemens	120
Inductosyn Preamplifier, Hybrid	**IPA1764**	**AD (3523)**	
Isolation Power Supply (3400V)	**PWS750**	**Burr-Brown (3464)**	
Key Code Memory Circuit (for electronic access systems)	DS1652B	Dallas	
Key Match Memory System	DS1652	Dallas	
Laser Diode Driver Circuit	IR3C07/N	Sharp	125
	IR3C08	Sharp	
Level Detector, Fluid	LM903	National	
Level Detector, 12-Point (for fluorescent displays)	LC7555	Sanyo	
Level Meter, Analog Input Drives a Bar of LED's	LB1405	Sanyo	
Level Meter, 2-Channel	MSC1124	OKI	130
Level Meter, 2-Channel 15-Dot	MSC1146	OKI	
Level Translator, High-Voltage (for driving the AP0130NA MOSFET array)	HT0130P	AT&T	
Light Activated Switch	ZNP100	GEC Plessey	
	ZNP102	GEC Plessey	
	ZNP103	GEC Plessey	135
Line Scanner, 2048 Elements	RL2048S	EG&G-Reticon	
Linear Hall-Effect Devices	TL3103C	TI	
	TL3103I	TI	
Linear Macrocell Array	RLA40	Raytheon	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source
Linear Regulator, High Speed Switching	IR3M04	Sharp
Linear Regulator, Precision	UC3832	Unitrode
	UC3833	Unitrode
Linear Variable Differential Transformer (LVDT) Signal Conditioner	NE5521	Philips
	SA5521	Philips
	SE5521	† Philips
Linearized Thermocouple Input Isolation Module	SCM5B47	Burr-Brown
Log/Antilog Amplifier	**AD640**	**AD (3541)**
Log/Antilog Amplifier (4 decade)	**759**	**AD (3541)**
	759N	**AD (3541)**
	759P	**AD (3541)**
Log/Antilog Amplifier (6 decade)	**755**	**AD (3541)**
	755N	**AD (3541)**
	755P	**AD (3541)**
Logarithmic Amplifier with Limiter Output, 50 MHz, 80 dB Demodulating	**AD606**	**AD (3541)**
Logarithmic Amplifier, 120 MHz, DC Coupled Demodulating	**AD640B**	**AD (3541)**
	AD640J	**AD (3541)**
	AD640T/883B	**† AD (3541)**
Logarithmic Gain/Attenuator	ML2003C	MicroLinear
	ML2003I	MicroLinear
	ML2004C	MicroLinear
	ML2004I	MicroLinear
Logic Controlled Regulator (5V/3A main, 5V/3mA aux.)	LT1035M	† LinearTech
Logic Controlled Regulator (5V/3A main, 5V/75mA aux.)	LT1035C	LinearTech
Lowpass Filter, 5th Order Bessel (anti-aliasing, data logger)	MAX281AC	Maxim
	MAX281AM	† Maxim
	MAX281BC	Maxim
Lowpass Filter, 5th Order Bessel (anti-aliasing, data logger)	MAX281BM	† Maxim
LVDT Signal Conditioner (DC output proportional to position)	**AD598**	**AD (3533)**
	AD598A	**AD (3533)**
	AD598J	**AD (3533)**
LVDT to Digital Converter	**AD2S93**	**AD (3523)**
LVDT to Digital Converter (direct ratiometric conversion)	**2S58**	**AD (3523)**
LVDT to Digital Converter (1 kHz to 10 kHz reference frequency)	**2S50/460**	**† AD (3523)**
	2S50/560	**AD (3523)**
LVDT to Digital Converter (400 Hz reference frequency)	**2S50/410**	**† AD (3523)**
	2S50/510	**AD (3523)**
Magnetic Amplifier Control Circuit	UC1838	† Unitrode
	UC2838	Unitrode
	UC3838	Unitrode
Mask Programmable Switched-Capacitor Active Filter System	LMF120	National
Matched Quad Transistor (NPN)	MAT04	AD
	MAT04A	**AD (3542)**
	MAT04B	**AD (3542)**
	MAT04E	**AD (3542)**
	MAT04F	**AD (3542)**
Measurement Channel, Universal Precision Isolated	**ISC300**	**Burr-Brown (3465)**
Measurement Unit, Force V/Measure I or Force I/Measure V	RC7351	Raytheon
Meter Driver, Air-Core	SA5775	Philips
Micropower Regulator and Comparator (125 mA output current)	LT1020C	LinearTech
	LT1020M	† LinearTech
Motor, Brushless DC Motor Commutator	**LS7262**	**LSI Comp (3682)**
Motor, Brushless DC Motor Speed Controller, 4 Phase	**LS7264**	**LSI Comp (3682)**
Motor Driver	TLP298	TI
Motor Driver, Full Bridge, Dual	L298	Unitrode
Motor Driver, Dual, Schottky Diode	UC1610	† Unitrode
	UC3610	Unitrode
Motor, Hall-Sensorless Speed Control	**SSI32M7010**	**SiliconSys (3779)**
Motor Speed Commutator, Hall-Sensorless	**SSI32M7011**	**SiliconSys (3779)**
Motor Speed Regulator, Auto Reverse	TDA7272	SGS-Thomson
Motor Speed Regulator (for small dc motors).	LA5527	ℓ Sanyo
	LA5528	ℓ Sanyo
	LA5550	ℓ Sanyo
	LA5586	Sanyo
	LA5588	Sanyo
Multifunction Converter (generates output = (V1+V2)	LH0094	National
	LH0094C	National
Multifunction Converters (XY/Z)expM	**4302**	**Burr-Brown (3465)**
Multiplier/Divider	AD632A	Burr-Brown
	AD632B	Burr-Brown
	AD632S	† Burr-Brown
	AD632T	† Burr-Brown
Multipliers	**AD539J**	**AD (3525)**
	AD539K	**AD (3525)**
	AD539S	**† AD (3525)**
	AD539S/883B	**† AD (3525)**
	AD632	AD
	AD632A	AD
	AD632B	AD
	AD632S	AD
	AD632S/883B	† AD
	AD632T	AD
	AD632T/883B	† AD
	MM109	AnalogSys
	MPY534	**Burr-Brown (3466)**
	XR2208	Exar
	XR2208M	† Exar
	XR2228	Exar
	XR2228M	† Exar
	ICL8013	Harris
	SG1495	Linfinity Micro
	SG1595	† Linfinity Micro
	MC1494	Motorola
	MC1495	Motorola
	MC1594	† Motorola
	MC1595	† Motorola
Multipliers/Dividers	AD532J	AD
	AD532K	AD
	AD532S	† AD
Multipliers/Dividers (Cont'd)	AD532S/883B	† AD
	AD533J	AD
	AD533K	AD
	AD533L	AD
	AD533S	† AD
	AD534J	**AD (3525)**
	AD534K	**AD (3525)**
	AD534L	**AD (3525)**
	AD534S	**† AD (3525)**
	AD534S/883B	**† AD (3525)**
	AD534T	**† AD (3525)**
	AD534T/883B	**† AD (3525)**
	AD538	AD
	MPY100	**Burr-Brown (3466)**
	MPY100A	**Burr-Brown (3466)**
	MPY100S	**† Burr-Brown (3466)**
	MPY634	**Burr-Brown (3466)**
	4204	Burr-Brown
	4204S	† Burr-Brown
	4206	Burr-Brown
	4213	Burr-Brown
	4213S	† Burr-Brown
	4213V	Burr-Brown
	4213W	Burr-Brown
	4214	Burr-Brown
	RC4200	Raytheon
	RC4200A	Raytheon
Nicad Quick Charge Control IC	TC675	† TeledyneC
	TC676	TeledyneC
Optocoupler	TIL103	TI
	TIL111	TI
	TIL112	TI
	TIL113	TI
	TIL114	TI
	TIL115	TI
	TIL116	TI
	TIL117	TI
	TIL118	TI
	TIL119	TI
	TIL119A	TI
	TIL120	TI
	TIL121	TI
	TIL124	TI
	TIL125	TI
	TIL126	TI
	TIL127	TI
	TIL128	TI
	TIL128A	TI
	TIL153	TI
	TIL154	TI
	TIL155	TI
	TIL156	TI
	TIL157	TI
	TIL157A	TI
	TIL186	TI
	TIL187	TI
	TIL189	TI
	TIL190	TI
	3N261	TI
	3N262	TI
	3N263	TI
	4N22	TI
	4N23	TI
	4N24	TI
	4N26	TI
	4N27	TI
	4N28	TI
	4N35	TI
	4N36	TI
	4N37	TI
	4N47	TI

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Optocoupler (Cont'd)			
	4N48	TI	
	4N49	TI	
Optocoupler, High DC Transfer Ratio			
	MCT2E	TI	
Optocoupler/Optoisolator			
	4N45	TI	
	4N46	TI	5
Optocoupler/Optoisolator, High Speed			
	HCPL2601	TI	
Optocoupler/Optoisolator (3KV isolation)			
	HCPL2530	TI	
	HCPL2531	TI	
	HCPL2730	TI	
	HCPL2731	TI	10
Optocoupler/Optoisolator (3535 V peak isolation)			
	TIL3009	TI	
	TIL3010	TI	
	TIL3012	TI	
Optocoupler, single channel (3535 V peak isolation)			
	TIL191A	† TI	
Optocoupler (used with telephone ring detector)			
	TIL181	TI	15
Optocoupler, Single Channel (3535 V peak isolation)			
	TIL11B	† TI	
	TIL12B	TI	
	TIL191	† TI	
	TIL192	† TI	
	TIL192A	TI	20
Optocoupler, Dual-Channel (1.5 kV isolation)			
	4N55	Micropac	
	6N134	Micropac	
	66026	Micropac	
	66056-002	Micropac	
	66058-002	Micropac	25
	66071	Micropac	
	66072	Micropac	
	66088-002	Micropac	
Optocoupler, Dual-Channel (16 kV isolation)			
	66005-002	Micropac	
Optocoupler, Dual-Channel (40 kV isolation)			
	66004-002	Micropac	30
Optocoupler, Four channel (3535 V peak isolation)			
	TIL193	TI	
	TIL193A	TI	
	TIL193B	TI	
Optocoupler, Four-Channel (1.5 kV isolation)			
	6N140	Micropac	
Optocoupler (1 kV isolation)			
	4N22	Micropac	35
	4N22A	Micropac	
	4N23	Micropac	
	4N23A	Micropac	
	4N24	Micropac	
	4N24A	Micropac	40
	4N47	Micropac	
	4N48	Micropac	
	4N49	Micropac	
Optocoupler (1.5 kV isolation)			
	3N243	Micropac	
	3N244	Micropac	45
	3N245	Micropac	
	66022	Micropac	
	66053	Micropac	
	66056-001	Micropac	
	66058-001	Micropac	50
	66063	Micropac	
	66064	Micropac	
	66088-001	Micropac	
	66095	Micropac	
Optocoupler (16 kV isolation)			
	66005-001	Micropac	55
Optocoupler (40 kV isolation)			
	66004-001	Micropac	

Function	Device	Source	Line
Optoisolator, Buffer Open-Collector Output (5kV peak isolation)	OPI8013	TI	
Optoisolator, Buffer Totem-Pole Output (5kV peak isolation)	OPI8012	TI	
Optoisolator, Inverter Open-Collector Output (5kV peak isolation)	OPI8015	TI	
Optoisolator, Inverter Totem-Pole Output (5kV peak isolation)	OPI8014	TI	60
Optoisolator, Open-Collector Output (3kV dc isolation)			
	HCPL2502	TI	
Optoisolator, Dual Open-Collector Output (3kV dc isolation)	HCPL2630	TI	
Oscillator Accessory.			
	FLJAC01	Datel	
Oscillator, Crystal Clock (250 kHz to 60 MHz)			
	CK1100A	Solarise	
	CK1114A	Solarise	65
	CK1144A	Solarise	
	CK1145A	Solarise	
Oscillator, Hybrid Power			
	OSC1758	**AD** **(3523)**	
Oscillator, Resistor Tuneable			
	ROJ20	Datel	
Oscillator, Quadrature			
	4423	**Burr-Brown** **(3466)**	70
	OSC15801-110	† ILC-DDC	
	OSC15801-300	ILC-DDC	
	OSC15802-110	† ILC-DDC	
	OSC15802-300	ILC-DDC	
Over-Temperature Detector			
	AS273	Astec Semi	75
Peak Detector (for data transfer rates up to 30 mbit/s)			
	AD892	AD	
Phase Accumulator (for DDS Application)			
	AD9950	AD	
Phase Detector, CMOS			
	IMI4345	IMI	
Phase/Frequency Discriminator (digital)			
	AD9901	**AD** **(3514)**	
Phase Locked Frequency Controller			
	UC1635	† Unitrode	80
	UC1635/883B	† Unitrode	
	UC2635	Unitrode	
	UC3635	Unitrode	
Photo Coupler	NJL5123D	NJR	
	NJL5124D	NJR	85
	NJL5154D	NJR	
	NJL5154M	NJR	
	NJL5155D	NJR	
	NJL5155M	NJR	
	NJL5156M	NJR	90
Photo Coupler, AC/DC Input			
	NJL5126D	NJR	
Photo Coupler, Darlington Transistor			
	NJL5125D	NJR	
Photo Coupler, Digital Output			
	NJL5127D	NJR	
	NJL5128D	NJR	
	NJL5130D	NJR	95
Photo Coupler, High Current Transfer			
	NJL5121D	NJR	
Photo Coupler (interface for computer)			
	NJL5151D	**NJR** **(3704)**	
	NJL5151M	**NJR** **(3704)**	
	NJL5152D	**NJR** **(3704)**	
	NJL5152M	**NJR** **(3704)**	100
	NJL5153D	**NJR** **(3704)**	
	NJL5153M	**NJR** **(3704)**	
Photo Detector (for card readers, photoelectric switches, etc.)	NJL3227B	NJR	
	NJL7260B	NJR	

Function	Device	Source	Line
Photo Detector (for smoke detectors)			
	NJL611B	NJR	105
	NJL612B	NJR	
	NJL721B	NJR	
	NJL722B	NJR	
	NJL811B	NJR	
Photo Reflector			
	NJL5142EL	NJR	110
	NJL5143EL	NJR	
	NJL5147EL	NJR	
Photo Reflector (for copy machines, paper sensor)			
	NJL5133H	NJR	
Photo Reflector (for detection of motor rotation)			
	NJL5161K	NJR	
	NJL5162K	NJR	115
	NJL5171K	NJR	
	NJL5265K	NJR	
Photodide Array, Wide Aperture Linear (1024 elements)			
	RL1024K	EG&G-Reticon	
Photodiode Array, Wide Aperture Linear (128 elements)			
	RL0128K	EG&G-Reticon	
Photodiode Array, Wide Aperture Linear (256 elements)			
	RL0256K	EG&G-Reticon	120
Photodiode Array, Wide Aperture Linear (512 elements)			
	RL0512K	EG&G-Reticon	
Phototransistor			
	TIL601	TI	
	TIL602	TI	
	TIL603	TI	
	TIL604	TI	125
	TIL604HR2	TI	
	TL603	TI	
	1N5722	TI	
	1N5723	TI	
	1N5724	TI	130
	1N5725	TI	
PIN Diode Driver			
	DH0035	† National	
	DH0035C	National	
Point ID Module			
	3137	Tracer	
Point ID Module (digital/analog transponder)			
	3135	Tracer	135
Potentiometer, E^2			
	X9102	Xicor	
	X9103	Xicor	
	X9103M	† Xicor	
	X9104	Xicor	
	X9104M	† Xicor	140
	X9503	Xicor	
	X9503M	† Xicor	
Potentiometer, E2			
	X9CMME	Xicor	
	X9241	Xicor	
	X9313	Xicor	145
Potentiometer, 3 1/2-Digit BCD			
	AD7525K	AD	
	AD7525L	AD	
	AD7525U	† AD	
Potentiometer, 5-Volt Only (nonvolatile)			
	X9MME	Xicor	
Power Surveillance and Battery Switchover Circuit			
	V6201	EM Micro	150
Precision Centigrade Temperature Sensors			
	LM35	National	
	LM35A	National	
	LM35C	National	
	LM35CA	National	
	LM35D	National	155
Precision Fahrenheit Temperature Sensor			
	LM34	National	
	LM34A	National	
	LM34C	National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source
Precision Fahrenheit Temperature Sensor (Cont'd)		
	LM34CA	National
	LM34D	National
Pressure Sensors, Piezoresistive (integral gain-set resistor)	1210	IC Sensors
	1220	IC Sensors
Programmable Schmitt Trigger, Two Input Precision Level Detectors (with memory)		
	CA3098	Harris
Proximity Detector, Electromagnetic		
	CS209	Cherry Semi
Proximity Switch (with 0.5 A output stage)		
	TCA705	Siemens
Pulse D/A Converter		
	CXD2552	Sony
Pulse Width Modulator Controller		
	UC3845	SGS-Thomson
PWM Generator		
	RF5C86	Ricoh
Real Time Clock		
	M3002	EM Micro
	M3003	EM Micro
Real Time Clock, 1-Bit		
	V3021	ℓ EM Micro
Reference Oscillator		
	AD2S99	**AD** (3523)
Reference Voltage, Dual, 7V		
	LT1034BC	LinearTech
	LT1034BM	† LinearTech
	LT1034C	LinearTech
	LT1034M	† LinearTech
Reference Voltage, 2.5V		
	LT580J	LinearTech
	LT580K	LinearTech
	LT580L	LinearTech
	LT580M	LinearTech
	LT580S	† LinearTech
	LT580T	† LinearTech
	LT580U	† LinearTech
Reference Voltage, 5V		
	LT1021C-5	LinearTech
Reference Voltage, 6.9V		
	LM129	† LinearTech
	LM329	LinearTech
Reference Voltage, 7V		
	LTZ1000	LinearTech
	LTZ1000A	LinearTech
	LT1021C-7	LinearTech
Reference Voltage, 10V		
	LH0070	LinearTech
	LT1021C-10	LinearTech
	LT1031C	LinearTech
	LT581J	LinearTech
	LT581K	LinearTech
	LT581L	LinearTech
	LT581S	† LinearTech
	LT581T	† LinearTech
	LT581U	† LinearTech
Regulator, Power Surveillance, Watchdog and Crystal Oscillator Circuit		
	V6139	EM Micro
Regulator, 3 Amp Adjustable (negative)		
	UC1033	Unitrode
Resistor Tunable Oscillator.		
	ROJ1K	Datel
Resolver and Synchro Systems		
	SDC1740	**AD** (3523)
	SDC1741	**AD** (3523)
	SDC1742	**AD** (3523)
	1S74	AD
	HMSDC-8700	ILC-DDC
Resolver, Digital to Resolver Converter (DRC)		
	DRC10520	ILC-DDC
Resolver/Synchro to Digital Converter, Single Supply (5V)	**AD2S47**	**AD** (3523)
Resolver/Synchro-to-Digital Converter, Dual Channel (with loss of track detection)		
	AD2S44	**AD** (3523)
Resolver/Synchro-to-Digital Converter (1.3 arc min)		
	AD2S46	**AD** (3523)
Resolver to Digital Converter, Variable Resolution		
	AD2S80AJ	**AD** (3523)
	AD2S80AK	**AD** (3523)
	AD2S80AL	**AD** (3523)
	AD2S80AS	**AD** (3523)
	AD2S80AS/883B	**AD** (3523)
	AD2S80AT	**AD** (3523)
	AD2S80AT/883B	**AD** (3523)
	AD2S80AU	**AD** (3523)
	AD2S81AJ	AD
	AD2S82AH	**AD** (3523)
	AD2S82AJ	AD
	AD2S82AK	AD
	AD2S82AL	AD
Resolver to Digital Converter (10-bits)		
	RDC630	ILC-DDC
Resolver to Digital Converter (12-bits)		
	RDC632	ILC-DDC
Resolver to Digital Converter (14-bits)		
	RDC634	ILC-DDC
Resolver to Digital Converter, 12-Bit		
	AD2S90	**AD** (3523)
Resolver to Digital Converter, 14-Bit, Dual Channel		
	AD2S34S	**AD** (3523)
	AD2S34T	**AD** (3523)
Resolver-to-Digital Converter		
	RDC1740	**AD** (3523)
	RDC1741	**AD** (3523)
	RDC1742	**AD** (3523)
Resolver-to-Digital Converter, Variable Resolution		
	AD2S80A	**AD** (3523)
	AD2S81A	**AD** (3523)
	AD2S82A	**AD** (3523)
	AD2S83A	**AD** (3523)
Resolver-to-Digital Converter, Dual Channel (on-board oscillator)	**AD2S34**	**AD** (3523)
RS–170 Image Processor, 512x512x8 Differential Buffer	67149	OEI
RS–170 7 Frame 512x512x8 Image Integrator		
	67156	OEI
RS–170 512x512x8 Frame Buffer		
	67145	OEI
RTD Input Isolation Module		
	SCM5B34	Burr-Brown
Sample and Hold Amplifier		
	AD684	**AD** (3532)
	AD684A	**AD** (3532)
	AD684J	**AD** (3532)
	AD684S	**AD** (3532)
	SHA1144	AD
	SHC298	**Burr-Brown** (3471)
	SHC5320	**Burr-Brown** (3471)
	SHC615	**Burr-Brown** (3471)
	SHC702J	**Burr-Brown** (3471)
	SHM30C	**Datel** (3569)
	HA5340	Harris
Sample and Hold Amplifier, Two Channel (700 ns)		
	AD682	AD
Sample and Hold Amplifier (16-bit)		
	AD1154	**AD** (3532)
Sample and Hold Amplifier (250 ns)		
	AD783J	**AD** (3532)
	AD783S	**AD** (3532)
Sample and Hold Amplifier (700 ns)		
	AD682A	AD
	AD682J	AD
	AD682S	AD
	AD781	**AD** (3532)
	AD781J	**AD** (3532)
	AD781S	**AD** (3532)
Sample and Hold Circuit		
	SH376	Adv Analog
	SHA2200	Analogic
	SHA2410	Analogic
Sample and Hold Circuit (dual high-performance)		
	SHA2400	Analogic
Sample and Hold Circuit (quad)		
	SMP04	**AD** (3532)
	SMP04A/883	† **AD** (3532)
Sample and Hold Circuit, Octal		
	PA508	OnChip Sys
Sample and Hold Circuit, 12-Bit Quad		
	MSH840MC	**Datel** (3569)
Sample and Hold Circuit (12-bit, 200 ns)		
	SHM49	**Datel** (3569)
Sample and Hold Circuit (12-bit, 30 ns)		
	SHM43MC	**Datel** (3569)
Sample and Hold Circuits		
	A880	Adv Analog
	A882	Adv Analog
	SH346	† Adv Analog
	SH347	† Adv Analog
	AD346	AD
	AD346J	AD
	AD346S	AD
	AD346S/883B	† AD
	AD582K	AD
	AD582S	† AD
	AD583K	AD
	AD583S	† AD
	AD585J	**AD** (3532)
	AD585S	† **AD** (3532)
	HTC0300	AD
	HTS0025	AD
	SMP10A	† **AD** (3532)
	SMP10B	† **AD** (3532)
	SMP10E	**AD** (3532)
	SMP10F	**AD** (3532)
	SMP11A	† **AD** (3532)
	SMP11B	† **AD** (3532)
	SMP11E	**AD** (3532)
	SMP11F	**AD** (3532)
	SMP11G	**AD** (3532)
	SMP81E	**AD** (3532)
	SMP81F	**AD** (3532)
	SSM2300	AD
	MP260	Analogic
	MP271	Analogic
	MP282A	Analogic
	SHC298A	**Burr-Brown** (3471)
	SHC5320K	**Burr-Brown** (3471)
	SHC5320S	**Burr-Brown** (3471)
	SHC600B	**Burr-Brown** (3471)
	SHC76	**Burr-Brown** (3471)
	SHC76K	**Burr-Brown** (3471)
	SHC803	**Burr-Brown** (3471)
	SHC803B	**Burr-Brown** (3471)
	SHC803C	**Burr-Brown** (3471)

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Sample and Hold Circuits (Cont'd)			
	SHC804	**Burr-Brown (3471)**	
	SHC804B	**Burr-Brown (3471)**	
	SHC804C	**Burr-Brown (3471)**	
	SHC85	Burr-Brown	
	SHC85ET	Burr-Brown	5
	SHS804B	Burr-Brown	
	CS3112-B	Crystal	
	CS3112-K	Crystal	
	CS3112-T	† Crystal	
	SHMHUMC	Datel	10
	SHMHUMM	† Datel	
	SHM20C	**Datel (3569)**	
	SHM40MC	**Datel (3569)**	
	SHM40MM	**† Datel (3569)**	
	SHM45MC	**Datel (3569)**	15
	SHM45MM	**† Datel (3569)**	
	SHM4860MC	**Datel (3569)**	
	SHM4860MM	**† Datel (3569)**	
	SHM6MC	† Datel	
	SHM6MM	† Datel	20
	SHM7MC	Datel	
	SHM91MC	**Datel (3569)**	
	HA2420-2	† Harris	
	HA2420-8	† Harris	
	HA2420/883	Harris	25
	HA2425-5	† Harris	
	HA2425-7	Harris	
	HA5320	Harris	
	HA5320-2	† Harris	
	HA5320-5	Harris	30
	HA5320-7	Harris	
	HA5320-8	† Harris	
	HA5330	Harris	
	HA5330-2	† Harris	
	HA5330-4	Harris	35
	HA5330-5	Harris	
	HA5340-5	Harris	
	HA5340-9	Harris	
	LF198	† LinearTech	
	LF198A	† LinearTech	40
	LF398	LinearTech	
	LF398A	LinearTech	
	MN343	**MicroNet (3693)**	
	MN343H	**† MicroNet (3693)**	
	MN344	**MicroNet (3693)**	45
	MN344H	**† MicroNet (3693)**	
	MN346	**MicroNet (3693)**	
	MN346H	**† MicroNet (3693)**	
	MN347	**MicroNet (3693)**	
	MN347H	**† MicroNet (3693)**	50
	MN7130	**MicroNet (3691, 3693)**	
	MN7130H	**† MicroNet (3691, 3693)**	
	LF198	‡ National	
	LF198A	† National	
	LF298	National	55
	LF298A	National	
	LF398	National	
	LF398A	National	
	LF6197	National	
	LH0023C	National	60
	LH0043C	National	
	LH0053C	National	
	5021	OEI	
	5025	OEI	
	LF198	† Philips	65
	LF298	Philips	
	LF398	Philips	
	NE5537	Philips	
	SE5537	† Philips	
	HS346	Sipex	70
	HS9704	Sipex	
	HS9705	Sipex	
	HS9714K	Sipex	
		(Continued)	
Sample and Hold Circuits (Cont'd)			
	HS9714TB	† Sipex	
	HS9716K	Sipex	75
	HS9716TB	† Sipex	
	HS9720	Sipex	
	SP5330	Sipex	
	CXA1008	Sony	
	CXA1008P	Sony	80
	CXA1009	Sony	
	CXA1009P	Sony	
	CXA1693	Sony	
Sample and Hold Circuits (octal with multiplexed input)			
	SMP08	**AD (3532, 3538)**	
	SMP18	**AD (3532, 3538)**	85
	SMP18F	**AD (3532, 3538)**	
Sample-and-Hold Amplifier			
	LF198	† TI	
	LF198A	† TI	
	LF398	TI	
	LF398A	TI	90
Sample-and-Hold Amplifier with Multiplexed Input,Octal			
	SMP08F	**AD (3532, 3538)**	
Sample-and-Hold Amplifier, 16-Bit			
	SP9760	Sipex	
Sample-and-Hold Amplifier,Quad CMOS			
	SMPO4E	AD	
SCR/TRIAC Control (phase control)			
	UAA145	AEG Corp	
	UAA146	AEG Corp	95
	U208B	AEG Corp	
	U212B	AEG Corp	
Security Code Generator/Detector			
	HC2063	Hughes	
Security Detector, Data Receiver/Transmitter			
	CS212	Cherry Semi	
Sensor/Controller, Air Temperature			
	MS120	AnalogSys	100
Sensor/Controller, Ground Moisture and Liquid Level			
	MS211	AnalogSys	
Sensor/Controller, Relative Humidity			
	MS214	AnalogSys	
Sensor Interface Circuit (for current sensing)			
	AD22050	**AD (3513)**	
Sensor Transmitter, 4–20 mA			
	AD693	**AD (3533)**	
	AD693A	**AD (3533)**	105
Sensor, Ultrasonic Object Detector (position and distance)	MS118	AnalogSys	
Sensor, 0 to 15 PSI Silicon Pressure Sensor			
	MPX7100	Motorola	
Sensor, 0 to 30 PSI Silicon Pressure Sensor			
	MPX7200	Motorola	
Servo Amplifier, for Motor Control			
	ZN409CE	GEC Plessey	
Servo Controller, Proportional Control			
	XR2264	Exar	110
	XR2265	Exar	
Servo Controller, Radio Controlled Cars, 2 Channel			
	XR2266	Exar	
Servo Front End for HDD			
	AD7773J	**AD (3507)**	
	AD7775J	**AD (3507)**	
Servo Motor Controller			
	NJM2611	NJR	115
Signal Conditioning Module.			
	SCM100B	Datel	
Signal Multiplier, Wide Bandwidth (Modulator/demodulator)			
	MPY600	**Burr-Brown (3466)**	
Signal Processor, Real Time Digital Processing of Analog Signals (programmable)			
	2920	Intel	
	2921	Intel	
Sine/Cosine Generator			
	HC2062	Hughes	120
Sinewave Generator, Programmable			
	ML2035C	MicroLinear	
	ML2035I	MicroLinear	
	ML2036C	MicroLinear	
	ML2036I	MicroLinear	
Sinewave/Squarewave Generator, Programmable			
	SC11313	Sierra	125
	SC11314	Sierra	
Sinusoidal Line-Current Consumption Circuit (active harmonics filter)			
	TDA4816	**Siemens (3773)**	
Smart Reset	H6052	ℓ EM Micro	
Smoke Detector, Interconnectable			
	MC14468	Motorola	
Solid State Thermal Switch			
	TC626	† TeledyneC	130
Solid State Thermostat IC			
	TC620	† TeledyneC	
	TC621	† TeledyneC	
Sonar Ranging Module			
	TL851	TI	
	TL853	TI	
Sonar Ranging Receiver			
	TL852	TI	135
Strain Gage/RTD Conditioner			
	2B30J	AD	
	2B30K	AD	
	2B30L	AD	
	2B31J	AD	
	2B31K	AD	140
	2B31L	AD	
Strain Gauge Input Module			
	5B38	**AD (3533)**	
Streaming Tape Read/Write Control			
	TL041	TI	
Switch, Industrial (1 amp relay driver)			
	LM1921	National	
Switch, Solid-State (1 amp with built-in error detection circuit)	LM1951	National	145
Switch, Single Pole Double Throw (SPDT)			
	NE630	**Philips (3737)**	
	SA630	**Philips (3737)**	
Switched Capacitor Active Filter, Triple One-Third Octave	LMF380	National	
Switched Capacitor Filter, Low Pass, Butterworth, 4th Order	TLC04	TI	
	TLC14	TI	150
Switched Capacitor Filter, Second Order			
	XR1010	Exar	
Switched Capacitor Filter (universal)			
	MF10	National	
	MF5	National	
Switched Capacitor Filter (zero offset)			
	MAX280C	Maxim	
	MAX280M	† Maxim	155
Switched Capacitor Filter, Dual, General Purpose, 2nd Order	TLC10	TI	
	TLC20	TI	
Switched Capacitor Filter, Dual (second order)			
	MF10A	† National	
	MF10C	National	
Switched Capacitor Filter, Fourth Order			
	MF8	National	160
Switched Capacitor Filter, Seventh Order Low Pass			
	FLT-C1	Datel	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Switched Capacitor Universal Filter	LTC1059AC	LinearTech	
	LTC1059AM	† LinearTech	
Switched Capacitor Voltage Converter	LT1054C	LinearTech	
	LT1054M	† LinearTech	
Switched Capacitor Voltage Converter (positive to negative)	LMC7660	National	5
Switched Integrator, Low Noise, Dual	**ACF2101B**	**Burr-Brown (3465)**	
Switched-Capacitor Active Bandpass Filter, Pin Programmable	MAX267AC	Maxim	
	MAX267AM	† Maxim	
	MAX267BC	Maxim	
	MAX267BM	† Maxim	10
	MAX267C	Maxim	
	MAX267M	† Maxim	
	MAX268AC	Maxim	
	MAX268AM	† Maxim	
	MAX268BC	Maxim	15
	MAX268BM	† Maxim	
	MAX268C	Maxim	
	MAX268M	† Maxim	
Switched-Capacitor Active Filter, Dual Universal	MF10	Maxim	
	MF10B	Maxim	20
	MF10C	Maxim	
Switched-Mode Power Supply Control Circuit	**TDA4919**	**Siemens (3774)**	
Switches	ICL8018A	Harris	
	ICL8019A	Harris	
	ICL8020A	Harris	25
Switchmode Driver for DC Motors	L292	Unitrode	
Switchmode Pulse Width Modulation Control Circuit	TL494I	Motorola	
Synchro and Resolver to BCD Tracking Converter, 5-Decade, Pin-Programmable	SDC14700	ILC-DDC	
Synchro/Resolver, reference Oscillator	REF15001	ILC-DDC	
Synchro/Resolver to Digital Converter, 14-Bit, Dual Channel	**AD2S44T**	**AD (3523)**	30
	AD2S44U	**AD (3523)**	
Synchro/Resolver to Digital Converter, 14-Bit, Dual Channel	**AD2S44S**	**AD (3523)**	
Synchro/Resolver to Digital Converter, 16-Bit	**AD2S46S**	**AD (3523)**	
	AD2S46T	**AD (3523)**	
Synchro/Resolver Transformer Isolated Interface, Universal	**AD2S75S**	**AD (3523)**	35
Synchro to Digital and Resolver to Digital Converter, 1 and 36 Speed	SDC361	ILC-DDC	
	SDC362	ILC-DDC	
Synchro to Digital Converter, 10- to 14-Bit Programmable Resolution	SDC14560	ILC-DDC	
Synchro to Digital Converter (10-bits)	SDC630	ILC-DDC	
Synchro to Digital Converter (12-bits)	SDC632	ILC-DDC	40
Synchro to Digital Converter (14-bits)	SDC634	ILC-DDC	
System Reset	M51958BFP	Mitsubishi	
System Reset, Low-Power 2-Output Microcomputer	M62001FP	Mitsubishi	
	M62002	Mitsubishi	
	M62002FP	Mitsubishi	45
System Reset with Switch for Memory Back-up	M62021FP	Mitsubishi	
Telephone Line Equalizer with Programmable Gain/Loss Circuit	SC11319	Sierra	
Telephone Line Equalizer wtih Gain Control, (programmable gain/loss control)	SC11389	Sierra	
Temperature and Air Flow Sensor	UC1730	† Unitrode	
	UC2730	Unitrode	50
	UC3730	Unitrode	
Temperature Controller, Programmable	**TMP01**	**AD (3542)**	
Temperature Sensor	S8100B	Seiko Instr	
Temperature Sensor with Signal Conditioning	**AD22100**	**AD (3513)**	
Temperature, Set-Point Controller	**AD596**	**AD (3533)**	55
	AD596A	**AD (3533)**	
	AD597	**AD (3533)**	
	AD597A	**AD (3533)**	
Temperature Transducers	**AD590I**	**† AD (3542)**	
	AD590J	**† AD (3542)**	60
	AD590K	**† AD (3542)**	
	AD590L	**† AD (3542)**	
	AD590M	**AD (3542)**	
	AD592	**† AD (3542)**	
	AD592A	**AD (3542)**	65
	AD592B	**AD (3542)**	
	AD592C	**AD (3542)**	
	REF02	‡ AD	
	REF02A	AD	
	REF02C	‡ AD	70
	REF02D	AD	
	REF02E	AD	
	REF02H	AD	
	REF05A	AD	
	REF05B	† AD	75
	AD590I	† Harris	
	AD590J	† Harris	
	LM134	† LinearTech	
	LM234	LinearTech	
	LM134	† National	80
	LM135	‡ National	
	LM135A	National	
	LM234	National	
	LM235	National	
	LM235A	National	85
	LM334	National	
	LM335	National	
	LM335A	National	
	LM3911	National	
	TDB0135	† SGS-Thomson	90
	TDC0134	† SGS-Thomson	
Thermocouple Cold Junction Compensator	AC1226	AD	
	LT1025AC	LinearTech	
	LT1025AM	† LinearTech	
	LT1025C	LinearTech	95
	LT1025M	† LinearTech	
Thermocouple/mV Conditioner, Isolated, Four Channel	2B54A	AD	
	2B54B	AD	
	2B55B	AD	
Thermocouple Signal Conditioner, Isolated	2B50A	AD	100
	2B50B	AD	
Threshold Switch (2/3 supply voltage)	TCA345A	Siemens	
Timer/Divider, Programmable	**TC5043**	**Toshiba (3838)**	
Timer, Failsafe Watchdog	H6006	ℓ EM Micro	
Timer, Low Voltage Standalone Watchdog	H6061	ℓ EM Micro	105
Timer, Self Recovering Watchdog	H6060	ℓ EM Micro	
Timing and Sync Generator	LC9907	Sanyo	
Timing Generator Circuit	CXD1156	Sony	
	CXD1252	Sony	
	CXD1253	Sony	110
Tone Decoder (traffic signal control and detector)	LA2200	Sanyo	
Touch Control Lamp Switch AC Power Controller with Auto Shut-Off Timer	**LS7338**	**LSI Comp (3682)**	
Touch Control Lamp Switch/AC Power Switch with Auto Shut-Off Timer	**LS7339**	**LSI Comp (3682)**	
	LS7340	**LSI Comp (3682)**	
Touch/Proximity Memory Chip	DS2569S	Dallas	115
Track and Hold	**AD389**	**AD (3532)**	
	HTS0010	AD	
	CLC940AI	Comlinear	
	CLC940AM	† Comlinear	
	ADC00304	ILC-DDC	120
	ADC00310	ILC-DDC	
	THA05203	ILC-DDC	
	TH8530	ILC-DDC	
	MN0300A	**MicroNet (3693)**	
Track and Hold Amplifier	**MN373**	**MicroNet (3693)**	125
	MN373H	**† MicroNet (3693)**	
	MN374	**MicroNet (3693)**	
	MN374H	**† MicroNet (3693)**	
	MN376	**MicroNet (3693)**	
	MN376H	**† MicroNet (3693)**	130
	MN379	**MicroNet (3693)**	
	MN379H	**† MicroNet (3693)**	
Track and Hold Amplifier, Ultrahigh Speed	**AD9100A**	**AD (3532)**	
	AD9100J	**AD (3532)**	
	AD9100S	**AD (3532)**	135
Track and Hold Amplifier (16-bit)	**AD386**	**AD (3531)**	
Track and Hold Amplifier (12 ns acquisition time)	AL1210A	Acculin	
	AL1210J	Acculin	
	AL1210S	† Acculin	
Track and Hold Amplifier (16-bit)	**AD386T**	**AD (3531)**	140
	AD386T/883B	**† AD (3531)**	
	AD389K	**AD (3532)**	
Track and Hold (4-channel simultaneous)	CS31412-B	Crystal	
	CS31412-K	Crystal	
	CS31412-T	Crystal	145
Track and Hold (13-bit with controlled hold time)	DGL13	ILC-DDC	
Track-and-Hold Amplifier, Wideband, 12-Bit, Fast Sampling	CLC942A8C	† Comlinear	
Track-and-Hold Amplifier (0.1 µs acquisition time)	HTC0300A	AD	
Traffic Information Control System (ARI-DK type)	LA2211	Sanyo	
Transmitter, Two-Wire (converts voltage from a sensor to a current)	LH0045C	National	150
Transversal Filter, Quad Chirped (for discrete Fourier transform and power spectral density applications)	RT5602A	EG&G-Reticon	
Triac Angle Firing Control Circuit	TDA1185	Motorola	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Trigonometric Function Generator (sine, cosine, tan, etc. and inverse functions)	**AD639A**	**AD (3541)**	
	AD639B	**AD (3541)**	
	AD639S	**† AD (3541)**	
	AD639S/883B	**† AD (3541)**	
True RMS-to-DC Converter	MAX636K	Maxim	5
	MX536A	† Maxim	
	MX636	† Maxim	
Universal Switched-Capacitor Active Filter, Microprocessor Programmable	MAX260AC	Maxim	
	MAX260AM	† Maxim	
	MAX260BC	Maxim	10
	MAX260BM	† Maxim	
	MAX260C	Maxim	
	MAX260M	† Maxim	
	MAX261AC	Maxim	
	MAX261AM	† Maxim	15
	MAX261BC	Maxim	
	MAX261BM	† Maxim	
	MAX261C	Maxim	
	MAX261M	† Maxim	
	MAX262AC	Maxim	20
	MAX262AM	† Maxim	
	MAX262BC	Maxim	
	MAX262BM	† Maxim	
	MAX262C	Maxim	
	MAX262M	† Maxim	25
Universal Switched-Capacitor Active Filter, Pin Programmable	MAX263AC	Maxim	
	MAX263AM	† Maxim	
	MAX263BC	Maxim	
	MAX263BM	† Maxim	
	MAX263C	Maxim	30
	MAX263M	† Maxim	
	MAX264AC	Maxim	
	MAX264AM	† Maxim	
	MAX264BC	Maxim	
	MAX264BM	† Maxim	35
	MAX264C	Maxim	
	MAX264M	† Maxim	
	MAX265AC	Maxim	
	MAX265AM	† Maxim	
	MAX265BC	Maxim	40
	MAX265BM	† Maxim	
	MAX265C	Maxim	
	MAX265M	† Maxim	
	MAX266AC	Maxim	
	MAX266AM	† Maxim	45
	MAX266BC	Maxim	
	MAX266BM	† Maxim	
	MAX266C	Maxim	
	MAX266M	† Maxim	
Universal Dual Filter Building Block (tracking, telecom)	LTC1060AC	LinearTech	50
	LTC1060AM	† LinearTech	
	LTC1060M	† LinearTech	
Universal Triple Filter Building Block, (tracking, antialiasing)	LTC1061AC	† LinearTech	
	LTC1061AM	† LinearTech	
VCA (Voltage Controlled Amplifier, dual)	PA381	OnChip Sys	55
	PA382	OnChip Sys	
Video Buffer, 40 MHz	MAX452C	Maxim	
	MAX452M	† Maxim	
Video Buffer, 40 MHz (With 2-Channel Multiplexer)	MAX453C	Maxim	
	MAX453M	† Maxim	60
Video Buffer, 40 MHz (With 4-Channel Multiplexer)	MAX454C	Maxim	
	MAX454M	† Maxim	
Video Buffer, 40 MHz (With 8-Channel Multiplexer)	MAX455C	Maxim	
	MAX455M	† Maxim	
Video Level Comparator	VLC931	ThirdDomain	65
Video Switch (5 MHz bandwidth)	LM1044	National	
Voiceband Receive Filter (for 14-bit ADC)	**AD7371**	**AD (3514)**	
Voiceband Transmission Filter (for 14-bit DAC)	**AD7341**	**AD (3514)**	
Voltage Comparator, Single	M51202	Mitsubishi	
Voltage Comparator, Dual	M5233	Mitsubishi	70
Voltage Comparator, Quad	GL339	GoldStar	
	M5234	Mitsubishi	
Voltage Converter (4–10V input, ± 7V to ± 18V output)	LT1026C	LinearTech	
	LT1026M	† LinearTech	
Voltage Detector/Dual Comparator	NJM2078	NJR	75
Window Comparator with Latch (threshold detector)	**AD1317**	**AD (3537, 3539)**	
Window Discriminator (indicates voltage above, below, inside, or outside two adjustable limits)	TCA965	Siemens	
Zero Voltage and Zero Crossing Triggers (triac and SCR control)	TEA1024	AEG Corp	
	U217B	AEG Corp	
	CA3058	† Harris	80
	CA3059	**Harris (3638)**	
	CA3079	† Harris	
	CA3059	Motorola	
	CA3079	Motorola	
	UAA1016A	Motorola	85
	UAA1016B	Motorola	
	TDA1023	Philips	
	TCA785	† Siemens	
Dual Inverting/Non-Inverting 1.5A Power Device Driver	IXLD4428	IXYS	
Dual Inverting/Noninverting 3A Power Device Driver	IXLD4425	IXYS	90
Dual Inverting 1.5A Power Device Driver	IXLD4426	IXYS	
Dual Inverting 3A Power Device Driver	IXLD4423	IXYS	
	IXLD4424	IXYS	
Dual Non-Inverting 1.5A Power Device Driver	IXLD4427	IXYS	
Dual Smart Switch	UC1728	† Unitrode	95
Quadrature Encoder Interface	KM3703AD	Toko	
Two-Wire Transmitter (4–20 mA)	**XTR101A**	**Burr-Brown (3462)**	
	XTR101B	**Burr-Brown (3462)**	
Three Code Lock	DS1651	Dallas	
Four Code Lock	DS1653	Dallas	100
3 1/2 Digit Autoranging Multimeter Circuit	ICL7139C	Harris	
3 3/4 Digit Autoranging Multimeter Circuit	ICL7149C	Harris	
8th Order, Clock-Tunable Lowpass Filter	MAX291C	Maxim	
	MAX291E	Maxim	
(Continued)			
8th Order, Clock-Tunable Lowpass Filter (Cont'd)	MAX291M	† Maxim	105
	MAX292C	Maxim	
	MAX292E	Maxim	
	MAX292M	† Maxim	
	MAX295C	Maxim	
	MAX295E	Maxim	110
	MAX295M	† Maxim	
	MAX296C	Maxim	
	MAX296E	Maxim	
	MAX296M	† Maxim	
10-Bit, 20 nsec T/H Amplifiers	**MN4000**	**MicroNet (3693)**	115
	MN4000H	**† MicroNet (3693)**	
4 pole Continuous Low Pass/Band Pass Filter	MAX275	† Maxim	
4th Order Elliptic Notch Filter	LMF90	National	
5th Order, Zero DC Error, Low Pass Filter	LTC1062	† Maxim	
	LTC1062C	Maxim	120
	LTC1062M	† Maxim	
	MAX280	† Maxim	
8 pole Continuous Low Pass/Band Pass Filter	MAX274	† Maxim	
8th order, clock-Tunable Low Pass Filters	MAX292	† Maxim	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 901

INTRODUCTION TO MEMORY

The Memory Section provides initial selection information and data on E²PROMs, RAMs, and ROMs as well as other memory devices. In these particular sections, the devices are characterized by organization (words and bits/word) and by access times. In order to assure that the access times are comparable, whenever possible the times are shown in nanoseconds over the full rated temperature range for the devices (i.e., 0° to 70°C for commercial units and -55°C to 125°C for military units). "Typical" values are invariably much faster than the guaranteed ones so that such listings place these memories higher on the list than they otherwise would appear.

Category

- Character Generators....902
- FIFOs....903
- ROMs
  - Mask Programmable
    - General Purpose....916
- PROMs
  - Fuse Programmable
    - General Purpose....929
    - Modules....940
- EPROMs
  - UV Erasable
    - General Purpose....942
    - Modules....969
  - One-Time Programmable
    - General Purpose....973
- Flash Memories
    - General Purpose....977
    - Modules....985
- E²PROMS
  - Electrically Erasable
    - General Purpose....993
    - Modules....1017
- RAMs
  - Dynamic
    - General Purpose....1032
    - Modules....1082
    - Multiport....1112
    - Video....1115
  - Static
    - General Purpose....1119
    - Modules....1224
    - Multiport....1277
    - NOVRAMs....1289
    - Pseudostatic....1294
    - Cache Tag....1295
- Plug-In Cards....1300

MEMORY—Character Generators

Format	Number of Output Lines	Input Logic levels	Supply Voltage, V	Device	Source
5x7	1	TTL	5	DM76S64 DM86S64	† National National
	35	TTL	5	MSL9650	OKI
7x9	1	TTL	5	DM76S64 DM86S64	† National National
7x11	1	TTL	5	CRT8002	SMC
14 Segments	14	TTL	5	MSL9664 MSL9665	OKI OKI
16 Segments	16	TTL	5	MSL9662 MSL9663	OKI OKI
18x16 Japanese	16	TTL	5	MSM28101A MSM28201A	OKI OKI

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
1	9	33.3	5	IDT7202SA-20	IDT	
				IDT7202SA-20B	IDT	
		40	5	IDT7202SA-15	IDT	
3K	8	1000	–5.2	**SY69165**	**Synergy (3803)**	
5K	8		5	MSM514212-28	OKI	5
				MSM514212-34	OKI	
				MSM514212-50	OKI	
10K	9	10	5	IDT7206L-80	IDT	
				IDT7206L-80M	† IDT	
				IDT7206S-80	IDT	10
				IDT7206S-80M	† IDT	
		15	5	IDT7206L-50	IDT	
				IDT7206L-50M	† IDT	
				IDT7206S-50	IDT	
				IDT7206S-50M	† IDT	15
		20	5	IDT7206L-40	IDT	
				IDT7206S-40	IDT	
16	4		5	9403A	National	
		8	3–15	CD40105B	† Harris	
		10	5	54F403	† National	20
				54F403A	National	
				74F403	National	
				74F403A	National	
		12	5	SN54LS222A	† TI	
				SN54LS224A	† TI	25
				SN74LS222A	TI	
				SN74LS224A	TI	
		20	5	SN74ALS229A	TI	
				SN74LS227	TI	
				SN74LS228	TI	30
		50	5	74F222	Philips	
				74F224	Philips	
	5	10	5	SN74S225	TI	
	9	—	5	74HCT7030	Philips	
				74HC7030	Philips	35
32	8		5	**AM2812**	**MSI/Scorpion (3598)**	
				AM2812A	**MSI/Scorpion (3598)**	
				AM2813A	**MSI/Scorpion (3598)**	
		0.5	–12,5	MJ2812	GEC Plessey	
	9		5	**AM2813**	**MSI/Scorpion (3598)**	40
		0.5	–12,5	MJ2813	GEC Plessey	
63	8		5	M66300	Mitsubishi	
64	4		5	**AM2841**	**MSI/Scorpion (3598)**	
				AM2841A	**MSI/Scorpion (3598)**	
		1	–12,5	MJ2841	GEC Plessey	45
			5	**AM3341**	**MSI/Scorpion (3598)**	
				AM3341A	**MSI/Scorpion (3598)**	
		1.2	5	CY3341C	Cypress	
				CY3341M	† Cypress	
		2	5	CY3341-2C	Cypress	50
				CY3341-2M	† Cypress	
		5	5	CY7C401-5C	° Cypress	
		10	5	67C401-10	AMD	
				67C4013-10	AMD	
				CY7C401-10C	° Cypress	55
					(Continued)	
64	4	10	5		(Cont'd)	
				CY7C401-10M	°† Cypress	
				CY7C403-10C	° Cypress	
				CY7C403-10M	°† Cypress	
				IDT72401L-10	IDT	
				IDT72401L-10M	† IDT	60
				IDT72403L-10	IDT	
				IDT72403L-10M	† IDT	
				54F413	† National	
				54F433	† National	
				74F413	National	65
				74F433	National	
		15	5	67C401-15	AMD	
				67C4013-15	AMD	
				CY7C401-15C	° Cypress	
				CY7C401-15M	°† Cypress	70
				CY7C403-15C	° Cypress	
				CY7C403-15M	°† Cypress	
				IDT72401L-15	IDT	
				IDT72401L-15M	† IDT	
				IDT72403L-15	IDT	75
				IDT72403L-15M	† IDT	
		25	5	CY7C401-25C	° Cypress	
				CY7C403-25C	° Cypress	
				CY7C403-25M	°† Cypress	
				IDT72401	IDT	80
				IDT72401L-25	IDT	
				IDT72401L-25M	† IDT	
				IDT72403	IDT	
				IDT72403L-25	IDT	
				IDT72403L-25M	† IDT	85
		35	5	IDT72401L-35	IDT	
				IDT72401L-35M	† IDT	
				IDT72403L-35	IDT	
				IDT72403L-35M	† IDT	
		45	5	IDT72401L-45	IDT	90
				IDT72403L-45	IDT	
	5	5	5	CY7C402-5C	Cypress	
		10	5	67C402-10	AMD	
				67C4023-10	AMD	
				CY7C402-10C	Cypress	95
				CY7C402-10M	† Cypress	
				CY7C404-10C	Cypress	
				CY7C404-10M	† Cypress	
				IDT72402L-10	IDT	
				IDT72402L-10M	† IDT	100
				IDT72404L-10	IDT	
				IDT72404L-10M	† IDT	
		15	5	67C402-15	AMD	
				67C4023-15	AMD	
				67C4033-10	AMD	105
				67C4033-15	AMD	
				CY7C402-15C	Cypress	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

(Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
64	5	15	5	CY7C402-15M	† Cypress	
				CY7C404-15C	Cypress	
				CY7C404-15M	† Cypress	
				IDT72402L-15	IDT	
				IDT72402L-15M	† IDT	5
				IDT72404L-15	IDT	
				IDT72404L-15M	† IDT	
		25	5	CY7C401-25M	† Cypress	
				CY7C402-25C	Cypress	
				CY7C402-25M	† Cypress	10
				CY7C404-25C	Cypress	
				CY7C404-25M	† Cypress	
				IDT72402	IDT	
				IDT72402L-25	IDT	
				IDT72402L-25M	† IDT	15
				IDT72404	IDT	
				IDT72404L-25	IDT	
				IDT72404L-25M	† IDT	
				IDT72413L-25	IDT	
				IDT72413L-25M	† IDT	20
		35	5	IDT72402L-35	IDT	
				IDT72402L-35M	† IDT	
				IDT72404L-35	IDT	
				IDT72404L-35M	† IDT	
				IDT72413	IDT	25
				IDT72413L-35	IDT	
				IDT72413L-35M	† IDT	
		45	5	IDT72402L-45	IDT	
				IDT72404L-45	IDT	
				IDT72413L-45M	† IDT	30
	8	15	5	CY7C408A-15C	° Cypress	
				CY7C408A-15M	°† Cypress	
				LH5481-15	**Sharp (3765)**	
		25	5	CY7C408A-25C	° Cypress	
				CY7C408A-25M	°† Cypress	35
				LH5481-25	**Sharp (3765)**	
		35	5	CY7C408A-35C	° Cypress	
				DM75X431	† National	
				DM85X431	National	
				LH5481-35	**Sharp (3765)**	40
	9	15	5	CY7C409A-15C	Cypress	
				CY7C409A-15M	°† Cypress	
				LH5491-15	**Sharp (3765)**	
				TDC1030	† TRWLSI	
		20	5	IDT72421L-50	IDT	45
				IDT72421L-50M	† IDT	
		25	5	CY7C409A-25C	° Cypress	
				CY7C409A-25M	°† Cypress	
				LH5491-25	**Sharp (3765)**	
64	9	28.6	5	IDT72421L-35	IDT	50
				IDT72421L-35M	† IDT	
		35	5	CY7C409A-35C	° Cypress	
				LH5491-35	**Sharp (3765)**	
		40	5	IDT72421L-25	IDT	
				IDT72421L-25M	† IDT	55
		50	5	IDT72421L-20	IDT	
				IDT72421L-20M	† IDT	
		66.7	5	IDT72421L-15	IDT	
		70	5	QS7230	† Quality Semi	
	16	25	5	**MS76500A-25**	**Mosel-Vitelic (3697)**	60
		33	5	**MS76500A-30**	**Mosel-Vitelic (3697)**	
	18	125	–5.2	**SY69168**	**Synergy (3803)**	
				SY69268	Synergy	
		250	–5.2	**SY69167**	**Synergy (3803)**	
				SY69267	Synergy	65
128	4	35	5	DM75X432	National	
				DM85X432	National	
	5	35	5	DM75X433	National	
				DM85X433	National	
256	4		5	M66252	Mitsubishi	70
	8	20	5	IDT72200L-50	IDT	
				IDT72200L-50M	† IDT	
		28.5	5	LH5485-35	Sharp	
		28.6	5	IDT72200L-35	IDT	
				IDT72200L-35M	† IDT	75
		40	5	IDT72200L-25	IDT	
				IDT72200L-25M	† IDT	
				LH5485-25	Sharp	
		50	5	IDT72200L-20	IDT	
				IDT72200L-20M	† IDT	80
		66.7	5	IDT72200L-15	IDT	
				LH5485-15	Sharp	
	9	7	5	IDT7200S-120	IDT	
				IDT7200S-120B	IDT	
		10	5	IDT7200S-80	IDT	85
				IDT7200S-80B	IDT	
				MS7200-80	Mosel-Vitelic	
		15	5	MS7200-50	Mosel-Vitelic	
		15.4	5	AM7200-50	AMD	
		20	5	IDT722201L-50	IDT	90
				IDT722201L-50M	† IDT	
		22	5	AM7200-35	AMD	
		22.2	5	**MS200-35**	**Mosel-Vitelic (3697)**	
				MS7200-35	Mosel-Vitelic	
		28.5	5	AM7200-25	AMD	95
				LH5495-35	Sharp	
		28.6	5	IDT722201L-35	IDT	
				IDT722201L-35M	† IDT	
		30	5	**MS200-25**	**Mosel-Vitelic (3697)**	
				MS7200-25	Mosel-Vitelic	100
		33.3	5	IDT7200S-20	IDT	
				IDT7200S-20B	IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
256	9				(Cont'd)	
		40	5	IDT7200S-15	IDT	
				IDT722201L-25	IDT	
				IDT722201L-25M	† IDT	
				LH5495-25	Sharp	
		50	5	IDT72201L-20	IDT	5
				IDT72201L-20M	† IDT	
		66.7	5	IDT72201L-15	IDT	
				LH5495-15	Sharp	
	16	25	5	**MS76502A-25**	**Mosel-Vitelic (3697)**	
		28	5	IDT72105L-80	IDT	10
				IDT72105L-80M	† IDT	
		30	5	**MS76502A-30**	**Mosel-Vitelic (3697)**	
		40	5	IDT72105L-50	IDT	
				IDT72105L-50M	† IDT	
		45	5	IDT72105L-30M	† IDT	15
		50	5	IDT72105L-25	IDT	
				MS72105-25	Mosel-Vitelic	
				MS72105-50	Mosel-Vitelic	
				MS72105-80	Mosel-Vitelic	
	18	20	5	IDT72205LB-50	IDT	20
				IDT72205LB-50M	† IDT	
				IDT72605L-50	IDT	
				IDT72605L-50M	† IDT	
		28	5	IDT72605L-35	IDT	
				IDT72605L-35M	† IDT	25
		28.6	5	IDT72205LB-35	IDT	
				IDT72205LB-35M	† IDT	
		33	5	IDT72605L-30	IDT	
				IDT72605L-30M	† IDT	
		40	5	IDT72205LB-25	IDT	30
				IDT72205LB-25M	† IDT	
				IDT72605L-25	IDT	
		50	5	IDT72205LB-20	IDT	
		66.7	5	IDT72205LB-15	IDT	
	36	25	5	**MS76542-25**	**Mosel-Vitelic (3697)**	35
		28.6	5	**LH5420-35**	**Sharp (3765)**	
				LH543601-35	**Sharp (3765)**	
		30	5	**MS76542-30**	**Mosel-Vitelic (3697)**	
		30.3	5	**LH543601-30**	**Sharp (3765)**	
		33.3	5	**LH5420-30**	**Sharp (3765)**	40
		35	5	**MS76542-35**	**Mosel-Vitelic (3697)**	
		40	5	**LH5420-25**	**Sharp (3765)**	
				LH543601-25	**Sharp (3765)**	
		50	5	**LH543601-20**	**Sharp (3765)**	
		66.7	5	**LH543601-15**	**Sharp (3765)**	45
512	8	20	5	IDT72210L-50	IDT	
				IDT72210L-50M	† IDT	
		22.2	5	AM4701-45	AMD	
		28.6	5	IDT72210L-35	IDT	
				IDT72210L-35M	† IDT	50
		40	5	IDT72210L-25	IDT	
				IDT72210L-25M	† IDT	

(Continued)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
512	8				(Cont'd)	
		50	5	IDT72210L-20	IDT	
				IDT72210L-20M	† IDT	
		66.7	5	IDT72210L-15	IDT	55
	9		5	DS2009-120	Dallas	
				DS2009-35	Dallas	
				DS2009-65	Dallas	
				DS2009-80	Dallas	
				IDT7200L-30B	°‡ IDT	60
				IDT7200L-35	°‡ IDT	
				IDT7200S-25	°‡ IDT	
				IDT7200S-35	°‡ IDT	
		5	5	MK4501-20	SGS-Thomson	
		5.7	5	MKB4501-82	† SGS-Thomson	65
		6.67	5	MK4501-15	SGS-Thomson	
		7	5	IDT7200L-120	IDT	
				IDT7200L-120B	IDT	
				IDT7201LA-120	° IDT	
				IDT7201LA-120B	° IDT	70
				IDT7201SA-120	° IDT	
				IDT7201SA-120B	° IDT	
		7.1	5	MKB4501-81	† SGS-Thomson	
		8.33	5	MK45H01-12	SGS-Thomson	
				MK45H11-12	SGS-Thomson	75
				MK4501-12	SGS-Thomson	
		10	5	IDT7200L-80	IDT	
				IDT7200L-80B	IDT	
				IDT7201LA-80	° IDT	
				IDT7201LA-80B	° IDT	80
				IDT7201SA-80	° IDT	
				IDT7201SA-80B	° IDT	
				MS7201-80	Mosel-Vitelic	
				MS7201A-80	Mosel-Vitelic	
				V61C01-80	Mosel-Vitelic	85
				V61C01-80L	Mosel-Vitelic	
				QS7201-80	† Quality Semi	
				MK4501-10	SGS-Thomson	
		12.5	5	CY7C420-65C	° Cypress	
				CY7C420-65I	Cypress	90
				CY7C420-65M	°† Cypress	
				CY7C421-65C	° Cypress	
				CY7C421-65I	Cypress	
				CY7C421-65M	°† Cypress	
				IDT7200L-65	°‡ IDT	95
				IDT7200L-65B	°‡ IDT	
				IDT7200S-65	°‡ IDT	
				IDT7200S-65B	°‡ IDT	
				IDT7201LA-65	° IDT	
				IDT7201LA-65B	° IDT	100
				IDT7201SA-65	° IDT	
				IDT7201SA-65B	IDT	
				V61C01-65	Mosel-Vitelic	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
512	9	12.5	5		(Cont'd)	
				V61C01-65L	Mosel-Vitelic	
				MK4501-80	SGS-Thomson	
				LH540201-80	Sharp	
				LH5496-80	**Sharp (3765)**	
				LH5496H-80	**Sharp (3765)**	5
		13	5	MA7001	GEC Plessey	
		15	5	IDT7200L-50	°‡ IDT	
				IDT7200L-50B	°‡ IDT	
				IDT7200S-50	°‡ IDT	
				IDT7200S-50B	°‡ IDT	10
				IDT7201LA-50	° IDT	
				IDT7201LA-50B	° IDT	
				IDT7201SA-50	° IDT	
				IDT7201SA-50B	° IDT	
				MS7201A-50	**Mosel-Vitelic (3697)**	15
				V61C01-50	Mosel-Vitelic	
				V61C01-50L	Mosel-Vitelic	
				QS7201-50	† Quality Semi	
				QS7201-50B	† Quality Semi	
		15.3	5	MS7201-50	Mosel-Vitelic	20
		15.4	5	AM7201-50	AMD	
				MK45H01-65	SGS-Thomson	
				MK45H11-65	SGS-Thomson	
				MK4501-65	SGS-Thomson	
				LH540201-65	Sharp	25
				LH5496-65	**Sharp (3765)**	
				LH5496H-65	**Sharp (3765)**	
		20	5	AM7201-40	AMD	
				CY7C420-40C	° Cypress	
				CY7C420-40I	Cypress	30
				CY7C420-40M	°† Cypress	
				CY7C421-40C	° Cypress	
				CY7C421-40I	Cypress	
				CY7C421-40M	°† Cypress	
				DS2009-50	Dallas	35
				IDT7200L-40B	°‡ IDT	
				IDT7200S-40B	°‡ IDT	
				IDT7201LA-40B	°‡ IDT	
				IDT7201SA-40B	°† IDT	
				IDT72211L-50	IDT	40
				IDT72211L-50M	† IDT	
				IDT7271L-50	IDT	
				IDT7271L-50M	† IDT	
				V61C01-40	Mosel-Vitelic	
				V61C01-40L	Mosel-Vitelic	45
				MK45H01-50	SGS-Thomson	
				MK45H11-50	SGS-Thomson	
				LH540201-50	Sharp	
				LH5496-50	**Sharp (3765)**	
				LH5496H-50	**Sharp (3765)**	50
		22	5	AM4601-25	AMD	
				QS7201-35B	† Quality Semi	
		22.2	5	AM4601-35	AMD	
				AM7201-35	AMD	
				IDT7201SA-35	° IDT	55
					(Continued)	
512	9	22.2	5		(Cont'd)	
				MS7201A-35	**Mosel-Vitelic (3697)**	
				V61C01-35	Mosel-Vitelic	
				V61C01-35L	Mosel-Vitelic	
				MU9C0591-35	Music	
				QS7201-35	† Quality Semi	60
		25	5	CY7C420-30C	° Cypress	
				CY7C420-30I	Cypress	
				CY7C420-30M	°† Cypress	
				CY7C421-30C	° Cypress	
				CY7C421-30I	Cypress	65
				CY7C421-30M	°† Cypress	
				IDT7200S-30B	°‡ IDT	
				IDT7201LA-30B	°‡ IDT	
				IDT7201SA-30B	°‡ IDT	
		27	5	IDT7201LA-35	° IDT	70
		28	5	QS7201-25	† Quality Semi	
				QS7201-25B	† Quality Semi	
		28.5	5	AM7201-25	AMD	
				CY7C420-25C	° Cypress	
				CY7C420-25I	Cypress	75
				CY7C420-25M	°† Cypress	
				CY7C421-25C	° Cypress	
				CY7C421-25I	Cypress	
				CY7C421-25M	°† Cypress	
				IDT7200L-25	°‡ IDT	80
				IDT7201LA-25	IDT	
				IDT7201SA-25	IDT	
				MK45H01-35	SGS-Thomson	
				MK45H11-35	SGS-Thomson	
		28.57	5	**LH5496-35**	**Sharp (3765)**	85
				LH5496H-35	**Sharp (3765)**	
		28.6	5	IDT72211L-35	IDT	
				IDT72211L-35M	† IDT	
				IDT7271L-35	IDT	
				IDT7271L-35M	† IDT	90
				MU9C0591-25	Music	
				LH540201-35	Sharp	
		30	5	**MS7201A-25**	**Mosel-Vitelic (3697)**	
		33	5	XRT7201	Exar	
				MU9C0591-20	Music	95
				QS7201-20	† Quality Semi	
				QS7201-20B	† Quality Semi	
		33.3	5	CY7C420-20C	° Cypress	
				CY7C421-20C	° Cypress	
				CY7C441-30C	Cypress	100
				CY7C441-30I	Cypress	
				CY7C441-30M	† Cypress	
				CY7C451-30C	Cypress	
				CY7C451-30I	Cypress	
				CY7C451-30M	† Cypress	105
				IDT7200L-20	IDT	
				IDT7200L-20B	IDT	
				IDT7201LA-20	IDT	
				IDT7201LA-20B	IDT	
					(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
512	9	33.3	5		(Cont'd)	
				IDT7201SA-20	IDT	
				IDT7201SA-20B	IDT	
				IDT7271L-30M	† IDT	
		40	5	IDT7200L-15	IDT	
				IDT7201LA-15	IDT	5
				IDT7201SA-15	IDT	
				IDT72211L-25	IDT	
				IDT72211L-25M	† IDT	
				IDT7271L-25	IDT	
				QS7201-15	† Quality Semi	10
				75C101A-25	Samsung	
				MK45H01-25	SGS-Thomson	
				MK45H11-25	SGS-Thomson	
				LH540201-25	Sharp	
				LH5496-25	**Sharp (3765)**	15
				LH5496H-25	**Sharp (3765)**	
		50	5	CY7C441-20C	Cypress	
				CY7C441-20I	Cypress	
				CY7C441-20M	† Cypress	
				CY7C451-20C	Cypress	20
				CY7C451-20I	Cypress	
				CY7C451-20M	† Cypress	
				IDT72211L-20	IDT	
				IDT72211L-20M	† IDT	
				QS7201-12	† Quality Semi	25
				LH540201-20	Sharp	
				LH5496-20	**Sharp (3765)**	
				LH5496H-15	**Sharp (3765)**	
				LH5496H-20	**Sharp (3765)**	
		66.7	5	IDT72211L-15	IDT	30
				LH540201-15	Sharp	
				LH5496-15	**Sharp (3765)**	
		71.4	5	CY7C441-14C	Cypress	
				CY7C441-14I	Cypress	
				CY7C441-14M	† Cypress	35
				CY7C451-14C	Cypress	
				CY7C451-14I	Cypress	
				CY7C451-14M	† Cypress	
		83.3	5	LH540201-12	Sharp	
	16	28	5	IDT72115L-80	IDT	40
				IDT72115L-80M	† IDT	
		40	5	IDT72115L-50	IDT	
				IDT72115L-50M	† IDT	
		45	5	IDT72115L-30M	† IDT	
		50	5	IDT72115L-25	IDT	45
				MS72115-25	Mosel-Vitelic	
				MS72115-50	Mosel-Vitelic	
				MS72115-80	Mosel-Vitelic	
	18			**MS6215-20**	**Mosel-Vitelic (3697)**	
				MS6215-25	**Mosel-Vitelic (3697)**	50
				MS6215-35	**Mosel-Vitelic (3697)**	
		12.5	5	IDT7251L-80	IDT	
				IDT7251L-80M	† IDT	
				IDT72511L-80	IDT	
				IDT72511L-80M	† IDT	55
		20	5	IDT72215L-50	IDT	
				IDT72215L-50M	† IDT	
					(Continued)	

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
512	18	20	5		(Cont'd)	
				IDT72215LB-50	IDT	
				IDT72215LB-50M	† IDT	
				IDT7251L-50	IDT	60
				IDT7251L-50M	† IDT	
				IDT72511L-50	IDT	
				IDT72511L-50M	† IDT	
				IDT72615L-50	IDT	
				IDT72615L-50M	† IDT	65
				LH540215-50	**Sharp (3765)**	
		25	5	IDT7251L-40	IDT	
				IDT7251L-40M	† IDT	
				IDT72511L-40	IDT	
				IDT72511L-40M	† IDT	70
		28	5	IDT72615L-35	IDT	
				IDT72615L-35M	† IDT	
		28.6	5	IDT72215L-35	IDT	
				IDT72215L-35M	† IDT	
				IDT72215LB-35	IDT	75
				IDT72215LB-35M	† IDT	
				IDT7251L-35	IDT	
				IDT72511L-35	IDT	
				LH540215-35	**Sharp (3765)**	
		33	5	IDT72615L-30	IDT	80
				IDT72615L-30M	† IDT	
		40	5	IDT72215L-25	IDT	
				IDT72215L-25M	† IDT	
				IDT72215LB-25	IDT	
				IDT72215LB-25M	† IDT	85
				IDT72615L-25	IDT	
				LH540215-25	**Sharp (3765)**	
		50	5	IDT72215L-20	IDT	
				IDT72215LB-20	IDT	
				MS76215-20	Mosel-Vitelic	90
				LH540215-20	**Sharp (3765)**	
		66.7	5	IDT72215LB-15	IDT	
				LH540215-15	**Sharp (3765)**	
	36	28.6	5	**LH543611-35**	**Sharp (3765)**	
		33.33	5	**LH543611-30**	**Sharp (3765)**	95
		40	5	**LH543611-25**	**Sharp (3765)**	
		50	5	**LH543611-20**	**Sharp (3765)**	
		66.7	5	**LH543611-15**	**Sharp (3765)**	
1K	5		5	M66250	Mitsubishi	
				M66251	Mitsubishi	100
		20	5	MKB4505M-50	† SGS-Thomson	
				MK4505M-50	SGS-Thomson	
				MK4505S-50	SGS-Thomson	
		30	5	MKB4505M-33	† SGS-Thomson	
		33.3	5	MK4505M-33	SGS-Thomson	105
				MK4505S-33	SGS-Thomson	
		40	5	MKB4505M-25	† SGS-Thomson	
				MK4505M-25	SGS-Thomson	
	8	20	5	IDT72220L-50	IDT	
				IDT72220L-50M	† IDT	110
		28.6	5	IDT72220L-35	IDT	
				IDT72220L-35M	† IDT	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
1K	8				(Cont'd)	
		40	5	IDT72220L-25	IDT	
				IDT72220L-25M	† IDT	
		50	5	IDT72220L-20	IDT	
	9		5	DS2010-120	Dallas	
				IDT7202LA-30B	°‡ IDT	5
			5	DS2010-12	Dallas	
				DS2010-15	Dallas	
		7	5	IDT7202LA-120	°† IDT	
				IDT7202LA-120B	° IDT	
				IDT7202SA-120	° IDT	10
				IDT7202SA-120B	° IDT	
				IDT72021-120	IDT	
		8.33	5	MK45H02-12	SGS-Thomson	
				MK45H12-12	SGS-Thomson	
		10	5	IDT7202LA-80	° IDT	15
				IDT7202LA-80B	° IDT	
				IDT7202SA-80	° IDT	
				IDT7202SA-80B	° IDT	
				IDT72021-80	IDT	
				IDT72021-80B	IDT	20
				MS7202-80	Mosel-Vitelic	
				MS7202A-80	Mosel-Vitelic	
				V61C02-80	Mosel-Vitelic	
				V61C02-80L	Mosel-Vitelic	
				QS7202-80	Quality Semi	25
		12	5	IDT7202LA-65	° IDT	
				IDT7202LA-65B	° IDT	
				IDT7202SA-65	° IDT	
				IDT7202SA-65B	° IDT	
		12.5	5	CY7C424-65C	° Cypress	30
				CY7C424-65I	Cypress	
				CY7C424-65M	† Cypress	
				CY7C425-65C	° Cypress	
				CY7C425-65I	Cypress	
				CY7C425-65M	† Cypress	35
				DS2010-80	Dallas	
				IDT72021-65	IDT	
				IDT72021-65B	IDT	
				IDT72510L-80	IDT	
				IDT72510L-80M	† IDT	40
				V61C02-65	Mosel-Vitelic	
				V61C02-65L	Mosel-Vitelic	
				LH540202-85	**Sharp (3765)**	
				LH5497-80	**Sharp (3765)**	
				LH5497H-80	**Sharp (3765)**	45
		15	5	IDT7202LA-50	° IDT	
				IDT7202LA-50B	° IDT	
				IDT7202SA-50	° IDT	
				IDT7202SA-50B	° IDT	
				IDT72021-50	IDT	50
				IDT72021-50B	IDT	
					(Continued)	

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
1K	9	15	5		(Cont'd)	
				MS7202-50	Mosel-Vitelic	
				MS7202A-50	Mosel-Vitelic	
				V61C02-50	Mosel-Vitelic	
				V61C02-50L	Mosel-Vitelic	55
				QS7202-50	† Quality Semi	
				QS7202-50B	† Quality Semi	
		15.3	5	AM7202A-50	AMD	
		15.4	5	DS2010-65	Dallas	
				MK45H02-65	SGS-Thomson	60
				MK45H12-65	SGS-Thomson	
				LH540202-65	**Sharp (3765)**	
				LH5497-65	**Sharp (3765)**	
				LH5497H-65	**Sharp (3765)**	
		20	5	CY7C424-40C	° Cypress	65
				CY7C424-40I	Cypress	
				CY7C424-40M	°† Cypress	
				CY7C425-40C	° Cypress	
				CY7C425-40I	Cypress	
				CY7C425-40M	°† Cypress	70
				DS2010-50	Dallas	
				IDT7202SA-40B	°† IDT	
				IDT72021-40B	IDT	
				IDT72221L-50	IDT	
				IDT72221L-50M	† IDT	75
				IDT72510L-50	IDT	
				IDT72510L-50M	† IDT	
				IDT7272L-50	IDT	
				IDT7272L-50M	† IDT	
				V61C02-40	Mosel-Vitelic	80
				V61C02-40L	Mosel-Vitelic	
				MK45H02-50	SGS-Thomson	
				MK45H12-50	SGS-Thomson	
				LH540202-50	**Sharp (3765)**	
				LH5497-50 °	**Sharp (3765)**	85
				LH5497H-50	**Sharp (3765)**	
		22	5	QS7202-35B	† Quality Semi	
		22.2	5	AM7202A-35	AMD	
				IDT7202SA-35	° IDT	
				IDT72021-35	IDT	90
				IDT7206L-35	IDT	
				IDT7206S-35	IDT	
				MS7202-35	Mosel-Vitelic	
				MS7202A-35	**Mosel-Vitelic (3697)**	
				MU9C1902-35	Music	95
				QS7202-35	† Quality Semi	
		25	5	AM7202A-30	AMD	
				CY7C424-30C	° Cypress	
				CY7C424-30I	Cypress	
				CY7C424-30M	°† Cypress	100
				CY7C425-30C	° Cypress	
				CY7C425-30I	Cypress	
				CY7C425-30M	°† Cypress	
				IDT7202LA-40B	°† IDT	
				IDT7202SA-30B	°‡ IDT	105
				IDT72021-30B	IDT	
				IDT7206L-30M	† IDT	
				IDT7206S-30M	† IDT	
					(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
1K	9	25	5		(Cont'd)	
				IDT72510L-40	IDT	
				IDT72510L-40M	† IDT	
		27	5	IDT7202LA-35	• IDT	
		28	5	QS7202-25B	† Quality Semi	
		28.5	5	AM7202A-25	AMD	5
				CY7C424-25C	• Cypress	
				CY7C424-25I	Cypress	
				CY7C424-25M	•† Cypress	
				CY7C425-25C	• Cypress	
				CY7C425-25I	Cypress	10
				CY7C425-25M	•† Cypress	
				DS2010-35	Dallas	
				IDT7202LA-25	•‡ IDT	
				IDT7202SA-25	•‡ IDT	
				IDT72021-25	‡ IDT	15
				IDT7206L-25	IDT	
				IDT7206S-25	IDT	
				MS7202-25	Mosel-Vitelic	
				QS7202-25	† Quality Semi	
				MK45H02-35	SGS-Thomson	20
				MK45H12-35	SGS-Thomson	
		28.57	5	**LH5497-35**	**Sharp (3765)**	
		28.6	5	IDT72221L-35	IDT	
				IDT72221L-35M	† IDT	
				IDT72510L-35	IDT	25
				IDT7272L-35	IDT	
				IDT7272L-35M	† IDT	
				MU9C1902-25	Music	
				LH540202-35	**Sharp (3765)**	
				LH5497H-35	**Sharp (3765)**	30
		30	5	**MS7202A-25**	**Mosel-Vitelic (3697)**	
		33	5	XRT7202	Exar	
				MU9C1902-20	Music	
				QS7202-20	† Quality Semi	
				QS7202-20B	† Quality Semi	35
		33.3	5	CY7C424-20C	• Cypress	
				CY7C425-20C	• Cypress	
				IDT7202LA-20	IDT	
				IDT7202LA-20B	IDT	
				IDT7206L-20	IDT	40
				IDT7206S-20	IDT	
				IDT7272L-30M	† IDT	
		40	5	AM7202A-15	AMD	
				IDT7202LA-15	IDT	
				IDT72221L-25	IDT	45
				IDT72221L-25M	† IDT	
				IDT7272L-25	IDT	
				QS7202-15	† Quality Semi	
				MK45H02-25	SGS-Thomson	
				MK45H12-25	SGS-Thomson	50
				LH540202-25	**Sharp (3765)**	
				LH5497-25	**Sharp (3765)**	
				LH5497H-25	**Sharp (3765)**	
		50	5	IDT72221L-20	IDT	
				LH540202-20	**Sharp (3765)**	55
				LH5497-20	**Sharp (3765)**	
				LH5497H-15	**Sharp (3765)**	
				LH5497H-20	**Sharp (3765)**	
					(Continued)	
1K	9				(Cont'd)	
		66.7	5	**LH540202-15**	**Sharp (3765)**	
				LH5497-15	**Sharp (3765)**	60
		83.3	5	LH540202-12	Sharp	
	16	28	5	IDT72125L-80	IDT	
				IDT72125L-80M	† IDT	
		40	5	IDT72125L-50	IDT	
				IDT72125L-50M	† IDT	65
		45	5	IDT72125L-30M	† IDT	
		50	5	IDT72125L-25	IDT	
	18	12.5	5	IDT7252L-80	IDT	
				IDT7252L-80M	† IDT	
				IDT72521L-80	IDT	70
				IDT72521L-80M	† IDT	
		20	5	IDT72225L-50	IDT	
				IDT72225L-50M	† IDT	
				IDT72225LB-50	IDT	
				IDT72225LB-50M	† IDT	75
				IDT7252L-50	IDT	
				IDT7252L-50M	† IDT	
				IDT72521L-50	IDT	
				IDT72521L-50M	† IDT	
				LH540225-50	**Sharp (3765)**	80
		25	5	IDT7252L-40	IDT	
				IDT7252L-40M	† IDT	
				IDT72521L-40	IDT	
				IDT72521L-40M	† IDT	
		28.5	5	**LH540225-35**	**Sharp (3765)**	85
		28.6	5	IDT72225L-35	IDT	
				IDT72225L-35M	† IDT	
				IDT72225LB-35	IDT	
				IDT72225LB-35M	† IDT	
				IDT7252L-35	IDT	90
				IDT72521L-35	IDT	
		33.3	5	CY7C446-30C	Cypress	
				CY7C446-30M	† Cypress	
				CY7C456-30C	Cypress	
				CY7C456-30M	† Cypress	95
		40	5	IDT72225L-25	IDT	
				IDT72225L-25M	† IDT	
				IDT72225LB-25	IDT	
				IDT72225LB-25M	† IDT	
				LH540225-25	**Sharp (3765)**	100
		50	5	CY7C446-20C	Cypress	
				CY7C446-20M	† Cypress	
				CY7C456-20C	Cypress	
				CY7C456-20M	† Cypress	
				IDT72225L-20	IDT	105
				IDT72225LB-20	IDT	
				LH540225-20	**Sharp (3765)**	
		66.7	5	IDT72225LB-15	IDT	
				LH540225-15	**Sharp (3765)**	
		71.4	5	CY7C446-14C	Cypress	110
				CY7C456-14C	Cypress	
					(Continued)	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   •Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
1K					(Cont'd)	
	24	333	–5.2	**SY69164**	**Synergy (3803)**	
	25	40	5	MK4505S-25	SGS-Thomson	
	36	33.3	5	**LH543620-30**	**Sharp (3765)**	
		40	5	**LH543620-25**	**Sharp (3765)**	
		50	5	**LH543620-20**	**Sharp (3765)**	5
		66.7	5	**LH543620-15**	**Sharp (3765)**	
2K	8	20	5	IDT72230L-50	IDT	
				IDT72230L-50M	† IDT	
		28.6	5	IDT72230L-35	IDT	
				IDT72230L-35M	† IDT	10
		40	5	IDT72230L-25	IDT	
				IDT72230L-25M	† IDT	
		50	5	IDT72230L-20	IDT	
	9		5	DS2011-120	Dallas	
			5	DS2011-12	Dallas	15
				DS2011-15	Dallas	
		5	5	MK4503-20	SGS-Thomson	
		6.67	5	MK4503-15	SGS-Thomson	
		7	5	IDT7203L-120	° IDT	
				IDT7203L-120B	°† IDT	20
				IDT7203S-120	° IDT	
				IDT7203S-120B	°† IDT	
				IDT72031-120	IDT	
				IDT72031-120B	IDT	
				IDT72103-120	‡ IDT	25
				IDT72103-120B	IDT	
		8	5	IDT7M203S-100B	† IDT	
		8.33	5	MK45H03-12	SGS-Thomson	
				MK45H13-12	SGS-Thomson	
				MK4503-12	SGS-Thomson	30
		10	5	IDT7203L-80	° IDT	
				IDT7203L-80B	°† IDT	
				IDT7203S-80	° IDT	
				IDT7203S-80B	°† IDT	
				IDT72031-80	IDT	35
				IDT72031-80B	IDT	
				IDT72103-80	‡ IDT	
				IDT72103-80B	IDT	
				MS7203-80	**Mosel-Vitelic (3697)**	
				QS7203-80	† Quality Semi	40
				MK4503-10	SGS-Thomson	
		12	5	IDT7M203S-65	IDT	
				IDT7M203S-65B	† IDT	
				IDT7203L-65	° IDT	
				IDT7203L-65B	°† IDT	45
				IDT7203S-65	° IDT	
				IDT7203S-65B	°† IDT	
		12.5	5	CY7C428-65C	° Cypress	
				CY7C428-65I	Cypress	
				CY7C428-65M	°† Cypress	50
				CY7C429-65C	° Cypress	
				CY7C429-65I	Cypress	
				CY7C429-65M	°† Cypress	
				CY7C439-65C	Cypress	
				CY7C439-65M	† Cypress	55
				DS2011-80	Dallas	
				IDT72031-65	IDT	
				IDT72031-65B	IDT	
				IDT72103-65	‡ IDT	
				IDT72103-65B	IDT	60
				IDT72520L-80	IDT	
				IDT72520L-80M	† IDT	
				MK4503-80	SGS-Thomson	
				LH540203-80	**Sharp (3765)**	
				LH5498-80	**Sharp (3765)**	65
		15	5	IDT7M203S-50	IDT	
				IDT7M203S-50B	† IDT	
				IDT7203L-50	° IDT	
				IDT7203L-50B	°† IDT	
				IDT7203S-50	° IDT	70
				IDT7203S-50B	°† IDT	
				IDT72031-50	IDT	
				IDT72031-50B	IDT	
				IDT72103-50	‡ IDT	
				IDT72103-50B	IDT	75
				QS7203-50	† Quality Semi	
				QS7203-50B	† Quality Semi	
		15.3	5	AM7203A-50	AMD	
				MS7203-50	**Mosel-Vitelic (3697)**	
		15.4	5	DS2011-65	Dallas	80
				MK45H03-65	SGS-Thomson	
				MK45H13-65	SGS-Thomson	
				MK4503-65	SGS-Thomson	
				LH540203-65	**Sharp (3765)**	
				LH5498-65	**Sharp (3765)**	85
		18	5	IDT7M203S-55B	† IDT	
		20	5	CY7C428-40C	° Cypress	
				CY7C428-40I	Cypress	
				CY7C428-40M	°† Cypress	
				CY7C429-40C	° Cypress	90
				CY7C429-40I	Cypress	
				CY7C429-40M	°† Cypress	
				CY7C439-40C	Cypress	
				CY7C439-40M	† Cypress	
				DS2011-50	Dallas	95
				IDT7203L-40M	† IDT	
				IDT7203S-40M	† IDT	
				IDT72031-40B	IDT	
				IDT72103-40B	IDT	
				IDT72231L-50	IDT	100
				IDT72231L-50M	† IDT	
				IDT72520L-50	IDT	
				IDT72520L-50M	† IDT	
				IDT7273L-50	IDT	
				IDT7273L-50M	† IDT	105
				MK45H03-50	SGS-Thomson	
				MK45H13-50	SGS-Thomson	
				LH540203-50	**Sharp (3765)**	
				LH5498-50	**Sharp (3765)**	
		22	5	QS7203-35B	† Quality Semi	110
		22.2	5	AM7203A-35	AMD	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
2K	9	22.2	5		(Cont'd)	
				IDT7203L-35	°‡ IDT	
				IDT7203S-35	°‡ IDT	
				IDT72031-35	‡ IDT	
				IDT72103-35	‡ IDT	
				MS7203-35	**Mosel-Vitelic (3697)**	5
				MU9C2903-35	Music	
				QS7203-35	† Quality Semi	
		25	5	AM7203A-30	AMD	
				CY7C428-30C	° Cypress	
				CY7C428-30I	Cypress	10
				CY7C428-30M	°† Cypress	
				CY7C429-30C	° Cypress	
				CY7C429-30I	Cypress	
				CY7C429-30M	°† Cypress	
				CY7C439-30C	Cypress	15
				CY7C439-30M	† Cypress	
				IDT7M203S-40	IDT	
				IDT7203L-30B	IDT	
				IDT7203S-30B	IDT	
				IDT72131-120	IDT	20
				IDT72131-120M	† IDT	
				IDT72132-120	IDT	
				IDT72132-120M	† IDT	
				IDT72520L-40	IDT	
				IDT72520L-40M	† IDT	25
				QS7223-40	† Quality Semi	
		28	5	IDT72131-80M	† IDT	
				IDT72132-80	IDT	
				IDT72132-80M	† IDT	
				MS7203-25	**Mosel-Vitelic (3697)**	30
				QS7203-25B	† Quality Semi	
				QS7223-25	† Quality Semi	
				QS7223-25B	† Quality Semi	
		28.5	5	AM7203A-25	AMD	
				CY7C428-25C	° Cypress	35
				CY7C428-25I	Cypress	
				CY7C428-25M	°† Cypress	
				CY7C429-25C	° Cypress	
				CY7C429-25I	Cypress	
				CY7C429-25M	† Cypress	40
				CY7C439-25C	Cypress	
				DS2011-35	Dallas	
				IDT7203L-25	IDT	
				IDT7203S-25	IDT	
				QS7203-25	† Quality Semi	45
				MK45H03-35	SGS-Thomson	
				MK45H13-35	SGS-Thomson	
		28.6	5	IDT72231L-35	IDT	
				IDT72231L-35M	† IDT	
				IDT72520L-35	IDT	50
				IDT7273L-35	IDT	
				IDT7273L-35M	† IDT	
				MU9C2903-25	Music	
				LH540203-35	**Sharp (3765)**	
				LH5498-35	**Sharp (3765)**	55
					(Continued)	
2K	9				(Cont'd)	
		33	5	XRT7203	Exar	
				IDT72131-65	IDT	
				IDT72131-65M	† IDT	
				IDT72132-65	IDT	
				IDT72132-65M	† IDT	60
				MS7203-20	**Mosel-Vitelic (3697)**	
				MU9C2903-20	Music	
				QS7203-20B	† Quality Semi	
				QS7223-20	Quality Semi	
				QS7223-20B	† Quality Semi	65
		33.3	5	CY7C428-20C	° Cypress	
				CY7C429-20C	° Cypress	
				CY7C443-30C	† Cypress	
				CY7C443-30I	Cypress	
				CY7C443-30M	† Cypress	70
				CY7C453-30C	Cypress	
				CY7C453-30I	Cypress	
				CY7C453-30M	† Cypress	
				IDT7203L-20	IDT	
				IDT7203S-20	IDT	75
				IDT7273L-30M	† IDT	
				QS7203-20	† Quality Semi	
				QS7223-30	† Quality Semi	
		40	5	AM7203A-15	AMD	
				IDT72131-50	IDT	80
				IDT72131-50M	† IDT	
				IDT72132-50	IDT	
				IDT72132-50M	† IDT	
				IDT72231L-25	IDT	
				IDT72231L-25M	† IDT	85
				IDT7273L-25	IDT	
				QS7203-15	† Quality Semi	
				MK45H03-25	SGS-Thomson	
				MK45H13-25	SGS-Thomson	
				LH540203-25	**Sharp (3765)**	90
				LH5498-25	**Sharp (3765)**	
		40/20 S/P	5	IDT72103	IDT	
				IDT72103B	† IDT	
		50	5	CY7C443-20C	Cypress	
				CY7C443-20I	Cypress	95
				CY7C443-20M	† Cypress	
				CY7C453-20C	Cypress	
				CY7C453-20I	Cypress	
				CY7C453-20M	† Cypress	
				IDT72131-35	IDT	100
				IDT72131-40M	† IDT	
				IDT72132-35	IDT	
				IDT72132-40M	† IDT	
				IDT72231L-20	IDT	
				QS7203-12	† Quality Semi	105
				LH540203-20	**Sharp (3765)**	
				LH5498-20	**Sharp (3765)**	
		58.8	5	QS7203-10	† Quality Semi	
		66.7	5	QS7223-15	† Quality Semi	
				LH540203-15	**Sharp (3765)**	110
				LH5498-15	**Sharp (3765)**	
		71.4	5	CY7C443-14C	Cypress	
				CY7C443-14I	Cypress	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
2K	9	71.4	5		(Cont'd)	
				CY7C443-14M	† Cypress	
				CY7C453-14C	Cypress	
				CY7C453-14I	Cypress	
				CY7C453-14M	† Cypress	
		83.3	5	**LH540203-12**	**Sharp** **(3765)**	5
	18		5	CY7C448-14C	Cypress	
				CY7C448-20C	Cypress	
				CY7C448-20M	† Cypress	
				CY7C448-30C	Cypress	
				CY7C448-30M	† Cypress	10
				CY7C458-14C	Cypress	
				CY7C458-20C	Cypress	
				CY7C458-20M	† Cypress	
				CY7C458-30C	Cypress	
				CY7C458-30M	† Cypress	15
		20	5	IDT72235LB-50	IDT	
				IDT72235LB-50M	† IDT	
		28.6	5	IDT72235LB-35	IDT	
				IDT72235LB-35M	† IDT	
		33.3	5	CY7C447-30C	Cypress	20
				CY7C447-30M	† Cypress	
				CY7C457-30C	Cypress	
				CY7C457-30M	† Cypress	
		40	5	IDT72235LB-25	IDT	
				IDT72235LB-25M	† IDT	25
		50	5	CY7C447-20C	Cypress	
				CY7C447-20M	† Cypress	
				CY7C457-20C	Cypress	
				CY7C457-20M	† Cypress	
				IDT72235LB-20	IDT	30
		66.7	5	IDT72235LB-15	IDT	
		71.4	5	CY7C447-14C	Cypress	
				CY7C457-14C	Cypress	
4K	8	40	5	IDT72240L-25	IDT	
				IDT72240L-25M	† IDT	35
		50	5	IDT72240L-20	IDT	
	9		5	DS2012-120	Dallas	
				IDT72104-50	‡ IDT	
				SL8X60	Lansdale	
		7	5	IDT7204L-120	° IDT	40
				IDT7204L-120B	°† IDT	
				IDT7204S-120	° IDT	
				IDT7204S-120B	°† IDT	
				IDT72041-120	IDT	
				IDT72041-120B	IDT	45
				IDT72104-120	‡ IDT	
				IDT72104-120B	IDT	
				QS7204-120B	† Quality Semi	
		8	5	IDT7M204S-100	° IDT	
				IDT7M204S-100B	°† IDT	50
					(Continued)	
4K	9				(Cont'd)	
		8.33	5	MK45H04-12	SGS-Thomson	
		10	5	IDT7204L-80	° IDT	
				IDT7204L-80B	°† IDT	
				IDT7204S-80	° IDT	
				IDT7204S-80B	°† IDT	55
				IDT72041-80	IDT	
				IDT72041-80B	IDT	
				IDT72104-80	‡ IDT	
				IDT72104-80B	IDT	
				MS7204-80	**Mosel-Vitelic** **(3697)**	60
				QS7204-80	† Quality Semi	
		12	5	IDT7M204S-65	° IDT	
				IDT7M204S-65B	°† IDT	
				IDT7204L-65	° IDT	
				IDT7204L-65B	°† IDT	65
				IDT7204S-65	° IDT	
				IDT7204S-65B	°† IDT	
		12.5	5	CY7C432-65C	Cypress	
				CY7C432-65I	Cypress	
				CY7C432-65M	† Cypress	70
				CY7C433-65C	Cypress	
				CY7C433-65I	Cypress	
				CY7C433-65M	† Cypress	
				DS2012-80	Dallas	
				IDT72041-65	IDT	75
				IDT72041-65B	IDT	
				IDT72104-65	‡ IDT	
				IDT72104-65B	IDT	
				LH540204-80	**Sharp** **(3765)**	
				LH5499-80	**Sharp** **(3765)**	80
		15	5	IDT7M204S-50	° IDT	
				IDT7M204S-50B	°† IDT	
				IDT7204L-50	° IDT	
				IDT7204L-50B	°† IDT	
				IDT7204S-50	° IDT	85
				IDT7204S-50B	°† IDT	
				IDT72041-50	IDT	
				IDT72041-50B	IDT	
				IDT72104-50B	IDT	
				QS7204-50	Quality Semi	90
				QS7204-50B	† Quality Semi	
		15.3	5	AM7204A-50	AMD	
				MS7204-50	**Mosel-Vitelic** **(3697)**	
		15.4	5	DS2012-65	Dallas	
				MK45H04-65	SGS-Thomson	95
				LH540204-65	**Sharp** **(3765)**	
				LH5499-65	**Sharp** **(3765)**	
		18	5	IDT7M204S-55B	°† IDT	
		20	5	CY7C432-40C	Cypress	
				CY7C432-40I	Cypress	100
				CY7C432-40M	† Cypress	
				CY7C433-40C	Cypress	
				CY7C433-40I	Cypress	
				CY7C433-40M	† Cypress	
				DS2012-50	Dallas	105
				IDT7204L-40M	† IDT	
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
4K	9	20	5		(Cont'd)	
				IDT7204S-40M	† IDT	
				IDT72041-40B	IDT	
				IDT72104-40B	IDT	
				IDT72241L-50	IDT	
				IDT72241L-50M	† IDT	5
				MS76493-50	Mosel-Vitelic	
				MK45H04-50	SGS-Thomson	
				LH540204-50	**Sharp (3765)**	
				LH5492-50	**Sharp (3765)**	
				LH5493-50	Sharp	10
				LH5494-50	Sharp	
				LH5499-50	**Sharp (3765)**	
		22	5	QS7204-35B	† Quality Semi	
		22.2	5	AM7204A-35	AMD	
				IDT7204S-35	°‡ IDT	15
				IDT72041-35	‡ IDT	
				IDT72104-35	‡ IDT	
				MS7204-35	**Mosel-Vitelic (3697)**	
				MU9C4904-35	Music	
				QS7204-35	† Quality Semi	20
		25	5	AM7204A-30	AMD	
				CY7C432-30C	Cypress	
				CY7C432-30I	Cypress	
				CY7C432-30M	† Cypress	
				CY7C433-30C	Cypress	25
				CY7C433-30I	Cypress	
				CY7C433-30M	† Cypress	
				IDT7M204S-40	° IDT	
				IDT7204L-30B	IDT	
				IDT7204S-30B	IDT	30
				IDT72141-120	IDT	
				IDT72141-120M	† IDT	
				IDT72142-120	IDT	
				IDT72142-120M	† IDT	
				QS7224-40	Quality Semi	35
		28	5	IDT72141-80	IDT	
				IDT72141-80M	† IDT	
				IDT72142-80	IDT	
				IDT72142-80M	† IDT	
				MS7204-25	**Mosel-Vitelic (3697)**	40
				QS7204-25	† Quality Semi	
				QS7204-25B	† Quality Semi	
				QS7224-25	Quality Semi	
				QS7224-25B	† Quality Semi	
		28.5	5	AM7204A-25	AMD	45
				CY7C432-25C	Cypress	
				CY7C433-25C	Cypress	
				IDT7204L-25	IDT	
				IDT7204S-25	IDT	
				MS76493-35	Mosel-Vitelic	50
				MK45H04-35	SGS-Thomson	
				LH5492-35	**Sharp (3765)**	
				LH5493-35	Sharp	
		28.57	5	LH5494-35	Sharp	
		28.6	5	IDT72241L-35	IDT	55
				IDT72241L-35M	† IDT	
				MU9C4904-25	Music	
				LH540204-35	**Sharp (3765)**	
				LH5499-35	**Sharp (3765)**	
		33	5	IDT72141-65	IDT	60
				IDT72141-65M	† IDT	
					(Continued)	
4K	9	33	5		(Cont'd)	
				IDT72142-65	IDT	
				IDT72142-65M	† IDT	
				MS7204-20	**Mosel-Vitelic (3697)**	
				MU9C4904-20	Music	65
				QS7204-20	† Quality Semi	
				QS7204-20B	† Quality Semi	
				QS7224-20	Quality Semi	
				QS7224-20B	† Quality Semi	
				QS7224-30	† Quality Semi	70
		33.3	5	IDT7204L-20	IDT	
				IDT7204S-20	IDT	
		33.33	5	**LH5492-30**	**Sharp (3765)**	
				LH5493-30	Sharp	
				LH5494-30	Sharp	75
		40	5	AM7204A-15	AMD	
				IDT72141-50	IDT	
				IDT72141-50M	† IDT	
				IDT72142-50	IDT	
				IDT72142-50M	† IDT	80
				IDT72241L-25	IDT	
				IDT72241L-25M	† IDT	
				MS76493-25	Mosel-Vitelic	
				QS7204-15	† Quality Semi	
				MK45H04-25	SGS-Thomson	85
				LH540204-25	**Sharp (3765)**	
				LH5492-25	**Sharp (3765)**	
				LH5492U-25	Sharp	
				LH5493-25	Sharp	
				LH5494-25	Sharp	90
				LH5499-25	**Sharp (3765)**	
		40/20 S/P	5	IDT72104	IDT	
				IDT72104B	† IDT	
		50	5	IDT72141-35	IDT	
				IDT72141-40M	† IDT	95
				IDT72142-35	IDT	
				IDT72142-40M	† IDT	
				IDT72241L-20	IDT	
				QS7204-12	† Quality Semi	
				LH540204-20	**Sharp (3765)**	100
				LH5499-20	**Sharp (3765)**	
		58.8	5	QS7204-10	† Quality Semi	
		66.7	5	QS7224-15	† Quality Semi	
		22.2	5	IDT7204L-35	°‡ IDT	
	18	20	5	IDT72245LB-50	IDT	105
				IDT72245LB-50M	† IDT	
		28.6	5	IDT72245LB-35	IDT	
				IDT72245LB-35M	† IDT	
		40	5	IDT72245LB-25	IDT	
				IDT72245LB-25M	† IDT	110
		50	5	IDT72245LB-20	IDT	
		66.7	5	IDT72245LB-15	IDT	
	8K	20	5	IDT72240L-50	IDT	
				IDT72240L-50M	† IDT	
		28.6	5	IDT72240L-35	IDT	115
				IDT72240L-35M	† IDT	
8K	9		5	DS2013-120	Dallas	
				DS2013-50	Dallas	
				DS2013-60	Dallas	
				DS2013-80	Dallas	120
					(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source
8K	9				(Cont'd)
		8.33	5	MK45H08-12	SGS-Thomson
				MK45H14-12	SGS-Thomson
		10	5	IDT7205L-80	IDT
				IDT7205L-80M	† IDT
				IDT7205S-80	IDT
				IDT7205S-80M	† IDT
		12.5	5	CYM4210-65C	Cypress
				CYM4210-65M	† Cypress
				LH540205-80	**Sharp (3765)**
		15	5	IDT7205L-50	IDT
				IDT7205L-50M	† IDT
				IDT7205S-50	IDT
				IDT7205S-50M	† IDT
		15.4	5	CYM4210-50C	Cypress
				CYM4210-50M	† Cypress
				MK45H08-65	SGS-Thomson
				MK45H14-65	SGS-Thomson
				LH540205-65	**Sharp (3765)**
		20	5	CYM4210-40C	Cypress
				CYM4210-40M	† Cypress
				CY7C460-40C	Cypress
				CY7C460-40I	Cypress
				CY7C460-40M	† Cypress
				CY7C470-40C	Cypress
				CY7C470-40M	† Cypress
				IDT7205L-40M	† IDT
				IDT7205S-40M	† IDT
				MK45H08-50	SGS-Thomson
				MK45H14-50	SGS-Thomson
				LH540205-50	**Sharp (3765)**
		22.2	5	IDT7205L-35	IDT
				IDT7205S-35	IDT
		25	5	CYC470-40I	Cypress
				CYC472-40I	Cypress
				CYM4210-30C	Cypress
				IDT7205L-30M	† IDT
				IDT7205S-30M	† IDT
		28.5	5	CY7C460-25C	Cypress
				CY7C460-25I	Cypress
				CY7C460-25M	† Cypress
				CY7C470-25C	Cypress
				CY7C470-25M	† Cypress
				IDT7205L-25	IDT
				IDT7205S-25	IDT
				MK45H08-35	SGS-Thomson
				MK45H14-35	SGS-Thomson
		28.6	5	AM7205A-35	AMD
				LH540205-35	**Sharp (3765)**
		33.3	5	CY7C460-15C	Cypress
				CY7C460-15I	Cypress
				CY7C460-20M	† Cypress
				CY7C470-15C	Cypress
				CY7C470-15I	Cypress
				CY7C470-20M	† Cypress
				IDT7205L-20	IDT
				IDT7205S-20	IDT
					(Continued)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source
8K	9				(Cont'd)
		40	5	AM7205A-25	AMD
				CYC470-25I	Cypress
				CYC472-25I	Cypress
				MK45H08-25	SGS-Thomson
				MK45H14-25	SGS-Thomson
				LH540205-25	**Sharp (3765)**
		50	5	CYC472-20M	† Cypress
				LH540205-20	**Sharp (3765)**
		66.6	5	AM7205A-15	AMD
		66.7	5	CYC472-15I	Cypress
				LH540205-15	**Sharp (3765)**
16K	9	12.5	5	CYM4220-65C	Cypress
				CYM4220-65M	† Cypress
				LH540206-80	Sharp
		15.4	5	CYM4220-50C	Cypress
				CYM4220-50M	† Cypress
				LH540206-65	Sharp
		20	5	CYM4220-40C	Cypress
				CYM4220-40M	† Cypress
				CY7C462-40C	Cypress
				CY7C462-40I	Cypress
				CY7C462-40M	† Cypress
				CY7C472-40C	Cypress
				CY7C472-40M	† Cypress
				LH540206-50	Sharp
		25	5	CYM4220-30C	Cypress
		28.5	5	CY7C462-25C	Cypress
				CY7C462-25I	Cypress
				CY7C462-25M	† Cypress
				CY7C472-25C	Cypress
				CY7C472-25M	† Cypress
		28.6	5	LH540206-35	Sharp
		33.3	5	CY7C462-15C	Cypress
				CY7C462-15I	Cypress
				CY7C462-20M	† Cypress
				CY7C472-15C	Cypress
		40	5	LH540206-25	Sharp
		50	5	LH540206-20	Sharp
		66.7	5	LH540206-15	Sharp
	18	14.3	5	IDT7MP2010-70	IDT
		16.7	5	IDT7MP2010-60	IDT
		20	5	IDT7MP2010-50	IDT
		25	5	IDT7MP2010-40	IDT
		28.6	5	IDT7MP2010-35	IDT
		33.3	5	IDT7MP2010-30	IDT
		40	5	IDT7MP2010-25	IDT
		50	5	IDT7MP2010-20	IDT
		66.7	5	IDT7MP2010-15	IDT
32K	9	11.6	5	IDT7M207-70	IDT
				IDT7M207-70M	† IDT
		13.3	5	IDT7M207-60	IDT
				IDT7M207-60M	† IDT
					(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   *Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—First-in First-out (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
32K	9				(Cont'd)	
		15.4	5	IDT7M207-50	IDT	
				IDT7M207-50M	† IDT	
		20	5	CY7C464-40C	Cypress	
				CY7C464-40I	Cypress	
				CY7C464-40M	† Cypress	5
				CY7C474-40C	Cypress	
				CY7C474-40I	Cypress	
				CY7C474-40M	† Cypress	
				IDT7M207-40	IDT	
				IDT7M207-40M	† IDT	10
		22.5	5	IDT7M207-35	IDT	
				IDT7M207-35M	† IDT	
		25	5	IDT7M207-30	IDT	
				IDT7M207-30M	† IDT	
		28.5	5	CY7C464-25C	Cypress	15
				CY7C464-25I	Cypress	
				CY7C464-25M	† Cypress	
				CY7C474-25C	Cypress	
				CY7C474-25I	Cypress	
				CY7C474-25M	† Cypress	20
		28.6	5	IDT7M207-25	IDT	
		33.3	5	CY7C464-15C	Cypress	
				CY7C464-15I	Cypress	
				CY7C464-20M	† Cypress	
				CY7C474-15C	Cypress	25
				CY7C474-15I	Cypress	
				CY7C474-20M	† Cypress	
				IDT7M207-20	IDT	
	18	14.3	5	IDT7MP2009-70	IDT	
		16.7	5	IDT7MP2009-60	IDT	30
		20	5	IDT7MP2009-50	IDT	
		25	5	IDT7MP2009-40	IDT	
		28.6	5	IDT7MP2009-35	IDT	
		33.3	5	IDT7MP2009-30	IDT	
		40	5	IDT7MP2009-25	IDT	35
		50	5	IDT7MP2009-20	IDT	
		66.7	5	IDT7MP2009-15	IDT	
64K	8	20	5	IDT72420L-50	IDT	
				IDT72420L-50M	† IDT	
		28.6	5	IDT72420L-35	IDT	40
				IDT72420L-35M	† IDT	
		40	5	IDT72420L-25	IDT	
				IDT72420L-25M	† IDT	
		50	5	IDT72420L-20	IDT	
				IDT72420L-20M	† IDT	45
		66.7	5	IDT72420L-15	IDT	
	9	6.5	5	CYM4241-100C	Cypress	
		7.5	5	CYM4241-85C	Cypress	
					(Continued)	
64K	9				(Cont'd)	
		11.6	5	IDT7M208-70	IDT	
				IDT7M208-70M	† IDT	50
		13.3	5	IDT7M208-60	IDT	
				IDT7M208-60M	† IDT	
		15.4	5	IDT7M208-50	IDT	
				IDT7M208-50M	† IDT	
		20	5	IDT7M208-40	IDT	55
				IDT7M208-40M	† IDT	
		22.5	5	IDT7M208-35	IDT	
				IDT7M208-35M	† IDT	
		25	5	IDT7M208-30	IDT	
				IDT7M208-30M	† IDT	60
		28.6	5	IDT7M208-25	IDT	
		33.3	5	IDT7M208-20	IDT	
180K	6	15.4	5	LH66180-65	Sharp	
256K	4		5	MSM514221-3	OKI	
				MSM514221-6	OKI	65
				MSM514221A-3	OKI	
				MSM514221A-4	OKI	
				MSM514221A-6	OKI	
1M	18	50	5	**MS76225-20**	**Mosel-Vitelic (3697)**	
				MS76225-25	**Mosel-Vitelic (3697)**	70
				MS76225-30	**Mosel-Vitelic (3697)**	
72K	9	28	5	IDT72131-80	IDT	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs

Mask Programmable—General Purpose

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Mx8/4Mx16	150	CMOS					5	42		LH536400	Sharp	
20x16	20 ms	NMOS					5	14	EAROM	M58658P	Mitsubishi	
32x16	20 ms	NMOS					5	14	EAROM	M58659P	Mitsubishi	
50x14	20 ms	NMOS					5	14	EAROM	M58653P	Mitsubishi	
64		Sequential		0.0003	0.02		5	8		S2100R	Seiko Instr	5
64x16	20 ms	NMOS					5	14	EAROM	M58655P	Mitsubishi	
100x14	20 ms	NMOS					5	14	EAROM	M58657P	Mitsubishi	
128x16	20 ms	NMOS					5	14	EAROM	M58630P	Mitsubishi	
256x4	1.8 µsR	CMOS					3–15	16		MCM14524A	Motorola	
										MCM14524C	Motorola	10
256x8	725	PMOS					± 12	24		NCM4230Z	NCM	
256x4	1.8 µsR	CMOS					3–15	16		ML14524B	Lansdale	
262Kx16	100	NMOS			80		5	40		LH53V4000-10	Sharp	
262Kx8	200	NMOS			80		5	40		LH53V4000-20	Sharp	
512x8	1.5	GaAs					5			14GM048	TriQuint	15
	500	CMOS					10	24		HB1831	Hughes	
										HB1832	Hughes	
										HC1831	Hughes	
										HC1832	Hughes	
	1000	CMOS					5	24		HB1831C	Hughes	20
										HB1832C	Hughes	
										HC1831C	Hughes	
										HC1832C	Hughes	
512x16	150	CMOS	TTL	3	50		5	64		LH538500A-15	Sharp	
516Kx8	200	CMOS	TTL	5	20		3	40		MS314000-200	Mosel-Vitelic	25
524Kx16	100	NMOS			110		5	40		LH53V8000-10	Sharp	
524Kx8	70	CMOS	TTL	0.1	40		5	32		MS314001-70	Mosel-Vitelic	
	100	CMOS	TTL	0.1	40		5	32		MS314001-100	Mosel-Vitelic	
		NMOS			80		5	40		LH53V4000-10	Sharp	
	150	CMOS	TTL	0.1	40		5	32		MS314001-150	Mosel-Vitelic	30
	200	CMOS	TTL	1	40		5	32		MS314002-20	Mosel-Vitelic	
		NMOS			80		5	40		LH53V4000-20	Sharp	
			TTL		50		5	32		RP234096	Ricoh	
524x16	200	NMOS			110		5	40		LH53V8000-20	Sharp	
1Kx8	350 *	CMOS					10	24		HB1833	Hughes	35
										HB1834	Hughes	
										HC1833	Hughes	
										HC1834	Hughes	
	350	NMOS					5	24		SMJ2708-35	TI	
	850 *	NMOS					5	24		HB1833C	Hughes	40
										HB1834C	Hughes	
										HC1833C	Hughes	
										HC1834C	Hughes	
2Kx8	—	Emulator (RAM w/Bat.)								GR2516	Greenwich	
	45	CMOS					5	24		HC6616	Honeywell	45
	100	CMOS		2	40		5	24		S6316-10	American Micro	
	110	CMOS					5	24		HC6616/SHZC	Honeywell	
										HC6616SHZC	Honeywell	
	120	CMOS		2	40		5	24		S6316-12	American Micro	
	900	CMOS					5	24		HB23C16	Hughes	50
										HC23C16	Hughes	
2Kx8	45	CMOS	TTL/CMOS	0.2	7		5	24		HC6616/1SHZC	‡ Honeywell	
	120	CMOS	TTL	0.1	25		5	24		HS6617RH	‡ Harris	
4Kx8	—	Emulator (RAM w/Bat.)								GR2532	Greenwich	
	100	CMOS		2	40		5	24		S6333-10	American Micro	55
										S63332-10	American Micro	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx8	120	CMOS		2	40		5	24		S6333-12	American Micro	
										S63332-12	American Micro	
	150	NMOS					5	24		TMS2332-15	TI	
										TMS4732-15	TI	
	200	NMOS					5	24		2332	Commodore	5
										TMS2332-20	TI	
										TMS4732-20	TI	
	250	NMOS					5	24		TMS2332-25	TI	
										TMS4732-25	TI	
	350	NMOS					5	24		TMM2332	Toshiba	10
	450	CMOS					5	24		H1837	Hughes	
	750	CMOS					5	24		HB23C32	Hughes	
										HC23C32	Hughes	
4Kx8	150	CMOS	TTL		20		5	24		HM23C01-150	Hualon Micro	
										HM23C32-150	Hualon Micro	15
										HM23C33-150	Hualon Micro	
	200	CMOS	TTL		20		5	24		HM23C01-200	Hualon Micro	
										HM23C32-200	Hualon Micro	
										HM23C33-200	Hualon Micro	
6144x8	3100	NMOS					5	16		ICS1231	IntCirSys	20
8Kx4x2	450	NMOS					5	24		2364B	SGS-Thomson	
										26S64	SGS-Thomson	
8Kx8	—	Emulator (RAM w/Bat.)								GR2364	Greenwich	
	35	CMOS					5	28		HB12C64	Hughes	
										HC12C64	Hughes	25
	70	CMOS					5	28		UT6764-70	UTMC	
	90	RMOS		7	50		5	32		IMP23064-9	IMP	
	100	CMOS		2	40		5	24		S63364-10	American Micro	
								28		S6364-10	American Micro	
	110	NMOS					–0.5 to 7	28		IMP23064	IMP	30
		RMOS		7	50		5	32		IMP23064-11	IMP	
	120	CMOS		2	40		5	24		S63364-12	American Micro	
								28		S6364-12	American Micro	
	140	RMOS		7	50		5	32		IMP23064-14	IMP	
	150	NMOS					5	24		TMS4764-15	TI	35
		TTL					5	28		LC3764	Sanyo	
	190	RMOS		5	45		5	32		IMP23064-19	IMP	
	200	CMOS					5	28		HN61364H-20	Hitachi	
		NMOS					5	24		S68C364-200	American Micro	
										TMS4764-20	TI	40
								28		TMM2365	Toshiba	
								24		TMM2366	Toshiba	
			TTL	40	60		5	28		LH2369-20	Sharp	
	250	CMOS					5	28		HN61364	Hitachi	
								24		HN61365	Hitachi	45
										HN61366	Hitachi	
								28		SMM6365	S-MOS	
		NMOS					5	24		S68B364	American Micro	
										S68B364-250	American Micro	
										S68I364-250	American Micro	50
								28		2364	Commodore	
								24		M36000	SGS-Thomson	
										TMS4764-25	TI	
								28		TMM2364	Toshiba	
			TTL		30		5	28		MSM3864	OKI	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8 (Cont'd)												
	300	CMOS					5	28		HB23C65	Hughes	
								24		HC23C64C	Hughes	
								28		HC23C65	Hughes	
		NMOS					5	24		S68M364-300	American Micro	
								28		M37000	SGS-Thomson	5
	350	CMOS					5	24		SMM2364	S-MOS	
								28		SMM2365	S-MOS	
8Kx16	70	CMOS	TTL	6	300		5	40		UT7M628-70	‡ UTMC	
8Kx8		NMOS	TTL	20	100		5	28		RP2364E	Ricoh	
	25	CMOS	TTL/CMOS		0.45		5	36		HC6664/1SHZC	‡ Honeywell	10
	45	CMOS	TTL/CMOS		0.2		5	36		HX6664/1SHNC	‡ Honeywell	
	50	CMOS		0.5	30		5	28		HS6664RH	‡ Harris	
	150	CMOS	TTL		20		5	28		HM23C66-150	Hualon Micro	
				4	20		5	28		HM23C66A-150	Hualon Micro	
	200	CMOS	TTL		20		5	28		HM23C66-200	Hualon Micro	15
				4	20		5	28		HM23C66A-200	Hualon Micro	
		NMOS	TTL	20	100		5	28		RP2364E	Ricoh	
	300	CMOS	TTL		20		5	28		HM23C66-300	Hualon Micro	
				4	20		5	28		HM23C66A-300	Hualon Micro	
16Kx8	90	RMOS		7	50		5	32		IMP23128-9	IMP	20
	110	NMOS					5	28		IMP23128	IMP	
		RMOS		7	50		5	32		IMP23128-11	IMP	
	120	CMOS					5	28		RP23C128H	Ricoh	
										RP23C129H	Ricoh	
	140	RMOS		7	50		5	32		IMP23128-14	IMP	25
	190	RMOS		5	45		5	32		IMP23128-19	IMP	
	200	CMOS					5	28		HN613128H-20	Hitachi	
										RP2D130	Ricoh	
										RP23C128E	Ricoh	
		NMOS					5	28		TMS27128-20	TI	30
										TMS47128-20	° TI	
										TMM23128	Toshiba	
			TTL	40	80		5	28		LH23126-20	Sharp	
	250	CMOS					5	28		24C128	Commodore	
										HN613128	Hitachi	35
										RP2D129	Ricoh	
										RP23C128D	Ricoh	
										SMM6313-25	S-MOS	
		NMOS					5	28		S23128B	American Micro	
										23128	Commodore	40
										MSM38128A	OKI	
										TMS27128-25	TI	
										TMS47128-25	° TI	
				20	80		5	28		S23128-25	American Micro	
	300	NMOS					5	28		S23128I-300	American Micro	45
										S23128M-300	American Micro	
										TMS27128-30	TI	
	350	NMOS					5	28		S23128A	American Micro	
										TMS47128-35	° TI	
	450	NMOS					5	28		MSM38128	OKI	50
										TMS27128-45	TI	
16Kx8	150	CMOS	TTL		20		5	28		HM23C128-150	Hualon Micro	
				4	20		5	28		HM23C128A-150	Hualon Micro	
	200	NMOS	TTL	20	100		5	28		RP23128E	Ricoh	
	250	CMOS	TTL		20		5	28		HM23C128-250	Hualon Micro	55
				4	20		5	28		HM23C128A-250	Hualon Micro	
32Kx8	90	RMOS		7	50		5	32		IMP23256-9	IMP	
	110	NMOS					5	28		IMP23256	IMP	
		RMOS		7	50		5	32		IMP23256-11	IMP	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	120	CMOS					5	28		KM23C256	Samsung	
				2	40		5	28		S63256-12	American Micro	
	140	RMOS		7	50		5	32		IMP23256-14	IMP	
	150	CMOS					5	28		S63256D-150	American Micro	
				2	40		5	28		S63256-15	American Micro	5
		NMOS					5	28		TMM23256	Toshiba	
		TTL					5	28		LC37256	Sanyo	
	175	CMOS					5	28		S63256I-175	American Micro	
	190	RMOS		5	45		5	32		IMP23256-19	IMP	
	200	CMOS					5	28		S63256M-200	American Micro	10
										HN613256H-20	Hitachi	
										MSM53256	OKI	
										RP23C256E	Ricoh	
										RP23C257E	Ricoh	
		NMOS					5	28		MSM38256A	OKI	15
										MK38000-20	SGS-Thomson	
										TMS47256-20	TI	
				20	100		5	28		RP23257E	Ricoh	
			TTL	45	80		5	28		LH23255-20	Sharp	
	250	CMOS					5	28		24C256	Commodore	20
										HN613256	Hitachi	
										RP23C256D	Ricoh	
										RP23C257D	Ricoh	
										SMM6325	S-MOS	
										SMM6326	S-MOS	25
		NMOS					5	28		24256	Commodore	
										MSM38256	OKI	
										MK38000-25	SGS-Thomson	
										TMS47256-25	TI	
			TTL	20	100		5	28		RP23256E	Ricoh	30
	350	NMOS					5	28		TMS47256-35	TI	
	450	CMOS					5	28		SMM2325	S-MOS	
										SMM2326	S-MOS	
32Kx8		CMOS	TTL	2	50		5	28		RP53256E	Ricoh	
	120	CMOS	TTL	1	30		5	32		KM23C256-12	Samsung	35
	150	CMOS	TTL		40		5	28		HM23C256-150	Hualon Micro	
										HM23C256A-150	Hualon Micro	
				1	30		5	32		KM23C256-15	Samsung	
										KM23C256-20	Samsung	
				2	20		5	44		**LH53259-15**	**Sharp (3766)**	40
	200	CMOS	TTL		40		5	28		HM23C256-200	Hualon Micro	
										HM23C256A-200	Hualon Micro	
	250	NMOS		20	100		5	28		RP23257D	Ricoh	
			TTL	20	100		5	28		RP23256D	Ricoh	
	300	CMOS	TTL		40		5	28		HM23C256-300	Hualon Micro	45
										HM23C256A-300	Hualon Micro	
64Kx8	14	CMOS						28		23L512D-14	IMP	
								32		23L512P-14	IMP	
		NMOS						28		23512D-14	IMP	
								32		23512P-14	IMP	50
	19	NMOS						28		23512D-19	IMP	
								32		23512P-19	IMP	
	25	CMOS						28		23LV512D-25	IMP	
								32		23LV512P-25	IMP	
	90	RMOS		7	50		5	32		IMP23512-9	IMP	55
	100	CMOS	TTL	0.5	50		5	28		MSM53512B	OKI	
	110	NMOS					5	28		IMP23512	IMP	
		RMOS		7	50		5	32		IMP23512-11	IMP	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Mask Programmable—General Purpose											**(Cont'd)**	
64Kx8											(Cont'd)	
	120	CMOS					5	28		KM23C512	Samsung	
	140	RMOS		7	50		5	32		IMP23512-14	IMP	
	150	CMOS					5	28		S63512D-150	American Micro	
				2	40		5	28		S63512-15	American Micro	
	190	RMOS		5	45		5	32		IMP23512-19	IMP	5
	200	CMOS					5	28		S63512C-200	American Micro	
		NMOS	TTL	20	100		5	28		LH23512-20	Sharp	
	250	NMOS					5	28		24512	Commodore	
										RP23512D	Ricoh	
	300	CMOS					5	28		TMS47C522-30	TI	10
		NMOS					5	28		RP23512B	Ricoh	
64Kx16	55	CMOS	TTL	2	120		5	40		LH53H1000-55	Sharp	
	120	CMOS	TTL	2	50		5	40		TC531024-12	Toshiba	
	150	CMOS	TTL	2	45		5	40		TC531024-15	Toshiba	
64Kx8	100	CMOS			40		5	28		M23C512	SGS-Thomson	15
	120	CMOS	TTL	1	30		5	32		KM23C512-12	Samsung	
	150	CMOS	TTL		40		5	28		HM23C512-15	Hualon Micro	
				1	30		5	32		KM23C512-15	Samsung	
				2	35		5	44		**LH53515-15**	**Sharp (3766)**	
										LH53517	Sharp	20
				4	40		5	28		HM23C512A-15	Hualon Micro	
	200	CMOS	TTL		40		5	28		HM23C512-20	Hualon Micro	
				1	30		5	32		KM23C512-20	Samsung	
				4	40		5	28		HM23C512A-20	Hualon Micro	
128Kx1	250	CMOS					5	28		MSM531000	OKI	25
128Kx8	14	CMOS						28		23L100D-14	IMP	
								32		23L101D-14	IMP	
										23L101P-14	IMP	
		NMOS						28		23100D-14	IMP	
								32		23101D-14	IMP	30
										23101P-14	IMP	
	19	NMOS						28		23100D-19	IMP	
								32		23101D-19	IMP	
										23101P-19	IMP	
	25	CMOS						28		23LV100D-25	IMP	35
								32		23LV101D-25	IMP	
										23LV101P-25	IMP	
	35	CMOS	TTL	80	120		5	32		LH53H1100-35	Sharp	
	90	RMOS		7	50		5	32		IMP23101-9	IMP	
	100	CMOS					5	28		SMM4310	S-MOS	40
				2	40		5	28		S631000-10	American Micro	
								32		S631001-10	American Micro	
			TTL	0.5	50		5	28		MSM531000A	OKI	
										MSM531000B	OKI	
								32		MSM531001A	OKI	45
										MSM531001B	OKI	
	110	NMOS					5	32		IMP23101	IMP	
		RMOS		7	50		5	32		IMP23101-11	IMP	
	120	CMOS					5	28		KM23C1000	Samsung	
	140	RMOS		7	50		5	32		IMP23101-14	IMP	50
	150	CMOS					5	28		S631000	American Micro	
								40		KM23C21000	Samsung	
								28		LH531000A	Sharp	
				2	40		5	28		S631000-15	American Micro	
								32		S631001-15	American Micro	55
			TTL		35		5	32		LH530900A-15	Sharp	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8											(Cont'd)	
	190	RMOS		5	45		5	32		IMP23101-19	IMP	
	200	CMOS					5	32		S631001	American Micro	
				2	40		5	28		S631000-20	American Micro	
								32		S631001-20	American Micro	
			TTL		30		5	32		MSM531001	OKI	5
		NMOS					5	28		GM231024-20	GoldStar	
			TTL		100		5	28		LH231000B-20	Sharp	
								32		LH231100B-20	Sharp	
				20	50		5	28		RP231028	Ricoh	
					100		5	28		GM231000-20	GoldStar	10
				30	100		5	28		RP231027E	Ricoh	
		TTL					5	28		LC371000	Sanyo	
	250	CMOS					5	28		HN62301S-25	Hitachi	
		NMOS					5	28		GM231024-25	GoldStar	
										RP231026E	Ricoh	15
			TTL	20	100		5	28		GM231000-25	GoldStar	
	300	NMOS					5	28		RP231026D	Ricoh	
	350	CMOS					5	28		HN62301	Hitachi	
	500	CMOS					3	32		LH531Y00	ℓ Sharp	
128Kx16	200	CMOS					5	40		HN62402-20	Hitachi	20
128Kx16	100	CMOS	TTL	1	50		5	40		KM23C2100H-10	Samsung	
	120	CMOS	TTL	1	50		5	40		KM23C2100H-12	Samsung	
				3	50		5	48		**LH532000B-12**	**Sharp (3766)**	
	150	CMOS					5	40		HN62422-15	Hitachi	
			TTL	1	50		5	40		KM23C2100-15	Samsung	25
										KM23C2100H-15	Samsung	
				3	50		5	48		**LH532000B-15**	**Sharp (3766)**	
	200	CMOS	TTL	1	50		5	40		KM23C2100-20	Samsung	
	250	CMOS	TTL	1	50		5	40		KM23C2100-25	Samsung	
128Kx8		CMOS			40		5	28		M23C1000	SGS-Thomson	30
								32		M23C1001	SGS-Thomson	
			TTL	3	30		5	32		RP531010E	Ricoh	
	45	CMOS	TTL	80	120		5	32		LH53H0900-45	Sharp	
	55	CMOS	TTL	80	120		5	32		**LH53H0900-55**	**Sharp (3766)**	
	100	CMOS					5	40		HN62442B-10	Hitachi	35
	120	CMOS					5	32		HN62331A-12	Hitachi	
			TTL		40		5	32		KM23C1001-12	Samsung	
										KM23C1011-12	Samsung	
				1	30		5	32		KM23C1000-12	Samsung	
										KM23C1010-12	Samsung	40
				2	50		5	28		TC531000C-12	Toshiba	
								32		TC531001C-12	Toshiba	
	150	CMOS	TTL		40		5	28		HM23C1024-15	Hualon Micro	
								32		KM23C1001-15	Samsung	
										KM23C1011-15	Samsung	45
				1	30		5	32		KM23C1000-15	Samsung	
										KM23C1010-15	Samsung	
				2	35		5	44		**LH530800A-15**	**Sharp (3766)**	
										LH531000B-15	**Sharp (3766)**	
					45		5	28		TC531000C-15	Toshiba	50
								32		TC531001C-15	Toshiba	
				4	40		5	28		HM23C1024A-15	Hualon Micro	
	200	CMOS	TTL		40		5	28		HM23C1024-20	Hualon Micro	
								32		KM23C1001-20	Samsung	
										KM23C1011-20	Samsung	55
				0.1	40		5	28		S201000	Seiko Instr	
								32		S201001	Seiko Instr	
				1	30		5	32		KM23C1000-20	Samsung	
										KM23C1010-20	Samsung	
				4	40		5	28		HM23C1024A-20	Hualon Micro (Continued)	60

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
128Kx8 (Cont'd)	250	NMOS	TTL	20	100		5	28	Special 16x16 Dot Matrix Character Generator ROM	GM231000-30A	GoldStar
									Korean 16x16 Dot Matrix Character Generator ROM	GM231000-31A	GoldStar
									Chinese 16x16 Dot Matrix Character Generator ROM	GM231000-32A	GoldStar
				30	100		5	28		RP231027D	Ricoh
	500	CMOS		3	50		3	48	Low Power	**LH532000B-S50**	**Sharp (3766)**
			TTL	2	35		5	44		**LH530800A-Y**	**Sharp (3766)**
	700	CMOS	TTL	0.01	25		5	28		S20L1000	Seiko Instr
256Kx8	14	NMOS						32		23201D-14	IMP
	19	NMOS						32		23201D-19	IMP
	90	RMOS		7	50		5	32		IMP23201-9	IMP
	110	CMOS		0.1	25		5	44		IMP23208-11	IMP
		NMOS					5	32		IMP23200	IMP
		RMOS		7	50		5	32		IMP23201-11	IMP
	120	CMOS	TTL	0.5	50		5	32		MSM532001A	OKI
										MSM532001B	OKI
	140	CMOS		0.1	25		5	44		IMP23208-14	IMP
		RMOS		7	50		5	32		IMP23201-14	IMP
	150	CMOS					5	40		KM23C41000	Samsung
								32		LH532300	Sharp
				2	40		5	32		S632000-15	American Micro
			TTL		50		5	32		LH532200B-15	Sharp
			TTL/CMOS	0.02	40		5	32		TC532000-150	Toshiba
	190	CMOS		0.1	25		5	44		IMP23208-19	IMP
		RMOS		5	45		5	32		IMP23201-19	IMP
	200	CMOS					5	32		S632000-200	American Micro
								40		HN62302-20	Hitachi
								32		LH532200B	Sharp
				2	40		5	32		S632000-20	American Micro
256Kx16	120	CMOS					5	40		M5M27C402	Mitsubishi
			TTL	0.5	60		5	40		MSM534000B	OKI
										MSM534002B	OKI
	150	CMOS	TTL		50		5	40		MSM534000A	OKI
										MSM534002A	OKI
				0.1	50		5	40		HY234100-15	Hyundai
				1	50		5	40		GM23C4100-15	GoldStar
	200	CMOS	TTL		50		5	40		MSM534000	OKI
				0.1	50		5	40		HY234100-20	Hyundai
				1	50		5	40		GM23C4100-20	GoldStar
	250	CMOS	TTL	0.1	50		5	40		HY234100-25	Hyundai
256Kx16	70	CMOS	TTL	5	20		3	40		MS314000-70	Mosel-Vitelic
	80	CMOS	TTL				5	48		**LH53H4000**	**Sharp (3766)**
	100	CMOS					5	40		HN62444-10	Hitachi
										HN62444B-10	Hitachi
			TTL	1	60		5	44		KM23C4100H-10	Samsung
				3	100		5	44		**LH534600A-10**	**Sharp (3766)**
	120	CMOS					5	40		HN62415-12	Hitachi
										HN62434-12	Hitachi
										HN62444BN-12	Hitachi
				3	65		5	40		**LH534P00-12**	**Sharp (3766)**
			TTL	1	50		5	44		KM23C4100B-12	Samsung
					60		5	44		KM23C4100H-12	Samsung
	150	CMOS					5	40		HN62434-15	Hitachi
										M5M23400A	Mitsubishi
			TTL	0.1	50		5	32	512Kx8	S204100	Seiko Instr
				1	50		5	44		KM23C4100A-15	Samsung
										KM23C4100B-15	Samsung
								40		KM23C4200B-15	Samsung

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ♀ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
					60		5	44		KM23C4100H-15	Samsung	
				2	60		5	40		TC534200-15	Toshiba	
				5	50		5	48		**LH534500A-15**	**Sharp (3766)**	
	200	CMOS		3	50		3	48	Low Power	**LH534000B-S20**	ℓ **Sharp (3766)**	
			TTL	1	40		5	40		MS314003-20	Mosel-Vitelic	5
					50		5	44		KM23C4100A-20	Samsung	
										KM23C4100B-20	Samsung	
								40		KM23C4200B-20	Samsung	
				3	50		5	48		**LH534000B-20**	**Sharp (3766)**	
				5	20		3	40		MS314000-200	Mosel-Vitelic	10
	250	CMOS	TTL	1	50		5	44		KM23C4100A-25	Samsung	
								40		KM23C4200B-25	Samsung	
	300						3			HN62W435-30	ℓ Hitachi	
		CMOS					3	40		HN62W415-30	Hitachi	
	500	CMOS		3	50		3	48	Low Power	**LH534000B-S50**	ℓ **Sharp (3766)**	15
256Kx8		CMOS	TTL	2	50		5	64		RP534040E	Ricoh	
				3	50		5	32		RP532010E	Ricoh	
	30	CMOS	TTL		160		5	20		Am27S23A-30	AMD	
	40	CMOS	TTL		160		5	20		Am27S23A-40	AMD	
	45	CMOS	TTL		160		5	20		Am27S23-45	AMD	20
	50	CMOS	TTL		160		5	20		Am27S23-50	AMD	
	100	CMOS	TTL		40		5	32		KM23C2001H-10	Samsung	
				1	40		5	32		KM23C2000H-10	Samsung	
					50		5	40		KM23C2100H-10	Samsung	
	120	CMOS	TTL		40		5	32		KM23C2001H-12	Samsung	25
				1	40		5	32		KM23C2000H-12	Samsung	
					50		5	40		KM23C2100H-12	Samsung	
				3	50		5	48		**LH532000B-12**	**Sharp (3766)**	
								32		**LH532100B-12**	**Sharp (3766)**	
	150	CMOS					5	40		HN62422-15	Hitachi	30
								32		KM23C2000	Samsung	
			TTL		40		5	32		KM23C2001H-15	Samsung	
					50		5	32		KM23C2001-15	Samsung	
				1	40		5	32		KM23C2000H-15	Samsung	
					50		5	32		KM23C2000-15	Samsung	35
								40		KM23C2100-15	Samsung	
										KM23C2100H-15	Samsung	
				2	50		5	32		TC532000A-15	Toshiba	
				3	50		5	48		**LH532000B-15**	**Sharp (3766)**	
								32		**LH532100B-15**	**Sharp (3766)**	40
			TTL/LV	0.01	40		5	32		S202001	Seiko Instr	
	200	CMOS					5	32		HN62302B-20	Hitachi	
			TTL		40		5	32		HM23C2048-20	Hualon Micro	
					50		5	32		KM23C2001-20	Samsung	
				0.1	50		5	32		S202000	Seiko Instr	45
				1	50		5	32		KM23C2000-20	Samsung	
								40		KM23C2100-20	Samsung	
				3	40		5	32		MS312002	Mosel-Vitelic	
	250	CMOS	LV	0.001	15		3	32		S20L2001	ℓ Seiko Instr	
			TTL		50		5	32		KM23C2001-25	Samsung	50
				1	50		5	32		KM23C2000-25	Samsung	
								40		KM23C2100-25	Samsung	
	500	CMOS		3	50		3	48	Low Power	**LH532000B-S50**	**Sharp (3766)**	
512Kx8	120	CMOS					5	32		M5M27C401	Mitsubishi	
										LH531R00	Sharp	55
			TTL	0.5	50		5	32		MSM534001B	OKI	
					60		5	40		MSM534002B	OKI	
	150	CMOS					5	32		S634000-150	American Micro	
										KM23C4000	Samsung	
								44		KM23C81000	Samsung	60
					40		5	32		S634000-15	American Micro	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	150	CMOS									(Cont'd)	
			TTL		40		5	32		HY234001-15	Hyundai	
					50		5	32		MSM534001A	OKI	
								40		MSM534002A	OKI	
								32		LH534400A-15	Sharp	
				0.1	40		5	32		HY234000-15	Hyundai	5
					50		5	40		HY234100-15	Hyundai	
				1	50		5	40		GM23C4100-15	GoldStar	
				1.5	60		5	32		GM23C4000-15	GoldStar	
				3	50		5	32		LH534300A-15	† Sharp	
	200	CMOS					5	32		S634000-200	American Micro	10
										LH534200A	Sharp	
					40		5	32		S634000-20	American Micro	
			TTL		40		5	32		HY234001-20	Hyundai	
					50		5	32		LH534200B-20	Sharp	
				0.1	40		5	32		HY234000-20	Hyundai	15
					50		5	40		HY234100-20	Hyundai	
				1	50		5	40		GM23C4100-20	GoldStar	
	250	CMOS	TTL		40		5	32		HY234001-25	Hyundai	
				0.1	40		5	32		HY234000-25	Hyundai	
					50		5	40		HY234100-25	Hyundai	20
512Kx16	150	CMOS	TTL	0.5	70		5	42		MSM538002B	OKI	
				1	50		5	42		GM23C8100-15	GoldStar	
				3	50		5	64		LH538500-15	† Sharp	
	200	CMOS	TTL	1	50		5	42		GM23C8100-20	GoldStar	
				3	50		5	44		LH538000-20	† Sharp	25
512Kx16	70	CMOS	TTL	0.018	83.3		3	42		MS318000-70	Mosel-Vitelic	
	100	CMOS					5	42		HN62438-10	Hitachi	
										HN62438N-10	Hitachi	
			TTL	1	60		5	44		KM23C8100H-10	Samsung	
				3	65		5	64		**LH538600-10**	**Sharp (3766)**	30
	120	CMOS					5	42		HN62438-12	Hitachi	
										HN62438N-12	Hitachi	
			TTL	1	60		5	44		KM23C8100H-12	Samsung	
				2	60		5	42		**LH538P00A-12**	**Sharp (3766)**	
	150	CMOS					5	42		HN62418-15	Hitachi	35
										M5M23800	Mitsubishi	
			TTL	1	50		5	44		KM23C8100A-15	Samsung	
					60		5	44		KM23C8100H-15	Samsung	
				2	50		5	64		**LH538500B-15**	**Sharp (3766)**	
	200	CMOS					5	42		HN62428-20	Hitachi	40
				3	50		5	48		**LH538000-S20**	**Sharp (3766)**	
			TTL	0.018	83.3		3	42		MS318000-200	Mosel-Vitelic	
				0.1	60		5	32	1024Kx8	S208100	Seiko Instr	
				1	50		5	42		MS318003	Mosel-Vitelic	
								44		KM23C8100A-20	Samsung	45
				2	60		5	44		TC538200-20	Toshiba	
	250	CMOS	TTL	1	50		5	44		KM23C8100A-25	Samsung	
	300						3			HN62W428-30	ℓ Hitachi	
	500	CMOS		3	50		5	48		**LH538000-S50**	**Sharp (3766)**	
512Kx8		CMOS	TTL	2	50		5	64		RP534040E	Ricoh	50
	70	CMOS	TTL	5	20		3	40		MS314000-70	Mosel-Vitelic	
	80	CMOS	TTL				5	48		**LH53H4000**	**Sharp (3766)**	
								32	High Speed	**LH53H4100**	**Sharp (3766)**	
	100	CMOS					5	32		HN62344B-10	Hitachi	
								40		HN62444-10	Hitachi	55
			TTL		50		5	32		KM23C4001H-10	Samsung	
				1	50		5	32		KM23C400H-10	Samsung	
					60		5	44		KM23C4100H-10	Samsung	
				3	100		5	44		**LH534600A-10**	**Sharp (3766)**	
	120	CMOS					5	32		HN62344B-12	Hitachi	60
								40		HN62415-12	Hitachi	
										HN62434-12	Hitachi	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	120	CMOS									(Cont'd)	
				3	65		5	40		**LH534P00-12**	**Sharp (3766)**	
			TTL		50		5	32		KM23C4001B-12	Samsung	
										KM23C4001H-12	Samsung	
										LH534T00	Sharp	
				1	50		5	32		KM23C400H-12	Samsung	5
										KM23C4000B-12	Samsung	
								44		KM23C4100B-12	Samsung	
					60		5	44		KM23C4100H-12	Samsung	
				3	65		5	32		**LH534R00-12**	**Sharp (3766)**	
	150	CMOS					5	32		HN62334B-15	Hitachi	10
								40		HN62434-15	Hitachi	
										M5M23400A	Mitsubishi	
								32		M5M23401A	Mitsubishi	
			TTL		50		5	32		KM23C4001A-15	Samsung	
										KM23C4001B-15	Samsung	15
										KM23C4001H-15	Samsung	
				1	50		5	32		KM23C400H-15	Samsung	
										KM23C4000A-15	Samsung	
										KM23C4000A-20	Samsung	
										KM23C4000B-15	Samsung	20
								44		KM23C4100A-15	Samsung	
										KM23C4100B-15	Samsung	
								40		KM23C4200B-15	Samsung	
					60		5	44		KM23C4100H-15	Samsung	
				2	50		5	32		TC534000A-15	Toshiba	25
					60		5	40		TC534200-15	Toshiba	
				3	60		5	32		**LH534K00-15**	**Sharp (3766)**	
				5	50		5	48		**LH534500A-15**	**Sharp (3766)**	
	200	CMOS					5	40		LH534000A	Sharp	
				3	50		3	48		**LH534000B-S20**	ℓ **Sharp (3766)**	30
			TTL		50		5	32		KM23C4001A-20	Samsung	
										KM23C4001B-20	Samsung	
				0.1	50		5	32		S204000	Seiko Instr	
				1	40		5	40		MS314003-20	Mosel-Vitelic	
					50		5	32		KM23C4000B-20	Samsung	35
								44		KM23C4100A-20	Samsung	
										KM23C4100B-20	Samsung	
								40		KM23C4200B-20	Samsung	
				1.5	60		5	32		GM23C4000-20	GoldStar	
				2	40		5	32		TC534000-20	Toshiba	40
				3	50		5	48		**LH534000B-20**	**Sharp (3766)**	
								32		**LH534100B-20**	**Sharp (3766)**	
				4	40		5	32		HM23C4096A-20	Hualon Micro	
	250	CMOS					5	32		TC534000	Toshiba	
			TTL		50		5	32		KM23C4001A-25	Samsung	45
				1	50		5	32		KM23C4000A-25	Samsung	
								44		KM23C4100A-25	Samsung	
								40		KM23C4200B-25	Samsung	
				2	40		5	32		TC534000-25	Toshiba	
	300						3			HN62W315B-30	ℓ Hitachi	50
										HN62W435-30	ℓ Hitachi	
		CMOS					3	40		HN62W415-30	ℓ Hitachi	
	500	CMOS		3	50		3	48	Low Power	**LH534000B-S50**	ℓ **Sharp (3766)**	
512Kx8/256Kx16	150	CMOS	TTL				5	40		**LH534500A**	**Sharp (3766)**	
			TTL/CMOS	2	60		5	40		TC534200-150	Toshiba	55
1Mx8	120	CMOS					5	32		LH5381200	Sharp	
	150	CMOS					5	42		KM23C8000	Samsung	
								32		LH538K00	Sharp	
			TTL	0.5	50		5	32		MSM538001B	OKI	
										MSM538001C	OKI	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx8	150	CMOS	TTL	0.5							(Cont'd)	
					70		5	42		MSM538002B	OKI	
										MSM538002C	OKI	
										MSM538002C	OKI	
				1	50		5	42		GM23C8100-15	GoldStar	
	200	CMOS	TTL				5	32		LH538100	Sharp	5
					50		5	32		LH538200-20	Sharp	
				1	50		5	42		GM23C8100-20	GoldStar	
				3	50		5	44		LH538000-20	† Sharp	
								32		LH538100-20	† Sharp	
1Mx8/512Kx16												
	150	CMOS					3	42		LH538XXX-S	Sharp	10
	500	CMOS					3	42		LH53800-S	ℓ Sharp	
1Mx16	150	CMOS	TTL	2	50		5	42		LH5316600-15	Sharp	
	200	CMOS	TTL	3	50		5	64		LH5316000-20	† Sharp	
1Mx16	100	CMOS	TTL	0.1	50		3	32		MS316000-100	Mosel-Vitelic	
	120	CMOS					5	42		HN624316-12	Hitachi	15
										HN624316N-12	Hitachi	
			TTL				5	42		LH5316B00-12	Sharp	
										LH5316P00-12	Sharp	
				0.1	50		3	32		MS316000-120	Mosel-Vitelic	
	150	CMOS					5	42		HN624116-15	Hitachi	20
										HN624316-15	Hitachi	
										HN624316N-15	Hitachi	
										M5M23160	Mitsubishi	
			TTL	1	50		5	44		KM23C16000-15	Samsung	
					100		5	44		KM23C16100-15	Samsung	25
				2	50		5	48		**LH5316500C-15**	**Sharp (3766)**	
					70		5	44		**LH5316501-15**	**Sharp (3766)**	
										TC5316200A-15	Toshiba	
				5	120		5	42		**TC5316210B**	**Toshiba (3820)**	
			TTL/CMOS	2	60		5	42		TC5316200A-150	Toshiba	30
	200	CMOS					5	42		HN62W4316N-20	Hitachi	
										HN624116-20	Hitachi	
			TTL	1	50		5	44		KM23C16000-20	Samsung	
					100		5	44		KM23C16100-20	Samsung	
				2	60		5	44		TC5316200-20	Toshiba	35
	250	CMOS	TTL	1	50		5	44		KM23C16000-25	Samsung	
					100		5	44		KM23C16100-25	Samsung	
	300	CMOS					3	42		HN62W4116-30	ℓ Hitachi	
1Mx8	70	CMOS	TTL	0.018	83.3		3	42		MS318000-70	Mosel-Vitelic	
				0.1	50		3	32		MS318001-70	Mosel-Vitelic	40
	100	CMOS					5	42		HN62438-10	Hitachi	
										HN62438N-10	Hitachi	
			TTL		50		5	32		KM23C8001H-10	Samsung	
				0.1	50		3	32		MS318001-100	Mosel-Vitelic	
				1	50		5	32		KM23C8000H-10	Samsung	45
					60		5	44		KM23C8100H-10	Samsung	
				3	65		5	64		**LH538600-10**	**Sharp (3766)**	
		NMOS			110		5	40		LH53V8000-10	Sharp	
	120	CMOS					5	32		HN62319B-12	Hitachi	
								42		HN62438-12	Hitachi	50
										HN62438N-12	Hitachi	
			TTL				5	32		LH538T00	Sharp	
					50		5	32		KM23C8001H-12	Samsung	
				1	50		5	32		KM23C8000H-12	Samsung	
					60		5	44		KM23C8100H-12	Samsung	55
				2	60		5	42		**LH538P00A-12**	**Sharp (3766)**	
		60	TTL	3	60		5	32		**LH538R00A-12**	**Sharp (3766)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Mask Programmable—General Purpose											**(Cont'd)**	
1Mx8											(Cont'd)	
	150	CMOS					5	32		HN62318B-15	Hitachi	
								42		HN62418-15	Hitachi	
										M5M23800	Mitsubishi	
								32		M5M23801	Mitsubishi	
										LH538300A	Sharp	5
			TTL				5	32		LH538400A	Sharp	
					50		5	32		KM23C8001A-15	Samsung	
										KM23C8001H-15	Samsung	
				0.1	50		3	32		MS318001-150	Mosel-Vitelic	
				1	50		5	32		KM23C8000A-15	Samsung	10
										KM23C8000H-15	Samsung	
								44		KM23C8100A-15	Samsung	
					60		5	44		KM23C8100H-15	Samsung	
				2	50		5	64		**LH538500B-15**	**Sharp (3766)**	
				3	50		5	32		**LH538300B-15**	**Sharp (3766)**	15
								64		LH538500-15	† Sharp	
										LH538500A-15	Sharp	
	200	CMOS					5	32		HN62328B-20	Hitachi	
								42		HN62428-20	Hitachi	
				3	50		5	48		**LH538000-S20**	**Sharp (3766)**	20
			TTL		50		5	32		KM23C8001A-20	Samsung	
				0.018	83.3		3	42		MS318000-200	Mosel-Vitelic	
				1	50		5	32		MS318002-200	Mosel-Vitelic	
								42		MS318003	Mosel-Vitelic	
								32		KM23C8000A-20	Samsung	25
								44		KM23C8100A-20	Samsung	
				2	60		5	44		TC538200-20	Toshiba	
		NMOS			110		5	40		LH53V8000-20	Sharp	
	250	CMOS	TTL		50		5	32		KM23C8001A-25	Samsung	
				1	50		5	32		KM23C8000A-25	Samsung	30
								44		KM23C8100A-25	Samsung	
	300						3			HN62W329B-30	ℓ Hitachi	
										HN62W428-30	ℓ Hitachi	
		CMOS					3.3	32		HN62W328B-30	ℓ Hitachi	
	500	CMOS		3	50		5	48		**LH538000-S50**	**Sharp (3766)**	35
1Mx8/512Kx16												
	200	CMOS	TTL/CMOS									
				2	60		5	42		TC538200-200	Toshiba	
2Mx8	150	CMOS	TTL	2	50		5	42		LH5316600-15	Sharp	
	200	CMOS					5	128		LH5316000	Sharp	
			TTL	3	50		5	64		LH5316000-20	† Sharp	
2Mx16	150	CMOS	TTL	1	60		5	44		KM23C32000-15	Samsung	40
					100		5	44		KM23C32100-15	Samsung	
				2	50		5	64		**LH5332500-15**	**Sharp (3766)**	
	200	CMOS	TTL	1	60		5	44		KM23C32000-20	Samsung	
					100		5	44		KM23C32100-20	Samsung	
				2	50		5	64		LH5332000-20	† Sharp	45
	250	CMOS	TTL	1	60		5	44		KM23C32000-25	Samsung	
					100		5	44		KM23C32100-25	Samsung	
2Mx8	70	CMOS	TTL	2	70		5	44		**LH5316501-70**	**Sharp (3766)**	
										LH5316501-70	**Sharp (3766)**	
	100	CMOS	TTL	0.1	50		3	32		MS316000-100	Mosel-Vitelic	50
	120	CMOS					5	42		HN624316-12	Hitachi	
										HN624316N-12	Hitachi	
			TTL				5	42		LH5316B00-12	Sharp	
										LH5316P00-12	Sharp	
				0.1	50		3	32		MS316000-120	Mosel-Vitelic	55
	150	CMOS					5	42		HN624116-15	Hitachi	
										HN624316-15	Hitachi	
										HN624316N-15	Hitachi	
										M5M23160	Mitsubishi	
			TTL				5	36		LH5316T00	Sharp	60
				0.1	50		5	42		LH5316500-15	Sharp	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—ROMs (Cont'd)

Mask Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
2Mx8	150	CMOS	TTL								(Cont'd)
				1	50		5	44		KM23C16000-15	Samsung
					100		5	44		KM23C16100-15	Samsung
				2	50		5	48		**LH5316500C-15**	**Sharp (3766)**
					70		5	44		**LH5316501-15**	**Sharp (3766)**
										TC5316200A-15	Toshiba
				5	120		5	42		**TC5316210B**	**Toshiba (3820)**
			TTL/CMOS	2	60		5	42		TC5316200A-150	Toshiba
	200	CMOS					5	42		HN62W4316N-20	Hitachi
										HN624116-20	Hitachi
			TTL				5	36		LH5316400A	Sharp
				1	50		5	44		KM23C16000-20	Samsung
					100		5	44		KM23C16100-20	Samsung
				2	60		5	44		TC5316200-20	Toshiba
	250	CMOS	TTL	1	50		5	44		KM23C16000-25	Samsung
					100		5	44		KM23C16100-25	Samsung
	300	CMOS					3	42		HN62W4116-30	ℓ Hitachi
2Mx8/1Mx16	200	CMOS	TTL/CMOS	2	60		5	42		TC5316200-200	Toshiba
4Mx8	150	CMOS	TTL	1	60		5	44		KM23C32000-15	Samsung
					100		5	44		KM23C32100-15	Samsung
				2	50		5	64		**LH5332500-15**	**Sharp (3766)**
	200	CMOS	TTL	1	60		5	44		KM23C32000-20	Samsung
					100		5	44		KM23C32100-20	Samsung
				2	50		5	64		LH5332000-20	† Sharp
	250	CMOS	TTL	1	60		5	44		KM23C32000-25	Samsung
					100		5	44		KM23C32100-25	Samsung
4Mx8/2Mx16	200	CMOS	TTL				5	64		LH5332000	Sharp

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs

Fuse Programmable—General Purpose

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16x4	35	TTL					5	16		DM85S06	National	
										DM85S07	National	
32x8	15	TTL					5	16		PL77X288B	National	
										PL87X288B	National	
	25				110		5	16		DM74S188A-25	National	5
										DM74S288A-25	National	
		TTL					5	16		MCM27S19	Motorola	
										DM74S188A	° National	
										DM74S288A	° National	
	30	TTL					5	16		38S03X-30	TI	10
	35				110		5	16		DM74S188-35	National	
										DM74S288-35	National	
		TTL					5	16		DM54S188A	° National	
										DM54S288A	° National	
										DM74S188	° National	15
										DM74S288	° National	
	45	TTL					5	16		DM54S188	° National	
										DM54S288	° National	
	50	TTL					5	16		SN54188A	TI	
32x8	50	TTL					5	16		**HL7602-2**	**Lansdale (3664)**	20
										HL7602-5	**Lansdale (3664)**	
										HL7602-8	**Lansdale (3664)**	
										HL7603-2	**Lansdale (3664)**	
										HL7603-5	**Lansdale (3664)**	
										HL7603-8	**Lansdale (3664)**	25
	55	TTL					5	16		AM27LS19-55C	AMD	
	70	TTL					5	16		AM27LS19-70M	† AMD	
256x4	10	ECL					5	16		100149A	° Philips	
	11 *	ECL					-5.2	16		F10416C	National	
	20	ECL					-5.2	16		100149	° Philips	30
	30				130		5	16		DM74S287A-30	National	
										DM74S387A-30	National	
	45	TTL					5	16		AM27S21C	° AMD	
	50				130		5	16		DM74S287-50	National	
										DM74S387A-50	National	35
		TTL					5	16		DM74S287	National	
										DM74S387	° National	
	60	TTL					5	16		AM27S21M	° AMD	
										DM54S287	National	
										DM54S387	° National	40
256x8	60				100		5	20		DM74LS471-60	National	
		TTL					5	20		DM74LS471	° National	
	70	TTL					5	20		DM54LS471	° National	
256x8	35	TTL					5	16		**HL7610B-2**	**Lansdale (3664)**	
										HL7610B-5	**Lansdale (3664)**	45
										HL7610B-8	**Lansdale (3664)**	
										HL7611B-2	**Lansdale (3664)**	
										HL7611B-5	**Lansdale (3664)**	
										HL7611B-8	**Lansdale (3664)**	
	45	TTL					5	16		**HL7610A-2**	**Lansdale (3664)**	50
										HL7610A-5	**Lansdale (3664)**	
										HL7611A-2	**Lansdale (3664)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256x8	45	TTL					5	16			(Cont'd)	
										HL7611A-5	**Lansdale (3664)**	
										HL7611A-8	**Lansdale (3664)**	
	60	TTL					5	16		**HL7610-2**	**Lansdale (3664)**	
										HL7610-5	**Lansdale (3664)**	
										HL7610-8	**Lansdale (3664)**	5
										HL7611-2	**Lansdale (3664)**	
										HL7611-5	**Lansdale (3664)**	
										HL7611-8	**Lansdale (3664)**	
512x4	35				130		5	16		DM74S571B-35	National	
	45				130		5	16		DM74S570A-45	National	10
										DM74S571A-45	National	
	50	TTL					5	16		MCM7621A	Motorola	
								24		MCM7641A	Motorola	
	55				130		5	16		DM74S570-55	National	
										DM74S571-55	National	15
		TTL					5	16		DM74S570	National	
										DM74S570A	National	
										DM74S571	National	
										DM74S571A	National	
										DM74S571B	National	20
	65	TTL					5	16		DM54S570	National	
										DM54S570A	National	
										DM54S571	National	
										DM54S571A	National	
										DM54S571B	National	25
	70	TTL					5	16		MCM7621	Motorola	
512x8	27						5	24		AM27S25C	° AMD	
	30						5	24		AM27S25M	° AMD	
	35						5	22		DM87SR27B	National	
								24		DM87SR476B	° National	30
					155		5	20		DM74S472B-35	National	
		TTL					5	24		MCM27S31A	Motorola	
								20		DM74S472B	° National	
								24		DM87SR474	° National	
										DM87SR476	° National	35
	40	Reg					5	24		DM77SR474	National	
		TTL					5	24		DM77SR476	° National	
	45				155		5	20		DM74LS472A-45	National	
										DM74S47SA-45	National	
										DM74S472A-45	National	40
										DM74S473A-45	National	
		TTL					5	20		MCM7649A	Motorola	
										DM74S472A	° National	
										DM74S472B	° National	
										DM74S473A	° National	45
								24		DM74S474A	National	
										DM74S475A	National	
	50						5	22		DM87SR27	National	
	60				155		5	20		DM74S472-60	National	
										DM74S473-60	National	50
		TTL					5	20		MCM7649	Motorola	
										DM54Q474A	National	
										DM54S472	° National	
										DM54S472A	° National	
										DM54S472B	° National	55
										DM54S473A	° National	
										DM54S474B	National	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Fuse Programmable–General Purpose											**(Cont'd)**	
512x8	60	TTL					5				(Cont'd)	
								24		DM54S475A	National	
								20		DM74S472	• National	
										DM74S473	• National	
	65	TTL					5	20		DM54S473	• National	
								24		DM54S475	National	5
										DM74S474	National	
										DM74S475	National	
	70	TTL					5	24		MCM7641	Motorola	
										DM54S474	National	
								20		TBP28S42M	TI	10
	120	CMOS					5	24		HM6642B/883	Harris	
	200	CMOS					5	24		HM6642	Harris	
	220	CMOS	TTL/CMOS	0.1	20		5	24		HM6642/883	† Harris	
512x4	40	TTL					5	16		**HL7620B-2**	**Lansdale (3664)**	
										HL7620B-5	**Lansdale (3664)**	15
										HL7620B-8	**Lansdale (3664)**	
										HL7621B-2	**Lansdale (3664)**	
										HL7621B-5	**Lansdale (3664)**	
										HL7621B-8	**Lansdale (3664)**	
	50	TTL					5	16		**HL7620A-2**	**Lansdale (3664)**	20
										HL7620A-5	**Lansdale (3664)**	
										HL7620A-8	**Lansdale (3664)**	
										HL7621A-2	**Lansdale (3664)**	
										HL7621A-5	**Lansdale (3664)**	
										HL7621A-8	**Lansdale (3664)**	25
	70	TTL					5	16		**HL7620-2**	**Lansdale (3664)**	
										HL7620-5	**Lansdale (3664)**	
										HL7620-8	**Lansdale (3664)**	
										HL7621-2	**Lansdale (3664)**	
										HL7621-5	**Lansdale (3664)**	30
										HL7621-8	Lansdale	
512x8	25	CMOS	TTL		90		5	24		CY7C225-25C	Cypress	
	30	CMOS	TTL		90		5	24		CY7C225-30C	Cypress	
					120		5	24		CY7C225-30M	† Cypress	
	35	CMOS	TTL		120		5	24		CY7C225-35M	† Cypress	35
	40	CMOS	TTL		90		5	24		CY7C225-40C	• Cypress	
					120		5	24		CY7C225-40M	† Cypress	
	45	TTL					5	24		**HL7640A-2**	**Lansdale (3664)**	
										HL7640A-5	**Lansdale (3664)**	
										HL7640A-8	**Lansdale (3664)**	40
										HL7641A-2	**Lansdale (3664)**	
										HL7641A-5	**Lansdale (3664)**	
										HL7641A-8	**Lansdale (3664)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512x8	45	TTL					5				(Cont'd)	
								20		**HL7649A-2**	**Lansdale (3664)**	
										HL7649A-5	**Lansdale (3664)**	
										HL7649A-8	**Lansdale (3664)**	
	50	TTL	TTL		155	30	5	20		R29621AC	Raytheon	
				45	155	30	5	20		R29623AC	Raytheon	5
	60	TTL					5	20		**HL7649-2**	**Lansdale (3664)**	
										HL7649-5	**Lansdale (3664)**	
										HL7649-8	**Lansdale (3664)**	
			TTL		155	30	5	20		R29621AM	† Raytheon	
				45	155	30	5	20		R29623AM	† Raytheon	10
	70	TTL					5	24		**HL7640-2**	**Lansdale (3664)**	
										HL7640-5	**Lansdale (3664)**	
										HL7640-8	**Lansdale (3664)**	
										HL7641-2	Lansdale	
										HL7641-5	**Lansdale (3664)**	15
										HL7641-8	**Lansdale (3664)**	
	90	CMOS	TTL/CMOS	0.1	20		5	24		HM6642-9	Harris	
										HM6642B-9	Harris	
1Kx1	20	TTL					5	16		93425H-20	National	
1Kx4	35	TTL					5	18		AM27S33AC	• AMD	20
										DM74S573B	National	
	45				140		5	18		DM74S572A-45	National	
		TTL					5	18		AM27S33AM	• AMD	
										DM74S572A	National	
										DM74S573A	National	25
								24		DM87S181A	National	
	50	TTL					5	18		MCM7643A	Motorola	
										DM54S573B	National	
	55	TTL					5	18		AM27S33C	• AMD	
	60				140		5	18		DM74S572-60	National	30
		TTL					5	18		DM54S572A	National	
										DM54S573A	National	
										DM74S572	National	
										DM74S573	National	
	65	TTL					5	18		AM27S33M	• AMD	35
								24		DM77S181A	National	
	70	TTL					5	18		MCM7643	Motorola	
	75	TTL					5	18		DM54S572	National	
										DM54S573	National	
1Kx8	—	TTL					5	24		AM27PS181	AMD	40
										AM27S35AC	• AMD	
										AM27S35AM	• AMD	
										AM27S35C	• AMD	
										AM27S35M	• AMD	
										AM27S37A	• AMD	45
	35						5	24		MCM27S35A	• Motorola	
										DM87SR183B	National	
					140		5	18		DM74S573B-35	National	
		Reg					5	24		MCM27S37A	Motorola	
		TTL					5	24		AM27S37	• AMD	50
										MCM27S181	Motorola	
										93Z451A	National	
										N82S191C	• Philips	
	40						5	24		DM87SR181	National	
										DM87SR183	National	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Fuse Programmable—General Purpose											(Cont'd)	
1Kx8	40										(Cont'd)	
		Reg					5	24		DM77SR181	National	
		TTL					5	24		93Z451C	National	
	45						5	24		DM77SR183	National	
					140		5	18		DM74S573A-45	National	
		TTL					5	24		93Z451	National	5
	50	TTL					5	24		82HS181	Intel	
										MCM7681A	Motorola	
	55	TTL					5	24		82S181	Intel	
										DM87S180	National	
										DM87S280	National	10
										DM87S281	National	
										93Z451M	National	
	60				140		5	18		DM74S573-60	National	
		TTL					5	24		N82S183	° Philips	
	70	TTL					5	24		MCM7681	Motorola	15
										DM87S181	National	
	75	TTL					5	24		DM77S180	National	
										DM77S181	National	
										DM77S280	National	
										DM77S281	National	20
1Kx4	45	TTL					5	18		**HL7642B-2**	**Lansdale (3664)**	
										HL7642B-5	**Lansdale (3664)**	
										HL7642B-8	**Lansdale (3664)**	
										HL7643B-2	**Lansdale (3664)**	
										HL7643B-5	**Lansdale (3664)**	25
										HL7643B-8	**Lansdale (3664)**	
	50	TTL					5	18		**HL7642A-2**	**Lansdale (3664)**	
										HL7642A-5	**Lansdale (3664)**	
										HL7642A-8	**Lansdale (3664)**	
										HL7643A-2	**Lansdale (3664)**	30
										HL7643A-5	**Lansdale (3664)**	
										HL7643A-8	**Lansdale (3664)**	
	60	TTL					5	18		**HL7642-2**	**Lansdale (3664)**	
										HL7642-5	**Lansdale (3664)**	
										HL7642-8	**Lansdale (3664)**	35
										HL7643-2	**Lansdale (3664)**	
										HL7643-5	**Lansdale (3664)**	
										HL7643-8	**Lansdale (3664)**	
1Kx8	25	CMOS	TTL		90		5	24		CY7C235-25C	Cypress	
	30	CMOS	TTL		90		5	24		CY7C235-30C	Cypress	40
					100		5	24		CY7C281-30C	° Cypress	
										CY7C282-30C	° Cypress	
					120		5	24		CY7C235-30M	† Cypress	
	40	CMOS	TTL		90		5	28		CY7C235-40C	° Cypress	
					120		5	24		CY7C235-40M	† Cypress	45
	45	CMOS	TTL		90		5	24		CY7C281-45C	° Cypress	
										CY7C282-45C	° Cypress	
					120		5	24		CY7C281-45M	† Cypress	
										CY7C282-45M	† Cypress	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx8											(Cont'd)	
	50	TTL					5	24		**HL7681A-2**	**Lansdale (3664)**	
										HL7681A-5	**Lansdale (3664)**	
										HL7681A-8	**Lansdale (3664)**	
			TTL		170	30	5	24		R29631AC	Raytheon	
				45	170	30	5	24		R29633AC	Raytheon	5
										R29633AM	† Raytheon	
	60	TTL	TTL		170	30	5	24		R29631AM	† Raytheon	
	70	TTL					5	24		**HL7681-2**	**Lansdale (3664)**	
										HL7681-5	**Lansdale (3664)**	
										HL7681-8	**Lansdale (3664)**	10
2Kx4	35	TTL					5	18		DM87S185B	National	
	45	TTL					5	18		DM87S185A	National	
	50	TTL					5	18		DM77S185B	National	
	55	TTL					5	18		DM87S184	National	
										DM87S185	National	15
	60	TTL					5	18		AM27PS185C	AMD	
										DM77S185A	National	
								24		N82S191A	• Philips	
	65	TTL					5	18		AM27PS185M	AMD	
	70	TTL					5	18		MCM7685	Motorola	20
										DM77S184	National	
										DM77S185	National	
2Kx8	—	Emulator (RAM w/Bat.)								GR2716	Greenwich	
	25	Reg					5	24		DM87SR191	National	
										DM87SR193	National	25
	35						5	24		MCM27S45A	Motorola	
										DM77SR191	National	
										DM77SR193	National	
		CMOS					5	25		TMS27PC292-35	TI	
		TTL					5	24		AM27S291A	• AMD	30
										SFC71190C	SGS-Thomson	
										SFC71191C	SGS-Thomson	
	45						5	24		AM27S45	• AMD	
		CMOS					5	24		AT28HC191L-45	ATMEL	
										AT28HC291L-45	ATMEL	35
										TMS27PC291	TI	
										TMS27PC291-45	TI	
										TMS27PC292	TI	
										TMS27PC292-45	TI	
		TTL					5	24		93Z511C	National	40
										µPB429-3	NEC	
										SFC71190B	SGS-Thomson	
										SFC71191B	SGS-Thomson	
	50	CMOS					5	24		TMS27PC291-5	TI	
										TMS27PC291-50	TI	45
										TMS27PC292-5	TI	
										TMS27PC292-50	TI	
		TTL					5	24		AM27PS191C	• AMD	
										AM27PS291C	• AMD	
										AM27S191	• AMD	50
										AM27S291	• AMD	
										82HS191	Intel	
										MCM27S191	Motorola	
										MCM76161A	Motorola	
										µPB429-2	NEC	55
	55	CMOS					5	24		AT28HC191L-55	ATMEL	
										AT28HC291L-55	ATMEL	
		TTL					5	18		MCM7685A	Motorola	
								24		93Z511M	National	
	60	TTL					5	24		µPB429-1	NEC	60
										SFC71191A	SGS-Thomson (Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8											(Cont'd)	
	65	TTL					5	24		AM27PS191M	° AMD	
										AM27S291M	AMD	
	70	TTL					5	24		82S191	Intel	
										MCM76161	Motorola	
	80	TTL					5	24		DM77S190	National	5
										N82S191	° Philips	
										SFC71190A	SGS-Thomson	
	90	CMOS					5	24		HM6617B	Harris	
	105	CMOS	TTL/CMOS	0.1	20		5	24		HM6617B-9	Harris	
	120	CMOS					5	24		HM6617	Harris	10
	140	CMOS	TTL/CMOS	0.1	20		5	24		HM6617/883	† Harris	
2Kx4	50	TTL					5	18		**HL7685A-2**	**Lansdale** **(3664)**	
										HL7685A-5	**Lansdale** **(3664)**	
										HL7685A-8	**Lansdale** **(3664)**	
	60	TTL	TTL		170	30	5	18		R29651AC	Raytheon	15
	65	TTL	TTL	45	170	30	5	18		R29653AC	Raytheon	
	70	TTL					5	18		**HL7685-2**	**Lansdale** **(3664)**	
										HL7685-5	**Lansdale** **(3664)**	
										HL7685-8	**Lansdale** **(3664)**	
			TTL		170	30	5	18		R29651AM	† Raytheon	20
	75	TTL	TTL	45	170	30	5	18		R29653AM	† Raytheon	
2Kx8	15	CMOS	TTL		120		5	24		CY7C245A-15C	Cypress	
	25	CMOS	TTL		90		5	24		CY7C245-25C	° Cypress	
										CY7C245A-25C	Cypress	
					120		5	24		CY7C245A-25M	† Cypress	25
	35	CMOS					5	24		CY7C291AL-35C	° Cypress	
										CY7C291L-35C	° Cypress	
										CY7C292L-35C	° Cypress	
			TTL		90		5	24		CY7C245-35C	° Cypress	
										CY7C245A-35C	Cypress	30
										CY7C245AL-35C	° Cypress	
										CY7C291-35C	° Cypress	
										CY7C292-35C	° Cypress	
					120		5	24		CY7C245-35M	°† Cypress	
										CY7C245A-35M	† Cypress	35
										CY7C291-35M	° Cypress	
				30	90		5	24		CY7C292AL-35C	° Cypress	
										CY7C293AL-35C	° Cypress	
		CMOS Reg.					5	24		CY7C245L-35C	° Cypress	
		TTL					5	24		**HL76161B**	**Lansdale** **(3664)**	40
	45	CMOS					5	24		CY7C245L-45C	° Cypress	
			TTL		90		5	24		CY7C245-45C	° Cypress	
					120		5	24		CY7C245-45M	° Cypress	
	50	CMOS					5	24		CY7C291AL-50C	° Cypress	
										CY7C291L-50C	° Cypress	45
										CY7C292L-50C	° Cypress	
			TTL		90		5	24		CY7C291-50C	° Cypress	
										CY7C292-50C	° Cypress	
					120		5	24		CY7C291-50M	° Cypress	
										CY7C292-50M	° Cypress	50
				30	90		5	24		CY7C292AL-50C	° Cypress	
										CY7C293AL-50C	° Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
2Kx8	50										(Cont'd)
		TTL					5	24		**HL76161A-2**	**Lansdale (3664)**
										HL76161A-5	**Lansdale (3664)**
										HL76161A-8	**Lansdale (3664)**
			TTL		180	30	5	24		R29681AC	Raytheon
				50	180	30	5	24		R29683AC	Raytheon
	60	TTL					5	24		**HL76161-2**	**Lansdale (3664)**
										HL76161-5	**Lansdale (3664)**
										HL76161-8	**Lansdale (3664)**
	70	TTL	TTL		180	30	5	24		R29681AM	† Raytheon
				50	180	30	5	24		R29683AM	† Raytheon
	90	CMOS	TTL/CMOS								
				0.1	20		5	24		HM6617-9	Harris
	140	CMOS					5	24		HS6617RH	Harris
4Kx4	25						5	24		AM27S85AC	AMD
	30						5	24		AM27S85AM	AMD
										AM27S85C	AMD
	35						5	24		AM27S85M	AMD
		TTL					5	20		AM27S41A	° AMD
										MCM76165A	Motorola
	50	TTL					5	20		AM27S41	° AMD
										DM77S195B	National
	60	TTL					5	20		DM77S195A	National
	65	TTL					5	20		AM27PS41	AMD
										AM27S41M	° AMD
4Kx8	—	Emulator (RAM w/Bat.)								GR2732	Greenwich
	40	TTL					5	24		AM27S43A	AMD
	50	TTL					5	24		AM27S43	AMD
										M3632	Intel
	55	TTL					5	24		DM87S321	National
										DM87S421	National
	65	TTL					5	24		DM77S421	National
	250	NMOS					5	24		TMS27P32A-25	TI
	300	NMOS					5	24		TMS27P32A-30	TI
	450	NMOS					5	24		TMS27P32A-45	TI
4Kx4	60	TTL					5	20		**HL76165-2**	**Lansdale (3664)**
										HL76165-5	**Lansdale (3664)**
										HL76165-8	**Lansdale (3664)**
4Kx8	55	TTL	TTL		190	27	5	24	High Rad Resistance	R29771C	Raytheon
				55	190	27	5	24		R29773C	Raytheon
	65	TTL					5	24		**HL76321-2**	**Lansdale (3664)**
										HL76321-5	**Lansdale (3664)**
										HL76321-8	**Lansdale (3664)**
			TTL		190	27	5	24	High Rad Resistance	R29771M	† Raytheon
				55	190	27	5	24		R29773M	† Raytheon
8K	450	CMOS					5	28		TMS27PC64-45	TI
8Kx8	—	Emulator (RAM w/Bat.)								GR2764	Greenwich
	35	TTL					5	24		93Z665C	National
	40	TTL					5	24		93Z667C-40	National
	45	CMOS					5	24		TMS27PC49-4	° TI
										TMS27PC49-45	° TI
		TTL					5	24		93Z565	National
										93Z665M	National
										93Z667C-45	National
										93Z667M	National

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8											(Cont'd)	
	50	TTL					5	24		93Z667C-50	National	
										93Z667M-50	National	
	55	CMOS					5	24		TMS27PC49-5	° TI	
										TMS27PC49-55	° TI	
		TTL					5	24		AM27S49AM	AMD	5
										AM27S49C	AMD	
										93Z565AM	National	
										93Z565C	National	
										93Z667M-55	National	
	60	CMOS			80		5	32		CY7C268-60C	Cypress	10
	65	TTL					5	24		AM27S49M	AMD	
										93Z565M	National	
	120	CMOS					5	28		TMS27PC64-12	TI	
										TMS27PC64-120	TI	
	150	CMOS					5	28		TMS27PC64-1	TI	15
										TMS27PC64-15	TI	
	200	CMOS					5	28		MBM27C64-20	Fujitsu	
										TMS27PC64-2	TI	
										TMS27PC64-20	TI	
	250	CMOS					5	28		TMS27PC64	TI	20
										TMS27PC64-25	TI	
		NMOS					5	28		TMS27P64-25	TI	
	300						5	28		DM2764-300	SEEQ	
		CMOS					5	28		TMS27PC64-3	TI	
										TMS27PC64-30	TI	25
		NMOS					5	28		TMS27P64-30	TI	
	450	CMOS					5	28		TMS27PC64-4	TI	
		NMOS					5	28		TMS27P64-45	TI	
8Kx8	15	CMOS			120		5	28		CY7C269-15C	Cypress	
	20	CMOS	TTL	15	120		5	28		CY7C266-20C	Cypress	30
				40	120		5	24		CY7C261-20C	° Cypress	
										CY7C263-20C	° Cypress	
										CY7C264-20C	° Cypress	
	25	CMOS			140		5	28		CY7C269-25M	† Cypress	
			TTL	15	120		5	28		CY7C266-25C	Cypress	35
					140		5	28		CY7C266-25M	† Cypress	
				40	120		5	24		CY7C261-25C	Cypress	
										CY7C263-25C	° Cypress	
										CY7C264-25C	° Cypress	
	35	CMOS	TTL	30	100		5	24		CY7C261-35C	° Cypress	40
										CY7C263-35C	° Cypress	
										CY7C264-35C	° Cypress	
					120		5	24		CY7C261-35M	† Cypress	
										CY7C263-35M	† Cypress	
										CY7C264-35M	† Cypress	45
	40	CMOS			100		5	28		CY7C265-40C	Cypress	
										CY7C268-40C	Cypress	
										CY7C269-40C	Cypress	
	45	CMOS	TTL	15	100		5	28		CY7C266-45C	Cypress	
					120		5	28		CY7C266-45M	† Cypress	50
				30	100		5	24		CY7C261-45C	° Cypress	
										CY7C263-45C	° Cypress	
										CY7C264-45C	° Cypress	
					120		5	24		CY7C261-45M	† Cypress	
										CY7C263-45M	† Cypress	55
										CY7C264-45M	† Cypress	
	50	CMOS			80		5	28		CY7C265-50C	Cypress	
										CY7C268-50C	Cypress	
										CY7C269-50C	Cypress	
					120		5	28		CY7C265-50M	† Cypress	60
										CY7C268-50M	† Cypress	
										CY7C269-50M	† Cypress	
		TTL					5	24		**HL76641A**	**Lansdale** **(3664)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8											(Cont'd)	
	55	CMOS	TTL	30	100		5	24		CY7C261-55C	• Cypress	
										CY7C263-55C	• Cypress	
										CY7C264-55C	• Cypress	
					120		5	24		CY7C261-55M	† Cypress	
										CY7C263-55M	† Cypress	5
										CY7C264-55M	† Cypress	
		TTL	TTL		190	27	5	24	High Rad Resistance	R29791C	Raytheon	
				50	190	27	5	24	High Rad Resistance	R29793C	Raytheon	
	60	CMOS			100		5	28		CY7C268-60M	† Cypress	
	75	TTL	TTL		190	27	5	24	High Rad Resistance	R29791M	Raytheon	10
				50	190	27	5	24	High Rad Resistance	R29793M	† Raytheon	
	85	TTL					5	24		**HL76641-2**	**Lansdale (3664)**	
										HL76641-5	**Lansdale (3664)**	
										HL76641-8	**Lansdale (3664)**	
	140	TTL					5	24		**HL0512**	**Lansdale (3664)**	15
16Kx8	—	Emulator (RAM w/Bat.)								GR27128	Greenwich	
	150	CMOS					5	28		TMS27PC128-1	• TI	
										TMS27PC128-15	• TI	
	200	CMOS					5	28		MBM27C128-20	Fujitsu	
										TMS27PC128-2	• TI	20
										TMS27PC128-20	• TI	
	250	CMOS					5	28		MBM27C128-25	Fujitsu	
										TMS27PC128	• TI	
										TMS27PC128-25	• TI	
	300	CMOS					5	28		TMS27PC128-3	• TI	25
										TMS27PC128-30	• TI	
	450	CMOS					5	28		TMS27PC128-4	• TI	
										TMS27PC128-45	• TI	
										TMS27PS128-4	TI	
16Kx8	45	CMOS	TTL	30	100		5	28		CY7C251-45C	• Cypress	30
										CY7C254-45C	• Cypress	
	55	CMOS	TTL	30	100		5	28		CY7C251-55C	• Cypress	
										CY7C254-55C	• Cypress	
				35	120		5	28		CY7C251-55M	† Cypress	
										CY7C254-55M	† Cypress	35
	65	CMOS	TTL	30	100		5	28		CY7C251-65C	• Cypress	
										CY7C254-65C	• Cypress	
				35	120		5	28		CY7C251-65M	† Cypress	
										CY7C254-65M	† Cypress	
32Kx8	—	Emulator (RAM w/Bat.)								GR27256	Greenwich	40
	70	CMOS					5	28		AT27HC256-70	• ATMEL	
	150	CMOS					5	28		TMS27PC256-15	• TI	
										TMS27PC256-150	• TI	
	170	CMOS					5	28		TMS27PC256-1	• TI	
										TMS27PC256-17	• TI	45
	200	CMOS					5	28		TMS27PC256-2	• TI	
										TMS27PC256-20	• TI	
	250	CMOS					5	28		AM27C256-250	AMD	
										HN27C256FP-25	Hitachi	
										TMS27PC256	• TI	50
										TMS27PC256-25	• TI	
	300	CMOS					5	28		TMS27PC256-3	• TI	
										TMS27PC256-30	• TI	
	350	CMOS					5	28		TMX2PC256-4	TI	
	450	CMOS					5	28		TMS27PC256-4	• TI	55
32Kx8	30	CMOS	TTL		120		5	28		CY7C277-30C	• Cypress	
	35	CMOS		30	120		5	28		CY7C271-35C	• Cypress	
			TTL	30	120		5	28		CY7C279-35C	Cypress	
	40	CMOS	TTL		120		5	28		CY7C277-40C	• Cypress	
					130		5	28		CY7C277-40M	† Cypress	60

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8											(Cont'd)	
	45	CMOS		30	120		5	28		CY7C271-45C	° Cypress	
										CY7C274-45C	° Cypress	
				40	130		5	28		CY7C271-45M	° Cypress	
			TTL	1	155		5	28	TTL and CMOS Compatible	**UT28F256**	† **UTMC (3847)**	
				30	120		5	28		CY7C279-45C	Cypress	5
				40	130		5	28		CY7C279-45M	† Cypress	
	50	CMOS	TTL		120		5	28		CY7C277-50C	° Cypress	
					130		5	28		CY7C277-50M	† Cypress	
	55	CMOS		30	120		5	28		CY7C271-55C	° Cypress	
										CY7C274-55C	° Cypress	10
				40	130		5	28		CY7C271-55M	† Cypress	
										CY7C274-55M	† Cypress	
			TTL	30	120		5	28		CY7C279-55C	Cypress	
				40	130		5	28		CY7C279-55M	† Cypress	
	150	CMOS	TTL	1	30		5	28		TC54256A-15	Toshiba	15
	200	CMOS	TTL	1	30		5	28		TC54256A-20	Toshiba	
64Kx8	120	CMOS					5			TMS27PC510-120	TI	
	150	CMOS					5			TMS27PC510-150	TI	
								28		TMS27PC512-15	° TI	
										TMS27PC512-150	° TI	20
	150 nsP	CMOS					5			TMS27PC510-15	TI	
	170	CMOS					5			TMS27PC510-17	TI	
								28		TMS27PC512-1	° TI	
										TMS27PC512-17	° TI	
		CMOS OTP					5			TMS27PPC510-170	TI	25
	170 nsP	CMOS					5			TMS27PC510-170	TI	
	200	CMOS					5	28		MBM27C512-20	Fujitsu	
										TMS27PC510-20	TI	
										TMS27PC510-200	TI	
								28		TMS27PC512-2	° TI	30
										TMS27PC512-20	° TI	
		NMOS					5	28		TMM24512A-20	Toshiba	
		TTL					5	32		DQ48F512-20	SEEQ	
										NQ48F512-200	SEEQ	
	250	CMOS					5			TMS27PC510-25	TI	35
										TMS27PC510-250	TI	
								28		TMS27PC512	° TI	
										TMS27PC512-25	° TI	
		TTL					5	32		DQ48F512-25	SEEQ	
										NQ48F512-250	SEEQ	40
	300	CMOS					5	28		TMS27PC512-3	° TI	
										TMS27PC512-30	° TI	
		TTL					5	32		DQ48F512-30	SEEQ	
										NQ48F512-300	SEEQ	
	450	CMOS					5	28		TMS27PC512-4	° TI	45
										TMS27PC512-45	° TI	
64Kx16	30	BiCMOS					5	40		CY7B211-30	Cypress	
	120	CMOS					5	40		AT27C1024-12	ATMEL	
										TMS27PC210A-12	TI	
										TMS27PC210A-120	TI	50
	150	CMOS					5			TMS27PC210A-15	TI	
										TMS27PC210A-150	TI	
	200	CMOS					5			TMS27PC210A-20	TI	
										TMS27PC210A-200	TI	
	250	CMOS					5			TMS27PC210A-25	TI	55
										TMS27PC210A-250	TI	
64Kx16	30	BiCMOS					5	40		CY7B210-30	Cypress	
	85	CMOS	TTL	1	40		5	40		TC54H1024-85	Toshiba	
	100	CMOS	TTL	1	40	12.75	5	40		TC54H1024-10	Toshiba	
64Kx8	50	CMOS	TTL	40	120		5	28		CY7C286-50C	Cypress	60
	60	CMOS	TTL	40	120		5	28		CY7C286-60C	Cypress	
				50	150		5	28		CY7C286-60M	† Cypress	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Fuse Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
											(Cont'd)
64Kx8	65	CMOS	TTL		180		5	28		CY7C285-65C	Cypress
										CY7C289-65C	Cypress
	70	CMOS	TTL	30	90		5	28		CY7C286-70C	Cypress
				40	120		5	28		CY7C286-70M	† Cypress
	75	CMOS	TTL		180		5	28		CY7C285-75C	Cypress
										CY7C289-75C	Cypress
					200		5	28		CY7C285-75M	† Cypress
										CY7C289-75M	† Cypress
	85	CMOS	TTL		180		5	28		CY7C285-85C	Cypress
										CY7C289-85C	Cypress
					200		5	28		CY7C285-85M	† Cypress
										CY7C289-85M	† Cypress
	150	CMOS	TTL	1	30	12.5	5	28		TC54512A-15	Toshiba
	200	CMOS	TTL	1	30		5	28		TC54512A-20	Toshiba
128Kx8	100	CMOS					5			TMS27PC010A-100	TI
	120	CMOS					5	28		AT27C010-12	ATMEL
										TMS27PC010A-12	TI
										TMS27PC010A-120	TI
	150	CMOS					5			TMS27PC010A-15	TI
										TMS27PC010A-150	TI
	200	CMOS					5	32		AM27C010-200	AMD
										TMS27PC010A-20	TI
										TMS27PC010A-200	TI
		TTL					5	32		DQ48F010-20	SEEQ
										NQ48F010-200	SEEQ
	250	CMOS					5	32		AM27C010-250	AMD
								28		AT27C010-25	ATMEL
		TTL					5	32		DQ48F010-25	SEEQ
										NQ48F010-250	SEEQ
	300	TTL					5	32		DQ48F010-30	SEEQ
										NQ48F010-300	SEEQ
128Kx8	30	BiCMOS					5	32		CY7B201-30	Cypress
	150	CMOS	TTL	1	30	12.75	5	32		TC541000-15	Toshiba
										TC541001-15	Toshiba
	200	CMOS	TTL	1	30	12.75	5	32		TC541000-20	Toshiba
										TC541001-20	Toshiba
256Kx16	80	CMOS					5			TMS27PC240-8	TI
										TMS27PC240-80	TI
	100	CMOS					5			TMS27PC240-10	TI
										TMS27PC240-100	TI
	120	CMOS					5			TMS27PC240-120	TI
										TMS279C240-12	TI
	150	CMOS					5			TMS27PC240-15	TI
										TMS27PC240-150	TI
512Kx8	80	CMOS					5			TMS27PC040-8	TI
										TMS27PC040-80	TI
	100	CMOS					5			TMS27PC040-10	TI
										TMS27PC040-100	TI
	120	CMOS					5			TMS27PC040-12	TI
										TMS27PC040-120	TI
			TTL	1	60		5	32		TC544000-120	Toshiba
	150	CMOS					5			TMS27PC040-15	TI
										TMS27PC040-150	TI
512Kx8	120	CMOS	TTL	1	60	12.5	5	32		TC544000-12	Toshiba
	150	CMOS	TTL	1	60	12.5	5	32		TC544000-15	Toshiba
1Mx8	150	CMOS				12	5	34		WF1024K8-150	White Tech

Fuse Programmable—Modules

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
8Kx8	200						5	38		COB65464E	Microchip
16Kx8	200						5	38		COB654128E	Microchip
32Kx8	200						5	38		COB654C256E	Microchip

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Fuse Programmable—Modules (Cont'd)												
64Kx8	200						5	38		COB654512E	Microchip	
128Kx8	250						5	38		COB654512X2E	Microchip	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs

UV Erasable—General Purpose

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
64x1	1000	CMOS			5		5	8		RP5H01	Ricoh
64x1	1000	CMOS			5		5	8		RF5H01	Ricoh
128x8	55	CMOS	TTL/CMOS	25	100	12.75	5	32	15 ns Burst Access	AM27HB010-55	AMD
	70	CMOS	TTL/CMOS	25	100	12.75	5	32		AM27HB010-70	† AMD
256x4	5	ECL					–5.2	16		NM10E149-5	National
							–4.5	16		NM100E149-5	National
	7	ECL					–5.2	16		NM10E149-7	National
							–4.5	16		NM100E149-7	National
	10	ECL					–5.2	16		NM10E149-10	National
							–4.5	16		NM100E149-10	National
256x8		CMOS					5			AM1702	MSI/Scorpion
256x8	550	CMOS					5	24		**AM1702A-1**	**MSI/Scorpion (3598)**
										AM1702AL-1	**MSI/Scorpion (3598)**
	650	CMOS					5	24		**AM1702A-2**	**MSI/Scorpion (3598)**
										AM1702AL-2	**MSI/Scorpion (3598)**
	1000	CMOS					5	24		**AM1702A**	**MSI/Scorpion (3598)**
										AM1702AL	**MSI/Scorpion (3598)**
512x8	300	CMOS					10	24		IM6654A	Harris
				0.1	12		5	24		IM6654AI	Harris
	350	CMOS		0.1	12		5	24		IM6654AM	† Harris
	450	CMOS					5	24		IM6654-1	Harris
	550	CMOS					5	24		IM6654	Harris
				0.1	12		5	24		IM6654-1I	Harris
										IM6654I	Harris
	600	CMOS					5	24		IM6654M	Harris
1Kx8	450						5	24		NMC27C58	National
										SMJ27L08-45	TI
										SMJ2708-45	TI
1Kx8	350	NMOS					±5,12	24	Refurbished	**2708-35**	**Krueger (3663)**
	450	NMOS					±5,12	24	Refurbished	**2708-45**	**Krueger (3663)**
2Kx8	35	CMOS					5	24		CY7C245AL-35WC	° Cypress
										TMS27C291-3	TI
										TMS27C291-35	TI
										TMS27C292-3	TI
										TMS27C292-35	TI
										TMS27PC291-3	TI
										TMS27PC291-35	TI
	45	CMOS					5	24		TMS27C291	TI
										TMS27C291-45	TI
										TMS27C292	TI
										TMS27C292-45	TI
	50	CMOS					5	24		TMS27C291-5	TI
										TMS27C291-50	TI
										TMS27C292-5	TI
										TMS27C292-50	TI
	55	CMOS					5	24		M36C16-55	° SEEQ
	150	CMOS	TTL	1	20		5	24		NMC27C16B-150	National
										NMC27C16BE-150	National
	200	CMOS	TTL	1	20		5	24		NMC27C16B-200	National
										NMC27C16BE-200	National
	350	CMOS	TTL	25	100		5	24		2716-1	Intel
	390						5	24		HN462716-2	Hitachi
		CMOS	TTL	25	100		5	24		2716-2	Intel
	450						5	24		HN462716	Hitachi
		Erasable					5	24		M2716	Intel
										NMC27C16-45	National

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx16	12	CMOS			175		5	28		CY7C258-12C	Cypress	
										CY7C259-12C	Cypress	
	15	CMOS			175		5	28		CY7C258-15C	Cypress	
										CY7C259-15C	Cypress	
										CY7C259-15M	† Cypress	5
					200		5	28		CY7C258-15M	† Cypress	
2Kx8	20	CMOS	TTL	40	120		5	24		CY7C291A-20C	Cypress	
										CY7C292A-20C	Cypress	
										CY7C293A-20C	Cypress	
	25	CMOS			25		5	28		WS57C45-25	Waferscale	10
					50		5	28		WS57C191C-25	Waferscale	
										WS57C291C-25	Waferscale	
			TTL	30	90		5	24		CY7C291A-25C	Cypress	
										CY7C292A-25C	Cypress	
										CY7C293A-25C	Cypress	15
				40	120		5	24		CY7C291A-25M	† Cypress	
										CY7C292A-25M	† Cypress	
										CY7C293A-25M	† Cypress	
	35	CMOS					5	24		CY7C245AL-35C	Cypress	
					25		5	24		WS57C45-35	Waferscale	20
					35		5	28		WS57C45-35MB	† Waferscale	
					40		5	28		WS57C191C-35MB	† Waferscale	
								24		WS57C291C-35MB	† Waferscale	
					50		5	28		WS57C191C-35	Waferscale	
										WS57C291C-35	Waferscale	25
				60	40		5	28		WS57C191B-35	Waferscale	
										WS57C291B-35	Waferscale	
			TTL	30	90		5	24		CY7C291A-35C	Cypress	
										CY7C292A-35C	Cypress	
										CY7C293A-35C	Cypress	30
				40	90		5	24		CY7C291A-35M	† Cypress	
										CY7C292A-35M	† Cypress	
										CY7C293A-35M	† Cypress	
	45	CMOS			25		5	24		WS57C45-45	Waferscale	
					35		5	28		WS57C45-45MB	† Waferscale	35
					40		5	28		WS57C191B-45	Waferscale	
								24		WS57C191B-45I	Waferscale	
								28		WS57C191B-45MB	† Waferscale	
										WS57C291B-45MB	† Waferscale	
					50		5	28		WS57C191C-45	Waferscale	40
										WS57C291C-45	Waferscale	
										WS57C291C-45MB	† Waferscale	
				60	40		5	28		WS57C291B-45	Waferscale	
			TTL		90		5	24		CY7C245A-45C	Cypress	
					120		5	24		CY7C245A-45M	† Cypress	45
	50	CMOS			40		5	28		WS57C291B-50MB	† Waferscale	
			TTL	30	90		5	24		CY7C291A-50C	Cypress	
										CY7C292A-50C	Cypress	
										CY7C293A-50C	Cypress	
				40	90		5	24		CY7C291A-50M	† Cypress	50
										CY7C292A-50M	† Cypress	
										CY7C293A-50M	† Cypress	
	55	CMOS			40		5	28		WS57C191B-55	Waferscale	
										WS57C191B-55MB	† Waferscale	
										WS57C291B-55MB	† Waferscale	55
					50		5	28		WS57C191C-55	Waferscale	
										WS57C291C-55	Waferscale	
										WS57C291C-55MB	† Waferscale	
				60	40		5	28		WS57C291B-55	Waferscale	
	70	CMOS			25		3.3	24		WS57LV291C-70	ℓ Waferscale	60
	90	CMOS			25		3.3	24		WS57LV291C-90	ℓ Waferscale	
	350	NMOS					5	24	Refurbished	**2716-350**	**Krueger** **(3663)**	
							±5,12	24	Refurbished	**2716T-350**	**Krueger** **(3663)**	
			TTL	25	100	25	5	24		M2716-1	SGS-Thomson (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8											(Cont'd)	
	450	NMOS					5	24	Refurbished	**2716-450**	**Krueger (3663)**	
							±5,12	24	Refurbished	**2716T-450**	**Krueger (3663)**	
			TTL	25	100	25	5	24		M2716	SGS-Thomson	
4Kx8		CMOS	TTL	35	100		5	24		2732A	Intel	
										2732A-2	Intel	5
										2732A-25	Intel	
	45	CMOS					5	24		M36C32-45	SEEQ	
										36C32-45	SEEQ	
	55	CMOS					5	24		M36C32-55	SEEQ	
										36C32-55	SEEQ	10
	70	CMOS					5	24		M36C32-70	SEEQ	
	150	CMOS	TTL/CMOS	1	20		5	24		NMC27C32B-150	National	
	200	CMOS	TTL/CMOS	1	20		5	24		NMC27C32B-200	National	
										NMC27C32BE-200	National	
	250						5	28		M2732A-25	° Intel	15
		CMOS	TTL/CMOS	1	20		5	24		NMC27C32B-250	National	
	300						5	24		TMS2532-30	TI	
										TMS2732A-30	TI	
		CMOS					5	24		TMS2532A-30	TI	
	350						5	24		NMC27C32-35	National	20
										SMJ2532-35	TI	
										TMS2532-35	TI	
										TMS2732A-35	TI	
	450						5	24		HN462532	Hitachi	
								28		M2732A-45	° Intel	25
								24		NMC27C32-45	National	
										SMJ2532-45	TI	
										TMS2532-45	TI	
		CMOS					5	24		TMS2532A-45	TI	
4Kx8	20	CMOS	TTL	35	100		5	24		2732A-20	Intel	30
	25	CMOS			40		5	24		WS57C43C-25	Waferscale	
	35	CMOS			40		5	28		WS57C43C-35	Waferscale	
					50		5	28		WS57C43C-35MB	† Waferscale	
	45	CMOS			40		5	28		WS57C43C-45	Waferscale	
										WS57C43C-45I	Waferscale	35
					50		5	28		WS57C43C-45MB	† Waferscale	
	55	CMOS			50		5	28		WS57C43C-55	Waferscale	
										WS57C43C-55MB	† Waferscale	
	70	CMOS			50		5	28		WS57C43C-70	Waferscale	
	200	NMOS	TTL	35	125		5	24		M2732A-2	SGS-Thomson	40
										M2732A-20	SGS-Thomson	
	250	NMOS					5	24	Refurbished	**2732-250**	**Krueger (3663)**	
										2732A-250	**Krueger (3663)**	
			TTL	35	125		5	24		M2732A	SGS-Thomson	
										M2732A-25	SGS-Thomson	45
	300	NMOS					5	24	Refurbished	**2732-300**	**Krueger (3663)**	
										2732A-300	**Krueger (3663)**	
			TTL	35	125		5	24		M2732A-3	SGS-Thomson	
	350	NMOS					5	24	Refurbished	**2532-350**	**Krueger (3663)**	
										2732-350	**Krueger (3663)**	50
										2732A-350	**Krueger (3663)**	
	400	NMOS	TTL	35	125		5	24		M2732A-4	SGS-Thomson	
	450	NMOS					5	24	Refurbished	**2532-450**	**Krueger (3663)**	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   •Typical Value   °Behavioral Model Available   ♀ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
UV Erasable—General Purpose											**(Cont'd)**	
4Kx8	450	NMOS					5	24	Refurbished		(Cont'd)	
										2732-450	**Krueger (3663)**	
										2732A-450	**Krueger (3663)**	
8Kx8		CMOS	TTL	35	75		5	28		2764A	Intel	
										2764A-1	Intel	
										2764A-2	Intel	5
										2764A-20	Intel	
										2764A-25	Intel	
	35	CMOS					5	24		AT27HC641-35	ATMEL	
										NMC27C49-35	National	
										M27HC641	SGS-Thomson	10
	45	CMOS					5	28		AT27HC64-45	ATMEL	
								24		AT27HC641-45	ATMEL	
										AT27HC641L-45	ATMEL	
								28		AT27HC642-45	ATMEL	
								24		AT27HC642L-45	ATMEL	15
										NMC27C49-45	National	
										TMS27C49-4	° TI	
										TMS27C49-45	° TI	
			CMOS/TTL	30	50		5	24		AT27HC641R-45M/883	† ATMEL	
										AT27HC642R-45M/883	† ATMEL	20
			TTL	25	100		5	24		µPD27HC65-45	NEC	
	55	CMOS					5	28		AT27HC64-55	ATMEL	
										AT27HC64L-55	ATMEL	
								24		AT27HC641-55	ATMEL	
										AT27HC641L-55	ATMEL	25
								28		AT27HC642-55	ATMEL	
								24		AT27HC642L-55	ATMEL	
										NMC27C49-55	National	
										TMS27C49-5	° TI	
										TMS27C49-55	° TI	30
			CMOS/TTL	30	50		5	24		AT27HC641R-55M/883	† ATMEL	
										AT27HC642R-55M/883	† ATMEL	
	70	CMOS					5	24		AT27HC64-70	ATMEL	
								28		AT27HC64L-70	ATMEL	
								24		AT27HC641-70	ATMEL	35
										AT27HC641L-70	ATMEL	
								28		AT27HC642-70	ATMEL	
								24		AT27HC642L-70	ATMEL	
			CMOS/TTL	30	50		5	24		AT27HC641R-70M/883	† ATMEL	
										AT27HC642R-70M/883	† ATMEL	40
	90	CMOS					5	28		AM27C64-90	AMD	
								24		AT27HC64-90	ATMEL	
								28		AT27HC64L-90	ATMEL	
										AT27HC641-90	ATMEL	
										AT27HC642-90	ATMEL	45
			CMOS/TTL	30	50		5	24		AT27HC641R-90M/883	† ATMEL	
										AT27HC642R-90M/883	† ATMEL	
	100	CMOS					5	28		TMS27C64-100	° TI	
	120	CMOS					5	28		AM27C64-120	AMD	
								24		AT27HC64-12	ATMEL	50
								28		TMS27C64-12	° TI	
										TMS27C64-120	TI	
		NMOS	TTL	35	100		5	28		MSM2764A-12	OKI	
											(Continued)	

† Mil Temp Range (−55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–EPROMs (Cont'd)

UV Erasable–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8											(Cont'd)	
	125	CMOS					5	28		27C64-12	Microchip	
	150	CMOS					5	28		AM27C64-150	AMD	
										AT27C64-15	ATMEL	
										NMC27C64-E150	National	
										TS27C64A-15	SGS-Thomson	5
										TMS27C64-1	° TI	
										TMS27C64-15	° TI	
				1	20		5	28		NMC27C64-150	National	
										NMC27C64E-150	National	
			TTL	1	6.3		5	28		NM27LC64-150	National	10
					7		5	28		NM27LC64E-150	National	
		NMOS					5	28		M2F64A-15XF1	SGS-Thomson	
			TTL	35	100		5	28		MSM2764A-15	OKI	
	160						5	28		2764-16	SEEQ	
	170	CMOS					5	28		27C64-17	Microchip	15
										TMS27C64-17	° TI	
	200						5	28		MBM2764-20	Fujitsu	
										HN482764-2	Hitachi	
										DM2764-20	SEEQ	
										2764-20	SEEQ	20
										8200501YA	SEEQ	
		CMOS					5	28		AM27C64-200	AMD	
										AT27C64-20	ATMEL	
									Refurbished	27C64-200	Krueger	
										27C64-20	Microchip	25
										NMC27C64-E200	National	
										NMC27C64-M200	National	
										27C64-200	National	
										ST27C64A	SGS-Thomson	
										TMS27C64-2	° TI	30
										TMS27C64-20	° TI	
				1	20		5	28		NMC27C64-200	National	
										NMC27C64E-200	National	
										NMC27C64M-200	National	
			TTL	1	6.3		5	28		NM27LC64-200	National	35
					7		5	28		NM27LC64E-200	National	
		NMOS					5	28		ST2764A	SGS-Thomson	
			TTL	35	100		5	28		MSM2764A-20	OKI	
	250						5	28		HN482764-3	Hitachi	
										M2764-25	° Intel	40
										DM2764-25	SEEQ	
										2764-25	SEEQ	
										8200502YA	SEEQ	
		CMOS					5	28		AM27C64-250	AMD	
										AT27C64-25	ATMEL	45
										MBM27C64-25	Fujitsu	
									Refurbished	27C64-250	Krueger	
										27C64-25	Microchip	
										NMC27C64-M250	National	
										27C64-250	National	50
										TS27C64A-25	SGS-Thomson	
										TMS27C64	° TI	
										TMS27C64-25	° TI	
				1	20		5	28		NMC27C64-250	National	
										NMC27C64M-250	National	55
			TTL	1	6.3		5	28		NM27LC64-250	National	
					7		5	28		NM27LC64E-250	National	
		NMOS	TTL	35	100		5	28		MSM2764A-25	OKI	
	300						5	28		MBM2764-30	Fujitsu	
										2764-30	SEEQ	60
		CMOS					5	28		AT27C64-30	ATMEL	
										MBM27C64-30	Fujitsu	
									Refurbished	27C64-300	Krueger	
										TS27C64A-30	SGS-Thomson	
										TMS27C64-3	° TI	65
										TMS27C64-30	° TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
UV Erasable—General Purpose											**(Cont'd)**
8Kx8											(Cont'd)
	350	CMOS					5	28		AT27C64-35	ATMEL
										27C64-350	National
	450						5	28		HN482764-4	Hitachi
										MSM2764A	OKI
										DM2764-45	SEEQ
										2764-45	SEEQ
										8200507YA	SEEQ
										TMS2764H-45	° TI
		CMOS					5	28		TMS27C64-4	° TI
										TMS27C64-45	° TI
		NMOS					5	24	Refurbished	2564-450	Krueger
8Kx16	45	CMOS					5	44		MAP168-45	Waferscale
	55	CMOS					5	44		MAP168-55	Waferscale
8Kx8	15	CMOS			120		5	28		CY7C265-15C	Cypress
	25	CMOS			40		5	24		WS57C49C-25	Waferscale
					120		5	28		CY7C265-25C	Cypress
										CY7C269-25C	Cypress
					140		5	28		CY7C265-25M	† Cypress
			TTL	40	140		5	24		CY7C261-25M	† Cypress
										CY7C263-25M	† Cypress
										CY7C264-25M	† Cypress
	35	CMOS			40		5	28		WS57C49C-35	Waferscale
					50		5	28		WS57C49C-35I	Waferscale
										WS57C49C-35MB	Waferscale
			CMOS/TTL	25	45		5	24		AT27HC641R-35C	ATMEL
										AT27HC642R-35C	ATMEL
			TTL	15	100		5	28		CY7C266-35C	Cypress
	45	CMOS			40		5	28		WS57C49C-45	Waferscale
					50		5	28		WS57C49C-45I	Waferscale
										WS57C49C-45MB	† Waferscale
			CMOS/TTL	25	45		5	24		AT27HC641R-45C	ATMEL
										AT27HC642R-45C	ATMEL
				30	50		5	24		AT27HC641R-45I	ATMEL
										AT27HC641R-45M	† ATMEL
										AT27HC642R-45I	ATMEL
										AT27HC642R-45M	† ATMEL
	55	CMOS			40		5	28		WS57C49C-55	Waferscale
					50		5	28		WS57C49C-55MB	† Waferscale
				15	25		5	32		WS57C64F-55	Waferscale
			CMOS/TTL	25	45		5	24		AT27HC641R-55C	ATMEL
										AT27HC642R-55C	ATMEL
				30	50		5	24		AT27HC641R-55I	ATMEL
										AT27HC641R-55M	† ATMEL
										AT27HC642R-55I	ATMEL
										AT27HC642R-55M	† ATMEL
	70	CMOS			40		5	28		WS57C49C-70	Waferscale
					50		5	28		WS57C49C-70MB	† Waferscale
				15	25		5	32		WS57C64F-70	Waferscale
					35		5	32		WS57C64F-70I	Waferscale
										WS57C64F-70MB	† Waferscale
			CMOS/TTL	25	45		5	24		AT27HC641R-70C	ATMEL
										AT27HC642R-70C	ATMEL
				30	50		5	24		AT27HC641R-70I	ATMEL
										AT27HC641R-70M	† ATMEL
										AT27HC642R-70I	ATMEL
										AT27HC642R-70M	† ATMEL
	90	CMOS			40		5	28		WS57C49C-90MB	† Waferscale
			CMOS/TTL	25	45		5	24		AT27HC641R-90C	ATMEL
										AT27HC642R-90C	ATMEL

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	90	CMOS	CMOS/TTL								(Cont'd)	
				30	50		5	24		AT27HC641R-90I	ATMEL	
										AT27HC641R-90M	† ATMEL	
										AT27HC642R-90I	ATMEL	
										AT27HC642R-90M	† ATMEL	
	100	CMOS			35		5	28		27C64-10	Microchip	5
	150	CMOS		1	30	12.5	5	32		M27C64A-15	SGS-Thomson	
	180	NMOS	TTL	35	75	12	5	28		M2764A-1	SGS-Thomson	
	200	CMOS		1	30	12.5	5	32		M27C64A-20	SGS-Thomson	
		NMOS					5	28	Refurbished	**2764-200**	**Krueger (3663)**	
										2764A-200	**Krueger (3663)**	10
			TTL	35	75	12	5	28		M2764A-2	SGS-Thomson	
										M2764A-20	SGS-Thomson	
	250	CMOS		1	30	12.5	5	32		M27C64A-25	SGS-Thomson	
		NMOS					5	28	Refurbished	**2764-250**	**Krueger (3663)**	
										2764A-250	**Krueger (3663)**	15
			TTL	35	75	12	5	28		M2764A	SGS-Thomson	
										M2764A-25	SGS-Thomson	
	300	CMOS		1	30	12.5	5	32		M27C64A-30	SGS-Thomson	
		NMOS					5	28	Refurbished	**2764-300**	**Krueger (3663)**	
										2764A-300	**Krueger (3663)**	20
			TTL	35	75	12	5	28		M2764A-3	SGS-Thomson	
	350	NMOS	TTL		485	25	5	24	Refurbished	**68766-350**	**Krueger (3663)**	
	450	NMOS					5	28	Refurbished	**2764-450**	**Krueger (3663)**	
										2764A-450	**Krueger (3663)**	
			TTL		85	25	5	24	Refurbished	**68766-450**	**Krueger (3663)**	25
				35	75	12	5	28		M2764A-4	SGS-Thomson	
16Kx4	200	CMOS					5	28	Refurbished	27C128-200	Krueger	
	250	CMOS					5	28	Refurbished	27C128-250	Krueger	
16Kx8		CMOS	TTL	40	100		5	28		27128A	Intel	
	45	CMOS					5	28		NMC27C51-45	National	30
	55	CMOS					5	28		NMC27C51-55	National	
	70	CMOS					5	28		AM27C128-70	AMD	
										NMC27C51-70	National	
	90	CMOS					5	28		AM27C128-90	AMD	
	100	CMOS					5	28		TMS27C128-100	° TI	35
				1	40		5	28		NM27C128-100	National	
	120	CMOS					5	28		AM27C128-120	AMD	
										AT27C128-12	ATMEL	
										AT27513R-12	ATMEL	
										SMJ27C128-12	° TI	40
										TMS27C128-12	° TI	
										TMS27C128-120	° TI	
				1	40		5	28		NM27C128-120	National	
										NM27C128E-120	National	
										NM27C128M-120	National	45
		NMOS					5	28		MSM27128A-12	OKI	
	125	CMOS					5	28		27C128-12	ℓ Microchip	
	150	CMOS					5	28		AM27C128-150	AMD	
										AT27C128-15	ATMEL	
										27C128-15	Microchip	50
										SMJ27C128-15	° TI	
										TMS27C128-1	° TI	
										TMS27C128-15	° TI	
				1	40		5	28		NM27C128-150	National	
										NM27C128E-150	National	55
										NM27C128M-150	National	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
UV Erasable—General Purpose											**(Cont'd)**	
16Kx8	150										(Cont'd)	
		NMOS					5	28		MSM27128A-15	OKI	
										M27128A-1F1	SGS-Thomson	
	170	CMOS					5	28		27C128-17	Microchip	
										SMJ27C128-17	° TI	
	200						5	28		M27128	° Intel	5
										DM27128-20	SEEQ	
										27128-20	SEEQ	
										8202508YA	SEEQ	
		CMOS					5	28		AM27C128-200	AMD	
										AT27C128-20	ATMEL	10
										27C128-20	Microchip	
										NMC27CP128-200	National	
										SMJ27C128-20	° TI	
										TMS27C128-2	° TI	
										TMS27C128-20	° TI	15
				1	40		5	28		NM27C128-200	National	
										NM27C128E-200	National	
		NMOS					5	28		ST27128A	SGS-Thomson	
			TTL	35	100		5	28		MSM27128A-20	OKI	
	250						5	28		DM27128-25	SEEQ	20
										27128-25	SEEQ	
										8202502YA	SEEQ	
		CMOS					5	28		AM27C128-250	AMD	
										AT27C128-25	ATMEL	
										27C128-25	Microchip	25
										NMC27CP128-250	National	
										27CP128-250	National	
										TMS27C128	° TI	
										TMS27C128-25	° TI	
		NMOS	TTL	35	100		5	28		MSM27128A-25	OKI	30
	300						5	28		27128-30	SEEQ	
										8202509YA	SEEQ	
		CMOS					5	28		AT27C128-30	ATMEL	
										NMC27CP128-300	National	
										27CP128-300	National	35
										SMJ27C128-30	° TI	
										TMS27C128-3	° TI	
										TMS27C128-30	° TI	
	350						5	28		DM27128-35	SEEQ	
		CMOS					5	28		AT27C128-35	ATMEL	40
										27CP128-350	National	
	450						5	28		M27128-45	° Intel	
										DM27128-45	SEEQ	
										27128-45	SEEQ	
										8202501YA	SEEQ	45
		CMOS					5	28		TMS27C128-4	° TI	
										TMS27C128-45	° TI	
16Kx8x4	150	CMOS					5	28		AT27513R-15	ATMEL	
	200						5	28	Emulator with Battery	GR27513	Greenwich	
		CMOS					5	28		AT27513R-20	ATMEL	50
	250	CMOS					5	28		AT27513R-25	ATMEL	
16Kx8x8	170	CMOS					5	28		AT27C011-17	ATMEL	
	200	CMOS					5	28		AT27C011-20	ATMEL	
	250	CMOS					5	28		AT27C011-25	ATMEL	
16Kx16	20	CMOS	TTL		200		5	44		CY7C275-20C	Cypress	55
	25	CMOS	TTL		200		5	40		CY7C272-25C	Cypress	
								44		CY7C275-25C	Cypress	
					250		5	44		CY7C275-25M	† Cypress	
	30	CMOS	TTL		200		5	40		CY7C272-30C	Cypress	
								44		CY7C275-30C	Cypress	60
					250		5	40		CY7C272-30M	† Cypress	
								44		CY7C275-30M	† Cypress	
	40	CMOS		40	200		5	40		CY7C273-40C	Cypress	
	45	CMOS					5	40		27HC1616-45	Microchip	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx16	45	CMOS									(Cont'd)	
				40	200		5	40		CY7C273-45C	Cypress	
				50	250		5	40		CY7C273-45M	† Cypress	
	55	CMOS					5	40		27HC1616-55	Microchip	
	70	CMOS					5	40		27HC1616-70	Microchip	
	150	CMOS					5	40		TMS27C210-15	° TI	5
										TMS27C210-150	° TI	
	170	CMOS					5	40		TMS27C210-17	° TI	
										TMS27C210-170	° TI	
16Kx16	20	CMOS	TTL		175		5	44		CY7C270-20C	Cypress	
	25	CMOS	TTL		175		5	44		CY7C276-25C	Cypress	10
	30	CMOS	TTL		175		5	44		CY7C270-30C	Cypress	
										CY7C276-30C	Cypress	
					200		5	44		CY7C276-30M	† Cypress	
	35	CMOS	TTL		175		5	44		CY7C276-35C	Cypress	
					200		5	44		CY7C276-35M	† Cypress	15
16Kx4	200	NMOS					5	28	Refurbished	**27128A-200**	**Krueger (3663)**	
	250	NMOS					5	28	Refurbished	**27128A-250**	**Krueger (3663)**	
	300	NMOS					5	28	Refurbished	**27128A-300**	**Krueger (3663)**	
	450	NMOS					5	28	Refurbished	**27128A-450**	**Krueger (3663)**	
16Kx8	10	CMOS	TTL	40	100		5	28		27128A-1	Intel	20
	20	CMOS	TTL	40	100		5	28		27128A-2	Intel	
										27128A-20	Intel	
	25	CMOS			50		5	32		WS57C51C-25	Waferscale	
			TTL	40	100		5	28		27128-25	Intel	
	35	CMOS			50		5	32		WS57C51C-35	Waferscale	25
					60		5	32		WS57C51C-35I	Waferscale	
				15	50		5	32		WS57C128FB-35	Waferscale	
	45	CMOS			50		5	32		WS57C51C-45	Waferscale	
					60		5	32		WS57C51C-45I	Waferscale	
										WS57C51C-45MB	† Waferscale	30
				15	50		5	32		WS57C128FB-45	Waferscale	
					60		5	32		WS57C128FB-45MB	† Waferscale	
			TTL	35	120		5	28		CY7C251-45M	† Cypress	
										CY7C254-45M	† Cypress	
	55	CMOS			50		5	32		WS57C51C-55	Waferscale	35
					60		5	32		WS57C51C-55I	Waferscale	
										WS57C51C-55MB	† Waferscale	
				15	60		5	32		WS57C128FB-55	Waferscale	
										WS57C128FB-55MB	† Waferscale	
				20	35		5	32		WS57C128F-55	Waferscale	40
	70	CMOS			50		5	32		WS57C51C-70	Waferscale	
				15	60		5	32		WS57C128FB-70	Waferscale	
										WS57C128FB-70MB	† Waferscale	
				20	35		5	32		WS57C128F-70	Waferscale	
					40		5	32		WS57C128F-70M	Waferscale	45
								28		WS57C128F-70MB	† Waferscale	
	90	CMOS		10	35		5	32		WS27C128F-90M	† Waferscale	
	120	CMOS		1	30	12.75	5	28		M27C128A-12	SGS-Thomson	
					50		5	28		WS27C128F-120M	Waferscale	
	150	CMOS		1	30	12.75	5	28		M27C128A-15	SGS-Thomson	50
					50		5	28		WS27C128F-150M	Waferscale	
	200	CMOS		1	30	12.75	5	28		M27C128A-20	SGS-Thomson	
		NMOS					5	28	Refurbished	**27128-200**	**Krueger (3663)**	
			TTL	35	75	12	5	28		M27128A-2	SGS-Thomson	
										M27128A-20	SGS-Thomson	55
	250	NMOS					5	28	Refurbished	**27128-250**	**Krueger (3663)**	
			TTL	35	75	12	5	28		M27128A	SGS-Thomson	
										M27128A-25	SGS-Thomson	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx8											(Cont'd)	
	300	NMOS					5	28	Refurbished	**27128-300**	**Krueger** **(3663)**	
			TTL	35	75	12	5	28		M27128A-3	SGS-Thomson	
	450	NMOS					5	28	Refurbished	**27128-450**	**Krueger** **(3663)**	
			TTL	35	75	12	5	28		M27128A-4	SGS-Thomson	
32Kx8		CMOS					5	28	Refurbished	27C256-250	Krueger	5
			TTL	40	100		5	28		27256	Intel	
										27256-25	Intel	
				50	125		5	28		27256-1	Intel	
										27256-2	Intel	
										27256-20	Intel	10
	20	CMOS		2	8		3	28		27LV256-20	ℓ Microchip	
	25	CMOS		2	8		3	28		27LV256-25	ℓ Microchip	
	35	CMOS	CMOS/TTL	25	50	12.75	5	28		AM27H256-35C	AMD	
	45	CMOS	CMOS/TTL	25	50	12.75	5	28		AM27H256-45C	AMD	
	55	CMOS					5	28		27HC256-55	Microchip	15
										NMC27C53-55	National	
			CMOS/TTL	25	50	12.75	5	28		AM27H256-55C	AMD	
			TTL	35	100		5	28		MSM27C256H-55	OKI	
				45	80		5	28		CAT27HC256I-55	Catalyst Semi	
			TTL/CMOS	2	50	12.5	5	28		CAT27HC256L-55	Catalyst Semi	20
	70	CMOS					5	28		AM27C256-70	° AMD	
										AT27HC256-70	° ATMEL	
									Erasable	AT27HC256L-70	° ATMEL	
										CAT27HC256I-70	Catalyst Semi	
										CAT27HC256LM-70	Catalyst Semi	25
										CAT27HC256M-70	Catalyst Semi	
										27HC256-70	Microchip	
										NMC27C53-70	National	
			CMOS/TTL	2	50		5	28		AT27HC256RL-70C	ATMEL	
				3	55		5	28		AT27HC256RL-70I	ATMEL	30
				25	50	12.75	5	28		AM27H256-70C	AMD	
				35	55		5	28		AT27HC256R-70M	† ATMEL	
			TTL	35	100		5	28		MSM27C256H-70	OKI	
			TTL/CMOS	2	50	12.5	5	28		CAT27HC256L-70	Catalyst Semi	
				3	60	12.5	5	28		CAT27HC256LI-70	Catalyst Semi	35
	80	CMOS					5	28		M68C257B	SGS-Thomson	
										M87C257B	SGS-Thomson	
	90	CMOS					5	28		AM27C256-90	° AMD	
										AT27HC256-90	° ATMEL	
										AT27HC256L-90	° ATMEL	40
										CAT27HC256I-90	Catalyst Semi	
										CAT27HC256LM-90	Catalyst Semi	
										27HC256-90	Microchip	
										NMC27C53-90	National	
			CMOS/TTL	2	50		5	28		AT27HC256RL-90C	ATMEL	45
				3	55		5	28		AT27HC256RL-90I	ATMEL	
										AT27HC256RL-90M	† ATMEL	
										AT27HC256RL-90M/883	† ATMEL	
				35	50		5	28		AT27HC256R-90C	ATMEL	
					55		5	28		AT27HC256R-90I	ATMEL	50
										AT27HC256R-90M	† ATMEL	
										AT27HC256R-90M/883	† ATMEL	
			TTL/CMOS	2	50	12.5	5	28		CAT27HC256L-90	Catalyst Semi	
				3	60	12.5	5	28		CAT27HC256LI-90	Catalyst Semi	
	100	CMOS	TTL	30	100		5	28		MSM27C256-10	OKI	55
	120	CMOS					5	28		AM27C256-120	° AMD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	120	CMOS					5	28			(Cont'd)	
										AT27C256R-12	ATMEL	
										AT27HC256-12	° ATMEL	
										CAT27HC256I-12	Catalyst Semi	
										CAT27HC256LM-12	Catalyst Semi	
										CAT27HC256M-120	Catalyst Semi	5
										27C256-12	Microchip	
										TMS27C256-12	° TI	
										TMS27C256-120	° TI	
				1	40		5	28		NM27C256-120	National	
										NM27C256E-120	National	10
			CMOS/TTL	2	50		5	28		AT27HC256RL-12C	ATMEL	
				3	25		5	28		AT27C256R-12M/883	ATMEL	
					55		5	28		AT27HC256RL-12I	ATMEL	
										AT27HC256RL-12M	† ATMEL	
										AT27HC256RL-12M/883	† ATMEL	15
				35	50		5	28		AT27HC256R-12C	ATMEL	
					55		5	28		AT27HC256R-12I	ATMEL	
										AT27HC256R-12M	† ATMEL	
										AT27HC256R-12M/883	† ATMEL	
			TTL	30	100		5	28		MSM27C256-12	OKI	20
			TTL/CMOS	2	50	12.5	5	28		CAT27HC256L-12	Catalyst Semi	
				3	60	12.5	5	28		CAT27HC256LI-12	Catalyst Semi	
		NMOS					5	28		MSM27256-12	OKI	
	150	CMOS					5	28		AM27C256-150	° AMD	
										AT27C256R-15	ATMEL	25
										AT29C256-15	ATMEL	
								32		AT29C257-15	ATMEL	
								28		27C256-15	Microchip	
							%	28		SMJ27C256-15	° TI	
							5	28		TMS27C256-15	° TI	30
				1	40		5	28		NM27C256-150	National	
										NM27C256E-150	National	
										NM27C256M-150	National	
				12	30		5	28		NMC87C257-150	National	
										NMC87C257E-150	National	35
			CMOS/TTL	3	25		5	28		AT27C256R-15M/883	† ATMEL	
			TTL	30	100		5	28		MSM27C256-15	OKI	
			TTL/CMOS	1	30	12.75	5	28		87C257-150V10	Intel	
		NMOS					5	28		AT27256-15	ATMEL	
										MSM27256-15	OKI	40
	170	CMOS					5	28		AT27C256R-17	ATMEL	
										27C256-17	Microchip	
										NMC27C256-17	National	
										SMJ27C256-17	° TI	
										TMS27C256-1	° TI	45
										TMS27C256-17	° TI	
										TMS27C512-1	° TI	
				1	9		5	28		NM27LC256-170	National	
					10		5	28		NM27LC256E-170	National	
			CMOS/TTL	2	20		5	28		AT27C256R-17C	ATMEL	50
				3	25		5	28		AT27C256R-17I	ATMEL	
										AT27C256R-17M	† ATMEL	
										AT27C256R-17M/883	† ATMEL	
		NMOS					5	28		AT27256-17	ATMEL	
										M27256-1F1	SGS-Thomson	55
	200						5	28		MSM27256-20	OKI	
		CMOS					5	28		AM27C256-200	° AMD	
										AT27C256R-20	ATMEL	
										AT29C256-20	ATMEL	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
UV Erasable—General Purpose											**(Cont'd)**	
32Kx8	200	CMOS					5				(Cont'd)	
								32		AT29C257-20	ATMEL	
								28	Refurbished	27C256-200	Krueger	
										27C256-20	Microchip	
										NMC27C256-20	National	
										DM27C256-20	SEEQ	5
										DQ27C256-20	SEEQ	
								32		LM27C256-20	SEEQ	
								28		ST27C256	SGS-Thomson	
										TS27C256-20	SGS-Thomson	
										SMJ27C256-20 °	TI	10
										TMS27C256-2 °	TI	
										TMS27C256-20 °	TI	
										TMS87C257-200	TI	
				1	9		5	28		NM27LC256-200	National	
					10		5	28		NM27LC256E-200	National	15
					40		5	28		NM27C256-200	National	
										NM27C256E-200	National	
				12	30		5	28		NMC87C257-200	National	
										NMC87C257E-200	National	
			CMOS/TTL	3	25		5	28		AT27C256R-20M/883 †	ATMEL	20
			TTL	30	100		5	28		MSM27C256-20	OKI	
			TTL/CMOS	0.1	8	13	3–5	8		27LV256 ℓ†	Microchip	
		NMOS					5	28		AT27256-20	ATMEL	
										ST27256	SGS-Thomson	
	250						5	28		MSM27256-25	OKI	25
		CMOS					5	28		AT27C256R-25	ATMEL	
										AT29C256-25	ATMEL	
								32		AT29C257-25	ATMEL	
								28		27C256-25	Microchip	
										NMC27C256-E250	National	30
										NMC27C256-M250	National	
										NMC27C256-25	National	
										DM27C256-25	SEEQ	
										DQ27C256-25	SEEQ	
								32		LM27C256-25	SEEQ	35
								28		TS27C256-25	SGS-Thomson	
										TMS27C256 °	TI	
										TMS27C256-25 °	TI	
										TMS87C257-250	TI	
				1	9		5	28		NM27LC256-250	National	40
					10		5	28		NM27LC256E-250	National	
					40		5	28		NM27C256M-200	National	
			CMOS/TTL	3	25		5	28		AT27C256R-25M/883 †	ATMEL	
			TTL	30	100		5	28		MSM27C256-25	OKI	
		NMOS					5	28		AT27256-25	ATMEL	45
	300						5	28		MSM27256-30	OKI	
		CMOS					5	28	Refurbished	27C256-300	Krueger	
										NMC27C256-30	National	
										27C256-300	National	
										DM27C256-30	SEEQ	50
								32		LM27C256-30	SEEQ	
								28		TS27C256-30	SGS-Thomson	
										SMJ27C256-30 °	TI	
										TMS27C256-3 °	TI	
										TMS27C256-30 °	TI	55
			CMOS/TTL	1	20		5	28		AT27LV256R-30C	ATMEL	
					25		5	28		AT27LV256R-30I	ATMEL	
	350	CMOS					5	28		NMC27C256-M350	National	
										27C256-350	National	
	450	CMOS					5	28		NMC27C256-45	National	60
										TMS27C256-4 °	TI	
										TMS27C256-45 °	TI	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx16	170	CMOS	CMOS/TTL	1	30		5	40		AT32C16-17C	ATMEL
					40		5	40		AT32C16-17I	ATMEL
	200	CMOS	CMOS/TTL	1	30		5	40		AT32C16-20C	ATMEL
					40		5	40		AT32C16-20I	ATMEL
	250	CMOS	CMOS/TTL	1	30		5	40		AT32C16-25C	ATMEL
					40		5	40		AT32C16-25I	ATMEL
32Kx32	55	CMOS						5		PUMA2U1000-55	Mosaic Semi
							5	66		PUMA21000-55	Mosaic Semi
	70	CMOS						5		PUMA2U1000-70	Mosaic Semi
	90	CMOS						5		PUMA2U1000-90	Mosaic Semi
	120	CMOS						5		PUMA2U1000-12	Mosaic Semi
							5	66		PUMA2U2000-12	Mosaic Semi
	150	CMOS						5		PUMA2U1000-15	Mosaic Semi
							5	66		PUMA2U2000-15	Mosaic Semi
	170	CMOS						5		PUMA2U1000-17	Mosaic Semi
							5	66		PUMA2U2000-17	Mosaic Semi
	200	CMOS						5		PUMA2U1000-20	Mosaic Semi
							5	66		PUMA2U2000-20	Mosaic Semi
32Kx16	120	CMOS		1	30	12.75	5	44		M27C516-12	SGS-Thomson
	150	CMOS		1	30	12.75	5	44		M27C516-15	SGS-Thomson
	200	CMOS		1	30	12.75	5	44		M27C516-20	SGS-Thomson
32Kx8	25	CMOS					5	28		µPD28C256-25	NEC
	30	CMOS		30	120		5	28		CY7C271-30C	Cypress
										CY7C274-30C	Cypress
	35	CMOS		30	120		5	28		CY7C274-35C	• Cypress
				40	130		5	28		CY7C271-35M	† Cypress
										CY7C274-35M	† Cypress
			TTL		50		5	32		WS57C71C-35	Waferscale
				3	50		5	32		WS57C256F-35	Waferscale
	40	CMOS		15	35		5	28		WS57C256F-40	Waferscale
	45	CMOS		30	120		5	28		CY7C271-45C	Cypress
				40	130		5	28		CY7C271-45M	† Cypress
										CY7C274-45M	† Cypress
			TTL		30		5	32		WS57C71C-45MB	† Waferscale
					50		5	32		WS57C71C-45	Waferscale
					60		5	32		WS57C71C-45I	Waferscale
				5	50		5	32		WS57C256F-45	Waferscale
	55	CMOS					5	28		CAT27HC256-55	Catalyst Semi
				5	60		5	32		WS57C256F-55MB	† Waferscale
				15	35		5	28		WS57C256F-55I	Waferscale
			CMOS/TTL	35	50		5	32		AT27HC256R-55C	ATMEL
					55		5	32		AT27HC256R-55I	ATMEL
			TTL		50		5	32		WS57C71C-55	Waferscale
					60		5	32		WS57C71C-55I	Waferscale
										WS57C71C-55MB	† Waferscale
				5	50		5	32		WS57C256F-55	Waferscale
				15	45		5	32		WS57C256F-55M	† Waferscale
	70	CMOS					5	28		CAT27HC256-70	Catalyst Semi
						12.5	5	28		HN27C256H-7	Hitachi
				5	60		5	32		WS57C256F-70MB	† Waferscale
			CMOS/TTL	2	20		5	28		AT27C256R-70C	ATMEL
				3	25		5	28		AT27C256R-70I	ATMEL
				35	50		5	32		AT27HC256R-70C	ATMEL
					55		5	32		AT27HC256R-70I	ATMEL
										AT27HC256R-70M/883	† ATMEL
			TTL		60		5	32		WS57C71C-70	Waferscale
										WS57C71C-70MB	† Waferscale
				5	50		5	32		WS57C256F-70	Waferscale
					60		5	32		WS57C256F-70I	Waferscale

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8											(Cont'd)	
	80	CMOS		1	30	12.75	5	32		M27C256B-80	SGS-Thomson	
	85	CMOS				12.5	5	28		HN27C256H-8	Hitachi	
									JEDEC Standard Pin-out	M5M27C256-85	Mitsubishi	
	90	CMOS					5	28		CAT27HC256-90	Catalyst Semi	
				1	30	12.75	5	32		M27C256B-90	SGS-Thomson	5
			CMOS/TTL									
				2	20		5	28		AT27C256R-90C	ATMEL	
				3	25		5	28		AT27C256R-90I	ATMEL	
										AT27C256R-90M	† ATMEL	
			TTL	3	25		5	28		27C256-90	Microchip	
	100	CMOS				12.5	5	28		HN27C256A-10	Hitachi	10
									JEDEC Standard Pin-out	M5M27C256-10	Mitsubishi	
				1	30	12.75	5	32		M27C256B-10	SGS-Thomson	
										M87C257-10	SGS-Thomson	
	120	CMOS					5	28		CAT27HC256-12	Catalyst Semi	
						12.5	5	28		HN27C256A-12	Hitachi	15
									JEDEC Standard Pin-out	M5M27C256-12	Mitsubishi	
				1	30	12.75	5	32		M27C256B-12	SGS-Thomson	
										M87C257-12	SGS-Thomson	
			CMOS/TTL									
				1	30	12.75	5	32		27C256-120V10	Intel	
				2	20		5	28		AT27C256R-12C	ATMEL	20
				3	25		5	28		AT27C256R-12I	ATMEL	
										AT27C256R-12M	† ATMEL	
			TTL	1	30	12.5	5	28		TC57256A-12	Toshiba	
										TC57256A-120	Toshiba	
			TTL/CMOS									
				1	30	12.75	5	32		A27C256-120	Intel	25
										A87C257-120	Intel	
	150	CMOS					5	28		HN27C256A	Hitachi	
									JEDEC Standard Pin-out	M5M27C256-15	Mitsubishi	
										M5M27C256-15I	Mitsubishi	
										TMS27C256-150	° TI	30
				1	30	12.75	5	32		M27C256B-15	SGS-Thomson	
										M87C257-15	SGS-Thomson	
			CMOS/TTL									
				2	20		5	28		AT27C256R-15C	ATMEL	
				3	25		5	28		AT27C256R-15I	ATMEL	
										AT27C256R-15M	† ATMEL	35
			TTL	1	30	12.5	5	28		TC57256A-15	Toshiba	
										TC57256A-150	Toshiba	
			TTL/CMOS									
				1	30	12.75	5	28		27C256-150V10	Intel	
	170	CMOS					5	28		HN27C256-17A	Hitachi	
		NMOS	TTL	40	100	12	5	28		M27256-1	SGS-Thomson	40
	200	CMOS					5	28		HN27C256-20A	Hitachi	
				1	30	12.75	5	32		M27C256B-20	SGS-Thomson	
										M87C257-20	SGS-Thomson	
			CMOS/TTL									
				0.1	8		3	32		AT27LV256R-20C	ℓ ATMEL	
					10		3	32		AT27LV256R-20I	ℓ ATMEL	45
				2	20		5	28		AT27C256R-20C	ATMEL	
				3	25		5	28		AT27C256R-20I	ATMEL	
										AT27C256R-20M	† ATMEL	
			TTL	1	30	12.5	5	28		TC57256A-20	Toshiba	
			TTL/CMOS									
				1	30	12.75	5	32		A27C256-200	Intel	50
										A87C257-200	Intel	
										27C256-200V10	Intel	
		NMOS					5	28	Refurbished	**27256-200**	**Krueger (3663)**	
			TTL	40	100	12	5	28		M27256-2	SGS-Thomson	
										M27256-20	SGS-Thomson	55
	250	CMOS					5	28		HN27C256-25A	Hitachi	
										27C256-250	National	
											(Continued)	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
32Kx8	250	CMOS		1	30	12.75	5	32		M27C256B-25	SGS-Thomson	
			CMOS/TTL	0.1	8		3	32		AT27LV256R-25C	ℓ ATMEL	
					10		3	32		AT27LV256R-25I	ℓ ATMEL	
				2	20		5	28		AT27C256R-25C	ATMEL	
				3	25		5	28		AT27C256R-25I	ATMEL	5
										AT27C256R-25M	† ATMEL	
		NMOS					5	28	Refurbished	**27256-250**	**Krueger (3663)**	
			TTL	40	100	12	5	28		M27256	SGS-Thomson	
										M27256-25	SGS-Thomson	
	300	CMOS					5	28		HN27C256-30A	Hitachi	10
		NMOS					5	28	Refurbished	**27256-300**	**Krueger (3663)**	
			TTL	40	100	12	5	28		M27256-3	SGS-Thomson	
	400	NMOS	TTL	40	100	12	5	28		M27256-4	SGS-Thomson	
64Kx8	20	CMOS		2	45		3	28		27LV512-20	ℓ Microchip	
	25	CMOS		2	45		3	28		27LV512-25	ℓ Microchip	15
	30	CMOS		2	45		3	28		27LV512-30	ℓ Microchip	
	90	CMOS	CMOS/TTL	1	40	12.75	5	28		AM27C512-90C	AMD	
	100	CMOS					5	28		M27C512	SGS-Thomson	
										M27C513	SGS-Thomson	
										M27C515	SGS-Thomson	20
										M87C512	SGS-Thomson	
			CMOS/TTL	2	20		5	28		AT27C512R-10C	ATMEL	
	120	CMOS					5	28		AT27C512R-12	• ATMEL	
										TMS27C510-12	TI	
										TMS27C510-120	TI	25
				1	40		5	28		NM27C512-120	National	
										NM27C512E-120	National	
								32		NM27P512-120	National	
										NM27P512E-120	National	
			CMOS/TTL	1	40	12.75	5	28		AM27C512-120C	AMD	30
				3	25		5	28		AT27C512R-12M/883	† ATMEL	
		NMOS					5	28		MSM27512-12	OKI	
	125	CMOS					5	28		27C512-12	Microchip	
	150	CMOS					5	28		AT27C512R-15	• ATMEL	
										27C512-15	Microchip	35
										NMC27C512AN150	National	
										TMS27C510-15	TI	
										TMS27C510-150	TI	
								28		TMS27C512-15	• TI	
										TMS27C512-150	• TI	40
				1	12.5		5	28		NM27LC512-150	National	
										NM27LC512E-150	National	
					40		5	28		NM27C512-150	National	
										NM27C512E-150	National	
								32		NM27P512-150	National	45
										NM27P512E-150	National	
			CMOS/TTL	1	40	12.75	5	28		AM27C512-150C	AMD	
				3	25		5	28		AT27C512R-15M/883	† ATMEL	
			TTL/CMOS	1	30	12.75	5	28		27C512-150V10	Intel	
		NMOS					5	28		MSM27512-15	OKI	50
	170	CMOS					5	28		27C512-17	Microchip	
										NMC27C512AN170	National	
										27C512A-170	National	
										TMS27C510-17	TI	
										TMS27C510-170	TI	55
								28		TMS27C512-17	TI	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   •Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
										(Cont'd)		
64Kx8	170	CMOS	TTL/CMOS	1	30	12.75	5	28		27C513-170V10	Intel	
	200						5	28	Emulator with Battery	GR27512	Greenwich	
		CMOS					5	28		AM27C512-200	AMD	
										AT27C512R-20	° ATMEL	
									Refurbished	27C512-200	Krueger	5
										27C512-20	Microchip	
										27C512A-200	National	
										SMJ27C512-20	° TI	
										TMS27C510-20	TI	
										TMS27C510-200	TI	10
								28		TMS27C512-2	° TI	
										TMS27C512-20	° TI	
				1	12.5		5	28		NM27LC512-200	National	
										NM27LC512E-200	National	
					40		5	28		NM27C512-200	National	15
										NM27C512E-200	National	
										NM27C512M-200	National	
								32		NM27P512-200	National	
										NM27P512M-200	National	
			CMOS/TTL	3	25		5	28		AT27C512R-20M/883	† ATMEL	20
			TTL/CMOS	0.1	12	13	3–5	28		27LV512	† Microchip	
		NMOS	TTL	35	100		5	28		MSM27512-20	OKI	
	250	CMOS					5	28		AM27C512-250	AMD	
										AT27C512R-25	° ATMEL	
									Refurbished	27C512-250	Krueger	25
										27C512-25	Microchip	
										NMC27C512-250	National	
										NMC27C512AN250	National	
										27C512A-250	National	
										SMJ27C512-25	° TI	30
										TMS27C510-25	TI	
										TMS27C510-250	TI	
								28		TMS27C512	° TI	
										TMS27C512-25	° TI	
				1	12.5		5	28		NM27LC512-250	National	35
										NM27LC512E-250	National	
			CMOS/TTL	3	25		5	28		AT27C512R-25M/883	† ATMEL	
			TTL/CMOS	1	30	12.75	5	28		27C513-250V10	Intel	
		NMOS	TTL	35	100		5	28		MSM27512-25	OKI	
	300	CMOS					5	28		NMC27C512-300	National	40
										SMJ27C512-30	° TI	
			CMOS/TTL	1	20		3	28		AT27LV512R-30C	ℓ ATMEL	
					25		3	28		AT27LV512R-30I	ℓ ATMEL	
	350	CMOS					5	28		NMC27C512-350	National	
	450						5	28		M27512-4	SGS-Thomson	45
		CMOS					5	28		TMS27C512-4	° TI	
										TMS27C512-45	° TI	
	200	CMOS					5	28		NMC27C512AN200	National	
64Kx16	18	BiCMOS		60	220		5	40		CY7B211-18C	Cypress	
	20	BiCMOS		60	220		5	40		CY7B211-20C	Cypress	50
	25	BiCMOS		60	220		5	40		CY7B211-25C	Cypress	
										CY7B211-25M	† Cypress	
	30	BiCMOS		60	220		5	40		CY7B211-30C	Cypress	
										CY7B211-30M	† Cypress	
	55	CMOS					5	40		AT27HC1024-55	ATMEL	55
	70	CMOS					5	40		AT27HC1024-70	ATMEL	
			CMOS/TTL	20	90		5	40		AT27HC1024-70M/883	† ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx16											(Cont'd)	
	90	CMOS					5	40		AT27HC1024-90	ATMEL	
			CMOS/TTL	20	90		5	40		AT27HC1024-90M/883	† ATMEL	
	120	CMOS					5	40		AM27C1024-120	• AMD	
										AT27HC1024-12	ATMEL	
										NMC27C1024-120	National	5
										M27C1024	SGS-Thomson	
										TMS27C210A-12	• TI	
										TMS27C210A-120	• TI	
				1	50		5	40		NM27C210-120	National	
										NM27C210E-120	National	10
										NM27P210-120	National	
										NM27P210E-120	National	
			CMOS/TTL	1	30		5	40		AT27C1024L-12C	ATMEL	
				17	80		5	40		AT27HC1024-12C	ATMEL	
				20	90		5	40		AT27HC1024-12I	ATMEL	15
										AT27HC1024-12M	† ATMEL	
										AT27HC1024-12M/883	† ATMEL	
			TTL	1	30		5	40		MSM27C1024-12	OKI	
			TTL/CMOS	1	50	12.75	5	40		27C210-120V10	Intel	
		NMOS					5	40		MSM271024-12	OKI	20
	150	CMOS					5	40		AM27C1024-150	• AMD	
										AT27C1024-15	ATMEL	
										AT27C1024L-15	ATMEL	
										AT27HC1024-15	ATMEL	
									Refurbished	27C210-150	Krueger	25
										NMC27C1024-150	National	
										27C210-15FA	Philips	
										TMS27C210A-15	• TI	
										TMS27C210A-150	• TI	
				1	50		5	40		NM27C210-150	National	30
										NM27C210E-150	National	
										NM27P210-150	National	
										NM27P210E-150	National	
										NM27P210M-150	National	
			CMOS/TTL	1	30		5	40		AT27C1024L-15C	ATMEL	35
					40		5	40		AT27C1024L-15I	ATMEL	
										AT27C1024L-15M	† ATMEL	
										AT27C1024L-15M/883	† ATMEL	
					60		5	40		AT27C1024-15M/883	† ATMEL	
			TTL	1	30		5	40		MSM27C1024-15	OKI	40
		NMOS					5	40		MSM271024-15	OKI	
	170	CMOS					5	40		AT27C1024-17	ATMEL	
										AT27C1024L-17	ATMEL	
			CMOS/TTL	1	30		5	40		AT27C1024L-17C	ATMEL	
					40		5	40		AT27C1024L-17I	ATMEL	45
										AT27C1024L-17M	† ATMEL	
										AT27C1024L-17M/883	† ATMEL	
					50		5	40		AT27C1024-17C	ATMEL	
					60		5	40		AT27C1024-17I	ATMEL	
										AT27C1024-17M	† ATMEL	50
										AT27C1024-17M/883	† ATMEL	
			TTL/CMOS	1	70	12.5	5	44		CAT27C210I-17	Catalyst Semi	
	200	CMOS					5	40		AM27C1024-200	• AMD	
										AT27C1024-20	ATMEL	
										AT27C1024L-20	ATMEL	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx16	200	CMOS					5	40			(Cont'd)	
									Refurbished	27C210-200	Krueger	
										NMC27C1024-200	National	
										27C210-20FA	Philips	
										SMJ27C210-20	° TI	
										TMS27C210-20	° TI	5
										TMS27C210-200	° TI	
										TMS27C210A-20	° TI	
										TMS27C210A-200	° TI	
				1	50		5	40		NM27C210-200	National	
										NM27C210E-200	National	10
										NM27C210M-200	National	
			CMOS/TTL	1	30		5	40		AT27C1024L-20C	ATMEL	
					40		5	40		AT27C1024L-20I	ATMEL	
										AT27C1024L-20M	† ATMEL	
										AT27C1024L-20M/883	ATMEL	15
					60		5	40		AT27C1024-20M/883	† ATMEL	
			TTL/CMOS	41	70	12.5	5	44		CAT27C210I-20	Catalyst Semi	
		NMOS	TTL	35	120		5	40		MSM271024-20	OKI	
	250	CMOS					5	40		AM27C1024-250	° AMD	
										AT27C1024-25	ATMEL	20
										AT27C1024L-25	ATMEL	
										SMJ27C210-25	° TI	
										TMS27C210-25	° TI	
										TMS27C210A-25	° TI	
										TMS27C210A-250	° TI	25
			CMOS/TTL	1	30		5	40		AT27C1024L-25C	ATMEL	
					40		5	40		AT27C1024L-25I	ATMEL	
										AT27C1024L-25M	† ATMEL	
										AT27C1024L-25M/883	† ATMEL	
					50		5	40		AT27C1024-25C	ATMEL	30
					60		5	40		AT27C1024-25I	ATMEL	
										AT27C1024-25M	† ATMEL	
										AT27C1024-25M/883	† ATMEL	
			TTL/CMOS	1	70	12.5	5	44		CAT27C210I-25	Catalyst Semi	
64Kx16	25	BiCMOS		50	240		5	40		CY7B210-25C	Cypress	35
	30	BiCMOS		50	240		5	40		CY7B210-30C	Cypress	
				60	240		5	40		CY7B210-30M	† Cypress	
	35	BiCMOS		50	240		5	40		CY7B210-35C	Cypress	
										CY7B210-35M	† Cypress	
	55	CMOS	CMOS/TTL	17	80		5	40		AT27HC1024-55C	ATMEL	40
	70	CMOS	CMOS/TTL	17	80		5	40		AT27HC1024-70C	ATMEL	
				20	90		5	40		AT27HC1024-70I	ATMEL	
										AT27HC1024-70M	† ATMEL	
	85	CMOS				12.5	5	44		HN27C1024H-85	Hitachi	
	90	CMOS	CMOS/TTL	17	80		5	40		AT27HC1024-90C	ATMEL	45
				20	90		5	40		AT27HC1024-90I	ATMEL	
										AT27HC1024-90M	† ATMEL	
	100	CMOS				12.5	5	44		HN27C1024H-10	Hitachi	
				1	70		5	40		WS27C210L-10	Waferscale	
	120	CMOS				12.5	5	44		HN27C1024H-12	Hitachi	50
								40	JEDEC Standard Pin-out	M5M27C102-12	Mitsubishi	
				1	35	12.75	5	44		M27C1024-12	SGS-Thomson	
					70		5	40		WS27C210L-12	Waferscale	
								44		WS27C210L-12MB	† Waferscale	
			CMOS/TTL	1	30		5	40		AT27C1024-12C	ATMEL	55
					40		5	40		AT27C1024-12I	ATMEL	
										AT27C1024-12M	† ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx16	150	CMOS					5	40	JEDEC Standard Pin-out	M5M27C102-15	Mitsubishi	
										M5M27C102-15I	Mitsubishi	
				1	35	12.75	5	44		M27C1024-15	SGS-Thomson	
					70		5	40		WS27C210L-15	Waferscale	
								44		WS27C210L-15MB	† Waferscale	5
			CMOS/TTL	1	30		5	40		AT27C1024-15C	ATMEL	
					40		5	40		AT27C1024-15I	ATMEL	
										AT27C1024-15M	† ATMEL	
			TTL/CMOS	1	60	12.5	5	40		CAT27C210-15	Catalyst Semi	
	170	CMOS					5	40		27C210-170	Krueger	10
				1	70		5	44		WS27C210L-17MB	† Waferscale	
			TTL/CMOS	1	60	12.5	5	40		CAT27C210-17	Catalyst Semi	
	200	CMOS		1	35	12.75	5	44		M27C1024-20	SGS-Thomson	
					70		5	40		WS27C210L-17	Waferscale	
			CMOS/TTL	1	30		5	40		AT27C1024-20C	ATMEL	15
					40		5	40		AT27C1024-20I	ATMEL	
										AT27C1024-20M	† ATMEL	
			TTL	1	30		5	40		MSM27C1024-20	OKI	
			TTL/CMOS	1	60	12.5	5	40		CAT27C210-20	Catalyst Semi	
	250	CMOS		1	35	12.75	5	44		M27C1024-25	SGS-Thomson	20
			CMOS/TTL	1	10		3	44		AT27LV1024-25C	ℓ ATMEL	
					12		3	44		AT27LV1024-25I	ℓ ATMEL	
			TTL/CMOS	1	60	12.5	5	40		CAT27C210-25	Catalyst Semi	
	300	CMOS	CMOS/TTL	1	10		3	44		AT27LV1024-30C	ℓ ATMEL	
					12		3	44		AT27LV1024-30I	ℓ ATMEL	25
64Kx8	30	CMOS		2	8		3	28		27LV256-30	ℓ Microchip	
	45	CMOS	TTL		120		5	28		CY7C287-45C	Cypress	
	55	CMOS	TTL		120		5	28		CY7C287-55C	Cypress	
					150		5	28		CY7C287-55M	† Cypress	
	65	CMOS	TTL		120		5	28		CY7C287-65C	Cypress	30
					150		5	28		CY7C287-65M	† Cypress	
	75	CMOS	TTL/CMOS	1	40	12.75	5	28		AM27C512-75	AMD	
	80	CMOS		1	30	12.75	5	32		M27C512-80	SGS-Thomson	
			TTL	40	120		5	28		CY7C286-80M	† Cypress	
	90	CMOS		1	30	12.75	5	32		M27C512-90	SGS-Thomson	35
			CMOS/TTL	1	20		5	28		AT27C512R-90C	ATMEL	
				2	25		5	28		AT27C512R-90I	ATMEL	
										AT27C512R-90M	† ATMEL	
			TTL	3	45		5	28		27C512-90	Microchip	
	100	CMOS					5	28	JEDEC Standard Pin-out	M5M27C512-10	Mitsubishi	40
				1	30	12.75	5	32		M27C512-10	SGS-Thomson	
	120	CMOS					5	28	JEDEC Standard Pin-out	M5M27C512-12	Mitsubishi	
				1	30	12.75	5	32		M27C512-12	SGS-Thomson	
				2	45		5	32		WS27C512F-12MB	† Waferscale	
			CMOS/TTL	1	20		5	28		AT27C512R-12C	ATMEL	45
				2	25		5	28		AT27C512R-12I	ATMEL	
										AT27C512R-12M	† ATMEL	
	150	CMOS					5	28	JEDEC Standard Pin-out	M5M27C512-15	Mitsubishi	
										M5M27C512-15I	Mitsubishi	
				1	30	12.75	5	32		M27C512-15	SGS-Thomson	50
			CMOS/TTL	1	20		5	28		AT27C512R-15C	ATMEL	
				2	25		5	28		AT27C512R-15I	ATMEL	
										AT27C512R-15M	† ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8	150	CMOS									(Cont'd)	
			TTL	1	30	12.5	5	28		TC57512A-15	Toshiba	
	200	CMOS		1	30	12.75	5	32		M27C512-20	SGS-Thomson	
			CMOS/TTL									
				1	20		5	28		AT27C512R-20C	ATMEL	
										AT27LV512R-20C	ATMEL	
					25		5	28		AT27LV512R-20I	ATMEL	5
				2	25		5	28		AT27C512R-20I	ATMEL	
										AT27C512R-20M	† ATMEL	
			TTL	1	30	12.5	5	28		TC57512A-20	Toshiba	
		NMOS					5	28	Refurbished	**27512-200**	**Krueger (3663)**	
			TTL	40	125	12	5	28		M27512-2	SGS-Thomson	10
										M27512-20	SGS-Thomson	
	250	CMOS		1	30	12.75	5	32		M27C512-25	SGS-Thomson	
			CMOS/TTL									
				1	20		5	28		AT27C512R-25C	ATMEL	
										AT27LV512R-25C	ATMEL	
					25		5	28		AT27LV512R-25I	ATMEL	15
				2	25		5	28		AT27C512R-25I	ATMEL	
										AT27C512R-25M	† ATMEL	
		NMOS				12.5	5	28		HN27512-25	Hitachi	
									Refurbished	**27512-250**	**Krueger (3663)**	
			TTL	40	125	12	5	28		M27512	SGS-Thomson	20
										M27512-25	SGS-Thomson	
	300	NMOS				12.5	5	28		HN27512-30	Hitachi	
			TTL	40	125	12	5	28		M27512-3	SGS-Thomson	
128Kx8	16	CMOS	TTL	30	125		5	44		27960K1-16	Intel	
	20	CMOS	TTL	30	125		5	44		27960K1-20	Intel	25
										27960K2-20	Intel	
	25	CMOS	TTL	30	125		5	44		27960K2-25	Intel	
	35	BiCMOS		50	220		5	32		CY7B201-35C	Cypress	
	45	CMOS					5	32		AM27H010-45	AMD	
	50	CMOS	CMOS/TTL									
				1	100	12.75	5	32		AM27HB010-50C	AMD	30
	55	CMOS					5	32		AM27H010-55	AMD	
	70	CMOS					5	32		AM27H010-70	AMD	
	90	CMOS					5	32		AM27H010-90	AMD	
			CMOS/TTL									
				1	100	12.75	5	32		AM27HB010-90C	AMD	
	100	CMOS					5			TMS27C010A-100	° TI	35
				1	50		5	32		NM27C010-100	National	
	120	CMOS					5	32		AM27C010-120	AMD	
										AM27C100-120	AMD	
										M27C1000	SGS-Thomson	
										M27C1001	SGS-Thomson	40
										M27C1011	SGS-Thomson	
										M87C1000	SGS-Thomson	
										M87C1001	SGS-Thomson	
										TMS27C010A-12	° TI	
										TMS27C010A-120	° TI	45
				1	50		5	32		NMC27C010E-120	National	
										NM27C010-120	National	
										NM27C010E-120	National	
			CMOS/TTL									
				1	30		5	32		AT27C010L-12M	† ATMEL	
										AT27C010L-12M/883	† ATMEL	50
					50		5	32		AT27C010-12M/883	† ATMEL	
			TTL	35	100		5	32		CAT27010-12	Catalyst Semi	
		NMOS					5	32		MSM271000-12	OKI	
	150	CMOS					5	32		AM27C010-150	AMD	
										AM27C100-150	AMD	55
										AT27C010-15	ATMEL	
										AT27C010L-15	ATMEL	
										AT29C010-15	ATMEL	
										MBM27C1001-15	Fujitsu	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	150	CMOS					5	32			(Cont'd)	
										GR27010	Greenwich	
										NMC27C010-15	National	
										TMS27C010A-15 °	TI	
										TMS27C010A-150 °	TI	
				1	50		5	32		NMC27C010E-150	National	5
										NM27C010-150	National	
										NM27C010E-150	National	
			CMOS/TTL	1	20		5	32		AT27CL010-15C	ATMEL	
					30		5	32		AT27C010L-15M/883 †	ATMEL	
					50		5	32		AT27C010-15M/883 †	ATMEL	10
			TTL	1	30		5	32		TC571001A-15	Toshiba	
			TTL/CMOS	1	30	12.75	5	32		27C010-150V10	Intel	
		NMOS					5	32		CAT27010-15	Catalyst Semi	
										MSM271000-15	OKI	
	170	CMOS					5	32		AT27C010-17	ATMEL	15
										AT27C010L-17	ATMEL	
										NMC27C010-17	National	
										NMC27C010-170	National	
										NMC27C010M-17	National	
										NMC27C010M-170	National	20
								28		TMS27C010-170 °	TI	
								32		WS27C010L-17M	Waferscale	
			CMOS/TTL	1	20		5	32		AT27CL010-17C	ATMEL	
										AT27CL010-17I	ATMEL	
										AT27CL010-17M †	ATMEL	25
										AT27CL010-17M/883 †	ATMEL	
					25		5	32		AT27C010L-17C	ATMEL	
					30		5	32		AT27C010L-17I	ATMEL	
										AT27C010L-17M †	ATMEL	
										AT27C010L-17M/883 †	ATMEL	30
					40		5	32		AT27C010-17C	ATMEL	
					50		5	32		AT27C010-17I	ATMEL	
										AT27C010-17M †	ATMEL	
										AT27C010-17M/883 †	ATMEL	
	200	CMOS					5	32		AM27C100-200	AMD	35
										AT27C010-20	ATMEL	
										AT27C010L-20	ATMEL	
										AT29C010-20	ATMEL	
										HN27C101-20	Hitachi	
										HN27C301-20	Hitachi	40
										NMC27C010-20	National	
										NMC27C010M-20	National	
										NMC27C010M-200	National	
										SMJ27C010-20 °	TI	
										TMS27C010-20 °	TI	45
										TMS27C010-200 °	TI	
										TMS27C010A-20 °	TI	
										TMS27C010A-200 °	TI	
				1	50		5	32		NMC27C010E-200	National	
										NM27C010-200	National	50
										NM27C010E-200	National	
										NM27C010M-200	National	
			CMOS/TTL	1	20		5	32		AT27CL010-20C	ATMEL	
										AT27CL010-20I	ATMEL	
										AT27CL010-20M †	ATMEL	55
										AT27CL010-20M/883 †	ATMEL	
					30		5	32		AT27C010L-20M/883 †	ATMEL	
					50		5	32		AT27C010-20M/883 †	ATMEL	
			TTL/CMOS	1	30	12.75	5	32		27C010-200V10	Intel	
		NMOS	TTL	35	100		5	32		MSM271000-20	OKI	60
		TTL					5	32		CAT27010-20	Catalyst Semi	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8											(Cont'd)	
	250	CMOS					5	32		AT27C010L-25	ATMEL	
										AT27C101-25	ATMEL	
										AT29C010-25	ATMEL	
										HN27C101-25	Hitachi	
										HN27C301-25	Hitachi	5
										NMC27C010-25	National	
										NMC27C010-250	National	
										27C010-250/883	National	
										SMJ27C010-25 °	TI	
										TMS27C010-25 °	TI	10
										TMS27C010-250 °	TI	
										WS27C010L-25M	Waferscale	
				0.1	15		3	32		NM27LV010E-250 ℓ	National	
			CMOS/TTL	1	20		5	32		AT27CL010-25C	ATMEL	
										AT27CL010-25I	ATMEL	15
										AT27CL010-25M †	ATMEL	
										AT27CL010-25M/883 †	ATMEL	
					30		5	32		AT27C010L-25M/883 †	ATMEL	
					50		5	32		AT27C010-25M/883 †	ATMEL	
	300	CMOS					5	32		27C010-300/883	National	20
										TMS27C010-30 °	TI	
										TMS27C010-300 °	TI	
				0.1	15		3	32		NM27LV010E-300 ℓ	National	
128Kx16	100	CMOS	TTL	5	100		5	40		MSM27C2048-10	OKI	
	120	CMOS					5	40		AM27C2048-120	AMD	25
			TTL	5	100		5	40		MSM27C2048-12	OKI	
	150	CMOS					5	40		AM27C2048-150	AMD	
										NMC27C2048-15	National	
			TTL	5	100		5	40		MSM27C2048-15	OKI	
	170	CMOS					5	40		NMC27C2048-17	National	30
										NMC27C2048M-17	National	
	200	CMOS					5	40		AM27C2048-200	AMD	
										NMC27C2048-20	National	
										NMC27C2048M-20	National	
	250	CMOS					5	40		AM27C2048-250	AMD	35
										NMC27C2048-25	National	
128Kx32	45	CMOS					5	66		PUMA2U4002-45	Mosaic Semi	
	55	CMOS					5	66		PUMA2U4002-55	Mosaic Semi	
	70	CMOS					5	66		PUMA2U4002-70	Mosaic Semi	
	90	CMOS					5	66		PUMA2U4000-90	Mosaic Semi	40
										PUMA2U4002-90	Mosaic Semi	
	120	CMOS					5	66		PUMA2U4001-12	Mosaic Semi	
	150	CMOS					5	66		PUMA2U4001-15	Mosaic Semi	
	170	CMOS					5	66		PUMA2U4001-17	Mosaic Semi	
	200	CMOS					5	66		PUMA2U4001-20	Mosaic Semi	45
128Kx16	100	CMOS					5	40	JEDEC Standard Pin-out	M5M27C202-10	Mitsubishi	
	120	CMOS					5	40	JEDEC Standard Pin-out	M5M27C202-12	Mitsubishi	
										M5M27C202-12I	Mitsubishi	
	150	CMOS					5	40	JEDEC Standard Pin-out	M5M27C202-15	Mitsubishi	
128Kx32	120	CMOS		4	53	12	5	66		2U4000-12	Mosaic Semi	50
										2U4000-12I	Mosaic Semi	
										2U4000-12M †	Mosaic Semi	
										2U4000-12MB †	Mosaic Semi	
					200	12.5	5	66		PUMA2U4000-12	Mosaic Semi	
										PUMA2U4000I-12	Mosaic Semi	55
										PUMA2U4000M-12 †	Mosaic Semi	
	150	CMOS		4	53	12	5	66		2U4000-15	Mosaic Semi	
										2U4000-15I	Mosaic Semi	
										2U4000-15M †	Mosaic Semi	
										2U4000-15MB †	Mosaic Semi	60
					200	12.5	5	66		PUMA2U4000-15	Mosaic Semi	
										PUMA2U4000I-15	Mosaic Semi	
										PUMA2U4000M-15 †	Mosaic Semi	
128Kx8		CMOS	TTL	30	120		5	44		27960CX	Intel	
	25	BiCMOS		50	220		5	32		CY7B201-25C	Cypress	65
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
UV Erasable—General Purpose											**(Cont'd)**	
128Kx8											(Cont'd)	
	30	BiCMOS		50	220		5	32		CY7B201-30C	Cypress	
				60	220		5	32		CY7B201-30M	† Cypress	
	35	BiCMOS		50	220		5	32		CY7B201-35M	† Cypress	
	55	CMOS		2	40		5	32		WS27C010F-55	Waferscale	
	70	CMOS		2	40		5	32		WS27C010F-70	Waferscale	5
	80	CMOS		1	30	12.75	5	32		M27C1000-80	SGS-Thomson	
										M27C1001-80	SGS-Thomson	
	90	CMOS		2	40		5	32		WS27C010F-90	Waferscale	
	100	CMOS				12.5	5	32		HN27C101A-10	Hitachi	
										HN27C301A-10	Hitachi	10
				1	30	12.75	5	32		M27C1000-10	SGS-Thomson	
										M27C1001-10	SGS-Thomson	
					60		5	32		WS27C010L-10	Waferscale	
				2	40		5	32		WS27C010F-10	Waferscale	
			CMOS/TTL	1	25		5	32		AT27C010L-10C	ATMEL	15
					40		5	32		AT27C010-10C	ATMEL	
			TTL	1	40	12.75	5	32		TC57H1000A-100	Toshiba	
	105	CMOS	TTL/CMOS	1	30	12.75	5	32		AM27C010-105	AMD	
	120	CMOS				12.5	5	32		HN27C101A-12	Hitachi	
										HN27C301A-12	Hitachi	20
									JEDEC Standard Pin-out	M5M27C100-12	Mitsubishi	
										M5M27C101-12	Mitsubishi	
				1	30	12.75	5	32		M27C1000-12	SGS-Thomson	
										M27C1001-12	SGS-Thomson	
					60		5	32		WS27C010L-12	Waferscale	25
										WS27C010L-12I	Waferscale	
										WS27C010L-12M	† Waferscale	
										WS27C010L-12MB	† Waferscale	
			CMOS/TTL	1	25		5	32		AT27C010L-12C	ATMEL	
					30		5	32		AT27C010L-12I	ATMEL	30
					40		5	32		AT27C010-12C	ATMEL	
					50		5	32		AT27C010-12I	ATMEL	
										AT27C010-12M	† ATMEL	
	130	CMOS		1	60		5	32		WS27C010L-13MB	† Waferscale	
	150	CMOS				12.5	5	32		HN27C101A-15	Hitachi	35
										HN27C301A-15	Hitachi	
									JEDEC Standard Pin-out	M5M27C100-15	Mitsubishi	
										M5M27C101-15	Mitsubishi	
										M5M27C101-15I	Mitsubishi	
				1	30	12.75	5	32		M27C1000-15	SGS-Thomson	40
										M27C1001-15	SGS-Thomson	
					60		5	32		WS27C010L-15	Waferscale	
										WS27C010L-15I	Waferscale	
										WS27C010L-15M	† Waferscale	
										WS27C010L-15MB	† Waferscale	45
			CMOS/TTL	1	25		5	32		AT27C010L-15C	ATMEL	
					30		5	32		AT27C010L-15I	ATMEL	
										AT27C010L-15M	† ATMEL	
					40		5	32		AT27C010-15C	ATMEL	
					50		5	32		AT27C010-15I	ATMEL	50
										AT27C010-15M	† ATMEL	
	200						5	32	Refurbished	**27010-200V05**	**Krueger (3663)**	
		CMOS					5	32	JEDEC Standard Pin-out	M5M27C100-2	Mitsubishi	
				1	30	12.75	5	32		M27C1000-20	SGS-Thomson	
										M27C1001-20	SGS-Thomson	55
							3	32		M27V101-200	ℓ SGS-Thomson	
					60		5	32		WS27C010L-20M	Waferscale	
										WS27C010L-20MB	† Waferscale	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–EPROMs (Cont'd)

UV Erasable–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	200	CMOS									(Cont'd)	
			CMOS/TTL	1	25		5	32		AT27C010L-20C	ATMEL	
					30		5	32		AT27C010L-20I	ATMEL	
										AT27C010L-20M	† ATMEL	
							3	32		AT27LV010-20I	ℓ ATMEL	
					40		5	32		AT27C010-20C	ATMEL	5
					50		5	32		AT27C010-20I	ATMEL	
										AT27C010-20M	† ATMEL	
			TTL	0.1	15	12.75	3.3	32		NM27LV010-200	ℓ National	
	250	CMOS				12.5	3	32		HN27V101A-25	ℓ Hitachi	
							5	32	JEDEC Standard Pin-out	M5M27C100	Mitsubishi	10
				1	30	12.75	5	32		M27C1000-25	SGS-Thomson	
										M27C1001-25	SGS-Thomson	
							3	32		M27V101-250	ℓ SGS-Thomson	
			CMOS/TTL	1	25		5	32		AT27C010L-25C	ATMEL	
							3	32		AT27LV010-25C	ℓ ATMEL	15
					30		5	32		AT27C010L-25I	ATMEL	
										AT27C010L-25M	† ATMEL	
					40		5	32		AT27C010-25C	ATMEL	
					50		5	32		AT27C010-25I	ATMEL	
										AT27C010-25M	† ATMEL	20
			TTL	0.1	15	12.75	3.3	32		NM27LV010-250	ℓ National	
	300	CMOS	CMOS/TTL	1	25		3	32		AT27LV010-30C	ℓ ATMEL	
					30		3	32		AT27LV010-30I	ℓ ATMEL	
			TTL	0.1	15	12.75	3.3	32		NM27LV010-300	ℓ National	
256Kx8	100	CMOS					5			TMS27C020-100	TI	25
			TTL	5	70		5	32		MSM27C2000-10	OKI	
	120	CMOS					5	32		AM27C020-120	AMD	
										TMS27C020-12	TI	
										TMS27C020-120	TI	
			TTL	5	70		5	32		MSM27C2000-12	OKI	30
		CMOS				125.5	5	32		MBM27C2001	Fujitsu	
	150	CMOS					5	32		AM27C020-150	AMD	
										NMC27C020-15	National	
										TMS27C020-15	TI	
										TMS27C020-150	TI	35
			TTL	5	70		5	32		MSM27C2000-15	OKI	
	170	CMOS					5	32		NMC27C020-17	National	
										NMC27C020M-17	National	
	200	CMOS					5	32		AM27C020-200	AMD	
										NMC27C020-20	National	40
										NMC27C020M-20	National	
										TMS27C020-20	TI	
										TMS27C020-200	TI	
	250	CMOS					5	32		AM27C020-250	AMD	
										NMC27C020-25	National	45
										TMS27C020-25	TI	
										TMS27C020-250	TI	
256Kx16	90	CMOS	CMOS/TTL	1	50	12.75	5	40		AM27C4096-90C	AMD	
	100	CMOS	CMOS/TTL	1	50	12.75	5	40		AM27C4096-100C	AMD	
	120	CMOS	TTL/CMOS	1	50	12.75	5	40		AM27C4096-120	AMD	50
	150	CMOS	TTL/CMOS	1	50	12.75	5	40		AM27C4096-150	ℓ† AMD	
	170	CMOS	TTL	1	50		5	40		27C240-170V10	Intel	
	200	CMOS	TTL/CMOS	1	50	12.75	5	40		AM27C4096-200	† AMD	
	250	CMOS					5	40		M27C4002-25	SGS-Thomson	
			TTL/CMOS	1	50	12.75	5	40		AM27C4096-250	† AMD	55

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx32	100	CMOS	TTL	4	240	12.5	5	66		PUMA2U8002-10	† Mosaic Semi	
	120	CMOS	TTL	4	240	12.5	5	66		PUMA2U8002-12	† Mosaic Semi	
	150	CMOS	TTL	4	240	12.5	5	66		PUMA2U8002-15	† Mosaic Semi	
	170	CMOS	TTL	4	240	12.5	5	66		PUMA2U8002-17	† Mosaic Semi	
	200	CMOS	TTL	4	240	12.5	5	66		PUMA2U8002-20	† Mosaic Semi	5
	250	CMOS	TTL	4	240	12.5	5	66		PUMA2U8002-25	† Mosaic Semi	
256Kx16	50	CMOS					5	40		M5M27404A	Mitsubishi	
	60	CMOS					5	40		M4M27404A	Mitsubishi	
	85	CMOS				12.5	5	40		HN27C4096H-85	Hitachi	
	100	CMOS				12.5	5	40		HN27C4096-10	Hitachi	10
										HN27C4096H-10	Hitachi	
										M5M27400A-10	Mitsubishi	
				1	70	12.75	5	44		M27C4002-10	SGS-Thomson	
	120	CMOS				12.5	5	40		MBM27C4096-12	Fujitsu	
										HN27C4096-12	Hitachi	15
									JEDEC Standard Pin-out	M5M27C402-12	Mitsubishi	
										M5M27400A-12	Mitsubishi	
				1	70	12.75	5	44		M27C4002-12	SGS-Thomson	
				4	102	12.5	5	66		PUMA2U4000-12	Mosaic Semi	
										PUMA2U4000I-12	Mosaic Semi	20
										PUMA2U4000M-12	† Mosaic Semi	
						12	5	66		2U4000-12	Mosaic Semi	
										2U4000-12I	Mosaic Semi	
										2U4000-12M	† Mosaic Semi	
										2U4000-12MB	† Mosaic Semi	25
			TTL	1	70	12.5	5	40		TC574096-120	Toshiba	
										TC574200-120	Toshiba	
	150	CMOS				12.5	5	40		MBM27C4096-15	Fujitsu	
										HN27C4096-15	Hitachi	
									JEDEC Standard Pin-out	M5M27C402-15	Mitsubishi	30
										M5M27400A-15	Mitsubishi	
				1	30	12.75	5	44		M27C4002-15	SGS-Thomson	
				4	102	12.5	5	66		PUMA2U4000-15	Mosaic Semi	
										PUMA2U4000I-15	Mosaic Semi	
										PUMA2U4000M-15	† Mosaic Semi	35
						12	5	66		2U4000-15	Mosaic Semi	
										2U4000-15I	Mosaic Semi	
										2U4000-15M	† Mosaic Semi	
										2U4000-15MB	† Mosaic Semi	
			TTL	1	70	12.5	5	40		TC574200-150	Toshiba	40
	200	CMOS		1	70	12.75	5	44		M27C4002-20	SGS-Thomson	
256Kx8	80	CMOS		1	30	12.75	5	32		M27C2001-80	SGS-Thomson	
	100	CMOS					5	32	JEDEC Standard Pin-out	M5M27C201-10	Mitsubishi	
				1	30	12.75	5	32		M27C2001-10	SGS-Thomson	
	120	CMOS					5	32	JEDEC Standard Pin-out	M5M27C201-12	Mitsubishi	45
										M5M27C201-12I	Mitsubishi	
				1	30	12.75	5	32		M27C2001-12	SGS-Thomson	
					60		5	32		WS27C020L-12	Waferscale	
		CMOS				125.5	5	32		MBM27C2001-12	Fujitsu	
	150	CMOS					5	32	JEDEC Standard Pin-out	M5M27C201-15	Mitsubishi	50
				1	30	12.75	5	32		M27C2001-15	SGS-Thomson	
					60		5	32		WS27C020L-15	Waferscale	
			TTL	1	35		5	32		NM27C020-150	National	
					40		5	32		NM27C020E-150	National	
	170	CMOS		1	60		5	32		WS27C020L-17	Waferscale	55
	200	CMOS		1	30	12.75	5	32		M27C2001-20	SGS-Thomson	
							3	32		M27V201-200	ℓ SGS-Thomson	
					60		5	32		WS27C020L-20	Waferscale	
			TTL	1	35		5	32		NM27C020-200	National	
					40		5	32		NM27C020E-200	National	60
	250	CMOS		1	30	12.75	5	32		M27C2001-25	SGS-Thomson	
							3	32		M27V201-250	ℓ SGS-Thomson	
512Kx8	80	CMOS					5			TMS27C040-8	TI	
										TMS27C040-80	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	80	CMOS					5				(Cont'd)	
										TMS27C240-8	TI	
										TMS27C240-80	TI	
	90	CMOS	CMOS/TTL	1	40	12.75	5	32		AM27C040-90C	AMD	
								40		AM27C400-90C	AMD	
	100		TTL	5	60		5	32		MSM27C401-10	OKI	5
		CMOS					5			TMS27C040-10	TI	
										TMS27C040-100	TI	
										TMS27C240-10	TI	
										TMS27C240-100	TI	
	120		TTL	5	60		5	32		MSM27C401-12	OKI	10
		CMOS				12.5	5	32		MBM27C4001	Fujitsu	
										TMS27C040-12	TI	
										TMS27C040-120	TI	
										TMS27C240-12	TI	
										TMS27C240-120	TI	15
			CMOS/TTL	1	25		5	32	Low Voltage	AT27HC040-12C	ATMEL	
					40	12.75	5	32		AM27C040-120C	AMD	
								40		AM27C400-120C	AMD	
	150	CMOS					5			TMS27C040-15	TI	
										TMS27C040-150	TI	20
										TMS27C040-150	TI	
										TMS27C240-15	TI	
										TMS27C240-150	TI	
				1	60		5	32		NM27C040-150	National	
										NM27C040E-150	National	25
										NM27P040-150	National	
										NM27P040E-150	National	
			CMOS/TTL	1	25		5	32	Low Voltage	AT27HC040-15C	ATMEL	
					30		5	32		AT27C040-15M/883 †	ATMEL	
									Low Voltage	AT27HC040-15I	ATMEL	30
										AT27HC040-15M †	ATMEL	
										AT27HC040-15M/883 †	ATMEL	
					40	12.75	5	32		AM27C040-150C	AMD	
								40		AM27C400-150C	AMD	
	170	CMOS		1	60		5	32		NM27C040-170	National	35
										NM27C040E-170	National	
										NM27P040-170	National	
										NM27P040E-170	National	
	200	CMOS		1	60		5	32		NM27C040E-200	National	
										NM27P040M-200	National	40
			CMOS/TTL	1	25		5	32	Low Voltage	AT27HC040-20C	ATMEL	
					30		5	32		AT27C040-20M/883	ATMEL	
									Low Voltage	AT27HC040-20I	ATMEL	
										AT27HC040-20M †	ATMEL	
										AT27HC040-20M/883 †	ATMEL	45
					40	12.75	5	32		AM27C040-200C	AMD	
								40		AM27C400-200C	AMD	
	250	CMOS					5	32		M27C4001-25	SGS-Thomson	
			CMOS/TTL	1	40	12.75	5	32		AM27C040-250C	AMD	
	120	CMOS				12.5	5	32		MBM27C4000	Fujitsu	50
512Kx16	100	CMOS	TTL	4	122	12.5	5	66		PUMA2U8002-10 †	Mosaic Semi	
	120	CMOS	TTL	4	122	12.5	5	66		PUMA2U8002-12 †	Mosaic Semi	
	150	CMOS	TTL	4	122	12.5	5	66		PUMA2U8002-15 †	Mosaic Semi	
	170	CMOS	TTL	4	122	12.5	5	66		PUMA2U8002-17 †	Mosaic Semi	
	200	CMOS	TTL	4	122	12.5	5	66		PUMA2U8002-20 †	Mosaic Semi	55
	250	CMOS	TTL	4	122	12.5	5	66		PUMA2U8002-25 †	Mosaic Semi	
512Kx16	150	CMOS	TTL	1	60	12	5	42	Byte-Selectable	TC578200-150	Toshiba	
512Kx8	80	CMOS		1	70	12.75	5	32		M27C4001-80	SGS-Thomson	
	100	CMOS				12.5	5	32		HN27C4001-10	Hitachi	
								40		M5M27400A-10	Mitsubishi	60
								32		M5M27401A-10	Mitsubishi	
								40		M5M27404A	Mitsubishi	
											(Continued)	

† Mil Temp Range (-55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	100	CMOS									(Cont'd)	
				1	70	12.75	5	32		M27C4001-10	SGS-Thomson	
			CMOS/TTL	1	25		5	32		AT27C040-10C	ATMEL	
	120	CMOS				12.5	5	32		MBM27C4000-12	Fujitsu	
										MBM27C4001-12	Fujitsu	
										HN27C4001-12	Hitachi	5
								40		M4M27404A	Mitsubishi	
								32	JEDEC Standard Pin-out	M5M27C401-12	Mitsubishi	
								40		M5M27400A-12	Mitsubishi	
								32		M5M27401A-12	Mitsubishi	
				1	60		5	32		WS27C040L-12	Waferscale	10
					70	12.75	5	32		M27C4001-12	SGS-Thomson	
				4	53	12.5	5	66		PUMA2U4000-12	Mosaic Semi	
										PUMA2U4000I-12	Mosaic Semi	
										PUMA2U4000M-12	† Mosaic Semi	
					200	12	5	66		2U4000-12	Mosaic Semi	15
										2U4000-12I	Mosaic Semi	
										2U4000-12M	† Mosaic Semi	
										2U4000-12MB	† Mosaic Semi	
			CMOS/TTL	1	25		5	32		AT27C040-12C	ATMEL	
					30		5	32		AT27C040-12I	ATMEL	20
										AT27C040-12M	† ATMEL	
			TTL	1	60	12	5	32		TC574000A-120	Toshiba	
	150	CMOS				12.5	5	32		MBM27C4000-15	Fujitsu	
										HN27C4001-15	Hitachi	
									JEDEC Standard Pin-out	M5M27C401-15	Mitsubishi	25
								40		M5M27400A-15	Mitsubishi	
								32		M5M27401A-15	Mitsubishi	
				1	60		5	32		WS27C040L-15	Waferscale	
										WS27C040L-15M	† Waferscale	
										WS27C040L-15MB	† Waferscale	30
					70	12.75	5	32		M27C4001-15	SGS-Thomson	
				4	53	12.5	5	66		PUMA2U4000-15	Mosaic Semi	
										PUMA2U4000I-15	Mosaic Semi	
										PUMA2U4000M-15	† Mosaic Semi	
					200	12	5	66		2U4000-15	Mosaic Semi	35
										2U4000-15I	Mosaic Semi	
										2U4000-15M	† Mosaic Semi	
										2U4000-15MB	† Mosaic Semi	
			CMOS/TTL	1	25		5	32		AT27C040-15C	ATMEL	
					30		5	32		AT27C040-15I	ATMEL	40
										AT27C040-15M	† ATMEL	
			TTL	1	50	12	5	32		TC574000A-150	Toshiba	
	170	CMOS					5	32		AM27C040-170	AMD	
				1	60		5	32		WS27C040L-17	Waferscale	
										WS27C040L-17M	† Waferscale	45
										WS27C040L-17MB	† Waferscale	
	200	CMOS		1	50	12.75	3	32		M27V401-200	ℓ SGS-Thomson	
					60		5	32		NM27C040-200	National	
										NM27C040M-200	National	
										WS27C040L-20	Waferscale	50
										WS27C040L-20M	† Waferscale	
										WS27C040L-20MB	† Waferscale	
					70	12.75	5	32		M27C4001-20	SGS-Thomson	
			CMOS/TTL	1	8		3	32		AT27LV040-20C	ℓ ATMEL	
					10		3	32		AT27LV040-20I	ℓ ATMEL	55
					25		5	32		AT27C040-20C	ATMEL	
					30		5	32		AT27C040-20I	ATMEL	
										AT27C040-20M	† ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
512Kx8										(Cont'd)	
	250	CMOS		1	50	12.75	3	32		M27V401-250	ℓ SGS-Thomson
			CMOS/TTL	1	8		3	32		AT27LV040-25C	ℓ ATMEL
					10		3	32		AT27LV040-25I	ℓ ATMEL
	300	CMOS	CMOS/TTL	1	8		3	32		AT27LV040-30C	ℓ ATMEL
					10		3	32		AT27LV040-30I	ℓ ATMEL
1Mx8	100	CMOS	TTL	4	63	12.5	5	66		PUMA2U8002-10	† Mosaic Semi
	120	CMOS	TTL	4	63	12.5	5	66		PUMA2U8002-12	† Mosaic Semi
	150	CMOS	TTL	1	60	12	5	42	Byte-Selectable	TC578200-150	Toshiba
				4	63	12.5	5	66		PUMA2U8002-15	† Mosaic Semi
	170	CMOS	TTL	4	63	12.5	5	66		PUMA2U8002-17	† Mosaic Semi
	200	CMOS	TTL	4	63	12.5	5	66		PUMA2U8002-20	† Mosaic Semi
	250	CMOS	TTL	4	63	12.5	5	66		PUMA2U8002-25	† Mosaic Semi
1Mx16	150	CMOS	TTL	1	60	12.5	5	42		TC5716200-150	Toshiba
	200	CMOS	TTL	1	60	12.5	5	42		TC5716200-200	Toshiba
2Mx8	150	CMOS		1	70	12.5	5	42		M27C160-150	SGS-Thomson
			TTL	1	60	12.5	5	42		TC5716200-150	Toshiba
	200	CMOS		1	70	12.5	5	42		M27C160-200	SGS-Thomson
			TTL	1	60	12.5	5	42		TC5716200-200	Toshiba

UV Erasable—Modules

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx32	55		TTL	180	360	12.5	5	66		DPV3232A-55C	Dense-Pac
	70		TTL	180	360	12.5	5	66		DPV3232A-70C	Dense-Pac
										DPV3232A-70I	Dense-Pac
										DPV3232A-70M	† Dense-Pac
	90		TTL	180	360	12.5	5	66		DPV3232A-90C	Dense-Pac
										DPV3232A-90I	Dense-Pac
										DPV3232A-90M	† Dense-Pac
	120		TTL	20	280	12.5	5	66		DPV3232-120C	Dense-Pac
										DPV3232A-120C	Dense-Pac
										DPV3232A-120I	Dense-Pac
										DPV3232A-120M	† Dense-Pac
	150		TTL	20	280	12.5	5	66		DPV3232A-150C	Dense-Pac
										DPV3232A-150I	Dense-Pac
										DPV3232A-150M	† Dense-Pac
	170		TTL	20	280	12.5	5	66		DPV3232A-170C	Dense-Pac
										DPV3232A-170I	Dense-Pac
										DPV3232A-170M	† Dense-Pac
	200		TTL	20	280	12.5	5	66		DPV3232A-200C	Dense-Pac
										DPV3232A-200I	Dense-Pac
										DPV3232A-200M	† Dense-Pac
	250		TTL	20	280	12.5	5	66		DPV3232A-250C	Dense-Pac
										DPV3232A-250I	Dense-Pac
										DPV3232A-250M	† Dense-Pac
64Kx16	55		TTL	180	270	12.5	5	66		DPV3232A-55C	Dense-Pac
	70		TTL	180	270	12.5	5	66		DPV3232A-70C	Dense-Pac
										DPV3232A-70I	Dense-Pac
										DPV3232A-70M	† Dense-Pac
	90		TTL	180	270	12.5	5	66		DPV3232A-90C	Dense-Pac
										DPV3232A-90I	Dense-Pac
										DPV3232A-90M	† Dense-Pac
	120		TTL	20	150	12.5	5	66		DPV3232-120C	Dense-Pac
										DPV3232A-120C	Dense-Pac
										DPV3232A-120I	Dense-Pac
										DPV3232A-120M	† Dense-Pac
	150		TTL	20	150	12.5	5	66		DPV3232A-150C	Dense-Pac
										DPV3232A-150I	Dense-Pac
										DPV3232A-150M	† Dense-Pac
	170		TTL	20	150	12.5	5	66		DPV3232A-170C	Dense-Pac
										DPV3232A-170I	Dense-Pac
										DPV3232A-170M	† Dense-Pac
	200		TTL	20	150	12.5	5	66		DPV3232A-200C	Dense-Pac
										DPV3232A-200I	Dense-Pac
										DPV3232A-200M	† Dense-Pac

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
64Kx16											(Cont'd)
	250		TTL	20	150	12.5	5	66		DPV3232A-250C	Dense-Pac
										DPV3232A-250I	Dense-Pac
										DPV3232A-250M	† Dense-Pac
64Kx32	55		TTL	15	360	12.5	5	66		DPV6432-55C	Dense-Pac
	70		TTL	15	360	12.5	5	66		DPV6432-70C	Dense-Pac
										DPV6432-70I	Dense-Pac
										DPV6432-70M	† Dense-Pac
	90		TTL	15	360	12.5	5	66		DPV6432-90C	Dense-Pac
										DPV6432-90I	Dense-Pac
										DPV6432-90M	† Dense-Pac
	120		TTL	15	200	12.5	5	66		DPV6432-120C	Dense-Pac
										DPV6432-120I	Dense-Pac
										DPV6432-120M	† Dense-Pac
	150		TTL	15	200	12.5	5	66		DPV6432-150C	Dense-Pac
										DPV6432-150I	Dense-Pac
										DPV6432-150M	† Dense-Pac
	170		TTL	15	200	12.5	5	66		DPV6432-170C	Dense-Pac
										DPV6432-170I	Dense-Pac
										DPV6432-170M	† Dense-Pac
	200		TTL	15	200	12.5	5	66		DPV6432-200C	Dense-Pac
										DPV6432-200I	Dense-Pac
										DPV6432-200M	† Dense-Pac
	250		TTL	15	200	12.5	5	66		DPV6432-250C	Dense-Pac
										DPV6432-250I	Dense-Pac
										DPV6432-250M	† Dense-Pac
128Kx16	90	CMOS	TTL	52	150		5	66	Also has 512K SRAM	PUMA2X0214-9035	Mosaic Semi
										PUMA2X0214-9045	Mosaic Semi
										PUMA2X0214-9055	Mosaic Semi
										PUMA2X0214-9070	Mosaic Semi
		CMOS	TTL	8	112		5	66	Also has 128K SRAM	PUMA2X0211-9055	Mosaic Semi
										PUMA2X0211-9070	Mosaic Semi
										PUMA2X0211-9085	Mosaic Semi
	120	CMOS	TTL	52	150		5	66	Also has 512K SRAM	PUMA2X0214-1235	Mosaic Semi
										PUMA2X0214-1245	Mosaic Semi
										PUMA2X0214-1255	Mosaic Semi
										PUMA2X0214-1270	Mosaic Semi
		CMOS	TTL	8	112		5	66	Also has 128K SRAM	PUMA2X0211-1255	Mosaic Semi
										PUMA2X0211-1270	Mosaic Semi
										PUMA2X0211-1285	Mosaic Semi
	150	CMOS	TTL	8	112		5	66	Also has 128K SRAM	PUMA2X0211-1555	Mosaic Semi
										PUMA2X0211-1570	Mosaic Semi
								112	Also has 128K SRAM	PUMA2X0211-1585	Mosaic Semi
				52	150		5	66	Also has 512K SRAM	PUMA2X0214-1535	Mosaic Semi
										PUMA2X0214-1545	Mosaic Semi
										PUMA2X0214-1555	Mosaic Semi
										PUMA2X0214-1570	Mosaic Semi
128Kx16	55		TTL	15	270	12.5	5	66		DPV6432-55C	Dense-Pac
	70		TTL	15	270	12.5	5	66		DPV6432-70C	Dense-Pac
										DPV6432-70I	Dense-Pac
										DPV6432-70M	† Dense-Pac
	90		TTL	15	270	12.5	5	66		DPV6432-90C	Dense-Pac
										DPV6432-90I	Dense-Pac
										DPV6432-90M	† Dense-Pac
	120		TTL	15	110	12.5	5	66		DPV6432-120C	Dense-Pac
										DPV6432-120I	Dense-Pac
										DPV6432-120M	† Dense-Pac
		CMOS	TTL	2	100	13	5	40		DPV128X16-12C	Dense-Pac
										DPV128X16-12I	Dense-Pac
										DPV128X16-12M	† Dense-Pac
	150		TTL	15	110	12.5	5	66		DPV6432-150C	Dense-Pac
										DPV6432-150I	Dense-Pac
										DPV6432-150M	† Dense-Pac
		CMOS	TTL	2	100	13	5	40		DPV128X16-15C	Dense-Pac
										DPV128X16-15I	Dense-Pac
										DPV128X16-15M	† Dense-Pac
											(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx16											(Cont'd)	
	170		TTL	15	110	12.5	5	66		DPV6432-170C	Dense-Pac	
										DPV6432-170I	Dense-Pac	
										DPV6432-170M	† Dense-Pac	
		CMOS	TTL	2	100	13	5	40		DPV128X16-17C	Dense-Pac	
										DPV128X16-17I	Dense-Pac	5
										DPV128X16-17M	† Dense-Pac	
	200		TTL	15	110	12.5	5	66		DPV6432-200C	Dense-Pac	
										DPV6432-200I	Dense-Pac	
										DPV6432-200M	† Dense-Pac	
		CMOS	TTL	2	100	13	5	40		DPV128X16-20C	Dense-Pac	10
										DPV128X16-20I	Dense-Pac	
										DPV128X16-20M	† Dense-Pac	
	250		TTL	15	110	12.5	5	66		DPV6432-250C	Dense-Pac	
										DPV6432-250I	Dense-Pac	
										DPV6432-250M	† Dense-Pac	15
		CMOS	TTL	2	100	13	5	40		DPV128X16-25C	Dense-Pac	
										DPV128X16-25I	Dense-Pac	
										DPV128X16-25M	† Dense-Pac	
128Kx32	120	CMOS	TTL	4	200	13	5	66		DPV12832A-12C	Dense-Pac	
										DPV12832A-12I	Dense-Pac	20
										DPV12832A-12M	† Dense-Pac	
	150	CMOS	TTL	4	200	13	5	66		DPV12832A-15C	Dense-Pac	
										DPV12832A-15I	Dense-Pac	
										DPV12832A-15M	† Dense-Pac	
	170	CMOS	TTL	4	200	13	5	66		DPV12832A-17C	Dense-Pac	25
										DPV12832A-17I	Dense-Pac	
										DPV12832A-17M	† Dense-Pac	
	200	CMOS	TTL	4	200	13	5	66		DPV12832A-20C	Dense-Pac	
										DPV12832A-20I	Dense-Pac	
										DPV12832A-20M	† Dense-Pac	30
				5	120	12.5	5	66		DPV12832-200C	Dense-Pac	
										DPV12832-200I	Dense-Pac	
										DPV12832-200M	† Dense-Pac	
	250	CMOS	TTL	4	200	13	5	66		DPV12832A-25C	Dense-Pac	
										DPV12832A-25I	Dense-Pac	35
										DPV12832A-25M	† Dense-Pac	
				5	120	12.5	5	66		DPV12832-250C	Dense-Pac	
										DPV12832-250I	Dense-Pac	
										DPV12832-250M	† Dense-Pac	
128Kx8	55		TTL	180	225	12.5	5	66		DPV3232A-55C	Dense-Pac	40
	70		TTL	180	225	12.5	5	66		DPV3232A-70C	Dense-Pac	
										DPV3232A-70I	Dense-Pac	
										DPV3232A-70M	† Dense-Pac	
	90		TTL	180	225	12.5	5	66		DPV3232A-90C	Dense-Pac	
										DPV3232A-90I	Dense-Pac	45
										DPV3232A-90M	† Dense-Pac	
	120		TTL	20	85	12.5	5	66		DPV3232-120C	Dense-Pac	
										DPV3232A-120C	Dense-Pac	
										DPV3232A-120I	Dense-Pac	
										DPV3232A-120M	† Dense-Pac	50
	150		TTL	20	85	12.5	5	66		DPV3232A-150C	Dense-Pac	
										DPV3232A-150I	Dense-Pac	
										DPV3232A-150M	† Dense-Pac	
	170		TTL	20	85	12.5	5	66		DPV3232A-170C	Dense-Pac	
										DPV3232A-170I	Dense-Pac	55
										DPV3232A-170M	† Dense-Pac	
	200		TTL	20	85	12.5	5	66		DPV3232A-200C	Dense-Pac	
										DPV3232A-200I	Dense-Pac	
										DPV3232A-200M	† Dense-Pac	
	250		TTL	20	85	12.5	5	66		DPV3232A-250C	Dense-Pac	60
										DPV3232A-250I	Dense-Pac	
										DPV3232A-250M	† Dense-Pac	
256Kx8	90	CMOS	TTL	52	100		5	66	Also has 512K SRAM	PUMA2X0214-9035	Mosaic Semi	
										PUMA2X0214-9045	Mosaic Semi	
										PUMA2X0214-9055	Mosaic Semi	65
										PUMA2X0214-9070	Mosaic Semi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx8	90									(Cont'd)		
		CMOS	TTL	8	63		5	66	Also has 128K SRAM	PUMA2X0211-9055	Mosaic Semi	
										PUMA2X0211-9070	Mosaic Semi	
										PUMA2X0211-9085	Mosaic Semi	
	120	CMOS	TTL	52	100		5	66	Also has 512K SRAM	PUMA2X0214-1235	Mosaic Semi	
										PUMA2X0214-1245	Mosaic Semi	5
										PUMA2X0214-1255	Mosaic Semi	
										PUMA2X0214-1270	Mosaic Semi	
		CMOS	TTL	8	63		5	66	Also has 128K SRAM	PUMA2X0211-1255	Mosaic Semi	
										PUMA2X0211-1270	Mosaic Semi	
										PUMA2X0211-1285	Mosaic Semi	10
	150	CMOS	TTL	8	63		5	66	Also has 128K SRAM	PUMA2X0211-1555	Mosaic Semi	
										PUMA2X0211-1570	Mosaic Semi	
										PUMA2X0211-1585	Mosaic Semi	
				52	100		5	66	Also has 512K SRAM	PUMA2X0214-1535	Mosaic Semi	
										PUMA2X0214-1545	Mosaic Semi	15
										PUMA2X0214-1555	Mosaic Semi	
										PUMA2X0214-1570	Mosaic Semi	
256Kx30	300	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-30	† Dense-Pac	
256Kx32	170	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-17	† Dense-Pac	
	200	CMOS	TTLCMOS			12	5	66	PGA	DPV256X32V-20	† Dense-Pac	20
	250	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-25	† Dense-Pac	
	350	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-35	† Dense-Pac	
256Kx16	120	CMOS	TTL	4	100	13	5	66		DPV12832A-12C	Dense-Pac	
										DPV12832A-12I	Dense-Pac	
										DPV12832A-12M	† Dense-Pac	25
	150	CMOS	TTL	4	100	13	5	66		DPV12832A-15C	Dense-Pac	
										DPV12832A-15I	Dense-Pac	
										DPV12832A-15M	† Dense-Pac	
	170	CMOS	TTL	4	100	13	5	66		DPV12832A-17C	Dense-Pac	
										DPV12832A-17I	Dense-Pac	30
										DPV12832A-17M	† Dense-Pac	
	200	CMOS	TTL	4	100	13	5	66		DPV12832A-20C	Dense-Pac	
										DPV12832A-20I	Dense-Pac	
										DPV12832A-20M	† Dense-Pac	
				5	60	12.5	5	66		DPV12832-200C	Dense-Pac	35
										DPV12832-200I	Dense-Pac	
										DPV12832-200M	† Dense-Pac	
	250	CMOS	TTL	4	100	13	5	66		DPV12832A-25C	Dense-Pac	
										DPV12832A-25I	Dense-Pac	
										DPV12832A-25M	† Dense-Pac	40
				5	60	12.5	5	66		DPV12832-250C	Dense-Pac	
										DPV12832-250I	Dense-Pac	
										DPV12832-250M	† Dense-Pac	
256Kx8	55		TTL	15	225	12.5	5	66		DPV6432-55C	Dense-Pac	
	70		TTL	15	225	12.5	5	66		DPV6432-70C	Dense-Pac	45
										DPV6432-70I	Dense-Pac	
										DPV6432-70M	† Dense-Pac	
	90		TTL	15	225	12.5	5	66		DPV6432-90C	Dense-Pac	
										DPV6432-90I	Dense-Pac	
										DPV6432-90M	† Dense-Pac	50
	120		TTL	15	60	12.5	5	66		DPV6432-120C	Dense-Pac	
										DPV6432-120I	Dense-Pac	
										DPV6432-120M	† Dense-Pac	
		CMOS	TTL	2	50	13	5	40		DPV128X16-12C	Dense-Pac	
										DPV128X16-12I	Dense-Pac	55
										DPV128X16-12M	† Dense-Pac	
	150		TTL	15	60	12.5	5	66		DPV6432-150C	Dense-Pac	
										DPV6432-150I	Dense-Pac	
										DPV6432-150M	† Dense-Pac	
		CMOS	TTL	2	50	13	5	40		DPV128X16-15C	Dense-Pac	60
										DPV128X16-15I	Dense-Pac	
										DPV128X16-15M	† Dense-Pac	
	170		TTL	15	60	12.5	5	66		DPV6432-170C	Dense-Pac	
										DPV6432-170I	Dense-Pac	
										DPV6432-170M	† Dense-Pac	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

UV Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
256Kx8	170	CMOS	TTL	2	50	13	5	40		DPV128X16-17C	Dense-Pac	
										DPV128X16-17I	Dense-Pac	
										DPV128X16-17M	† Dense-Pac	
	200		TTL	15	60	12.5	5	66		DPV6432-200C	Dense-Pac	
										DPV6432-200I	Dense-Pac	5
										DPV6432-200M	† Dense-Pac	
		CMOS	TTL	2	50	13	5	40		DPV128X16-20C	Dense-Pac	
										DPV128X16-20I	Dense-Pac	
										DPV128X16-20M	† Dense-Pac	
	250		TTL	15	60	12.5	5	66		DPV6432-250C	Dense-Pac	10
										DPV6432-250I	Dense-Pac	
										DPV6432-250M	† Dense-Pac	
		CMOS	TTL	2	50	13	5	40		DPV128X16-25C	Dense-Pac	
										DPV128X16-25I	Dense-Pac	
										DPV128X16-25M	† Dense-Pac	15
512Kx8	120	CMOS	TTL	4	50	13	5	66		DPV12832A-12C	Dense-Pac	
										DPV12832A-12I	Dense-Pac	
										DPV12832A-12M	† Dense-Pac	
	150	CMOS	TTL	4	50	13	5	66		DPV12832A-15C	Dense-Pac	
										DPV12832A-15I	Dense-Pac	20
										DPV12832A-15M	† Dense-Pac	
	170	CMOS	TTL	4	50	13	5	66		DPV12832A-17C	Dense-Pac	
										DPV12832A-17I	Dense-Pac	
										DPV12832A-17M	† Dense-Pac	
	200	CMOS	TTL	4	50	13	5	66		DPV12832A-20C	Dense-Pac	25
										DPV12832A-20I	Dense-Pac	
										DPV12832A-20M	† Dense-Pac	
				5	30	12.5	5	66		DPV12832-200C	Dense-Pac	
										DPV12832-200I	Dense-Pac	
										DPV12832-200M	† Dense-Pac	30
	250	CMOS	TTL	4	50	13	5	66		DPV12832A-25C	Dense-Pac	
										DPV12832A-25I	Dense-Pac	
										DPV12832A-25M	† Dense-Pac	
				5	30	12.5	5	66		DPV12832-250C	Dense-Pac	
										DPV12832-250I	Dense-Pac	35
										DPV12832-250M	† Dense-Pac	
1Mx8	170	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-17	† Dense-Pac	
	200	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-20	† Dense-Pac	
	250	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-25	† Dense-Pac	
	300	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-30	† Dense-Pac	40
	350	CMOS	TTL/CMOS			12	5	66	PGA	DPV256X32V-35	† Dense-Pac	
1Mx16	150	Flash					5	50		**DPZ1MS16-150**	**Dense-Pac (3580)**	
	200	Flash					5	50		**DPZ1MS16-200**	**Dense-Pac (3580)**	
2Mx8	150	Flash					5	50		**DPZ1MS16-150**	**Dense-Pac (3580)**	
	200	Flash					5	50		**DPZ1MS16-200**	**Dense-Pac (3580)**	45

One-Time Programmable—General Purpose

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
18Kx1	45	CMOS	TTL	0.5	5	12	5	8		XC1718LC	Xilinx	
										XC1718LI	Xilinx	
										XC1718LM	† Xilinx	
	150	CMOS	TTL	0.5	10	12	5	8		**XC1718DC**	**Xilinx (3857)**	
										XC1718DI	**Xilinx (3857)**	50
										XC1718DM	**† Xilinx (3857)**	
36Kx1	45	CMOS	TTL	0.5	5	12	5	8		XC1736LC	Xilinx	
										XC1736LI	Xilinx	
										XC1736LM	† Xilinx	
	150	CMOS	TTL	0.5	10	12	5	8		**XC1736DC**	**Xilinx (3857)**	55
										XC1736DI	**Xilinx (3857)**	
										XC1736DM	**† Xilinx (3857)**	
65Kx1	45	CMOS	TTL	0.5	5	12	5	8		XC1765LC	Xilinx	
										XC1765LI	Xilinx	
										XC1765LM	Xilinx	60
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

One-Time Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
65Kx1											(Cont'd)	
	150	CMOS	TTL	0.5	10	12	5	8		**XC1765DC**	**Xilinx (3857)**	
										XC1765DI	**Xilinx (3857)**	
										XC1765DM	† **Xilinx (3857)**	
213Kx1	100	CMOS	TTL	0.5 *	10 *	5	5	8	Serial Device	EPC1213	Altera	
8Kx8	55	CMOS	TTL		75	13	5	24		LH5749-55	Sharp	5
				20	75	12.5	5	28		LH5762-55	Sharp	
	70	CMOS	TTL	10	60	12.5	5	28		LH5763-70	Sharp	
	120	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X64-120C	AMD	
	150	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X64-150C	AMD	
		NMOS	TTL	35	100		5	28		MSM2764AZB	OKI	10
	200	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X64-200C	AMD	
	250	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X64-250C	AMD	
16Kx8	70	CMOS	TTL	20	75	12.5	5	28		LH57126-70	Sharp	
	100	CMOS	TTL	10	60	12.5	5	28		LH57127-10	Sharp	
	120	CMOS	CMOS	0.1	25	12.74	5	28	OTP Alternative	AM27X128-120C	AMD	15
	150	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X128-150C	AMD	
		NMOS	TTL	35	100		5	28		MSM27128AZB	OKI	
	200	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X128-200C	AMD	
		NMOS	TTL	35	100		5	28		CAT27128A-20	Catalyst Semi	
	250	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X128-250C	AMD	20
		NMOS	TTL	35	100		5	28		CAT27128A-25	Catalyst Semi	
32Kx8	70	CMOS	TTL	30	80	12.5	5	28		LH57254-70	Sharp	
				35	100		5	28		MSM27C256HZB	OKI	
	90	CMOS	TTL	30	80	12.5	5	28		LH57254-90	Sharp	
	120	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X256-120C	AMD	25
			TTL	2	30	12.75	5	28		LH57256-12	Sharp	
	150	CMOS	CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X256-150C	AMD	
			TTL	0.1	30		5	28		MSM27C256ZB	OKI	
	170						5	28		CAT27256-17	Catalyst Semi	
		NMOS	TTL	35	100		5	28		MSM27256ZB	OKI	30
	200	CMOS		1	10		5	28		NM27LC256-200	National	
			CMOS	0.1	25	12.75	5	28	OTP Alternative	AM27X256-200C	AMD	
			TTL/CMOS	0.1	8	13	3–5	28		27LV256	ℓ† Microchip	
		NMOS	TTL	35	100		5	28		CAT27256-20	Catalyst Semi	
	250	CMOS		1	10		5	28		NM27LC256-250	National	35
			CMOS	0.1	40	12.75	5	28	OTP Alternative	AM27X256-250C	AMD	
		NMOS	TTL	35	100		5	28		CAT27256-25	Catalyst Semi	
32Kx8	120	CMOS					5	28		M5M27C256A-12	Mitsubishi	
	150	CMOS					5	28		M5M27C256A-15	Mitsubishi	
			TTL		30	12.5	5	28		LH57257	Sharp	40
	200	CMOS	TTL	1	30	12.5	5	28		TC54256A-200	Toshiba	
64Kx8	120	CMOS	TTL	0.1	40		5	28	OTP Alternative	AM27X512-120C	AMD	
				2	30	12.75	5	28		LH57512-12	Sharp	
	150	CMOS	TTL	0.1	40		5	28	OTP Alternative	AM27X512-150C	AMD	
				2	30	12.75	5	28		LH57512-15	Sharp	45
	200	CMOS		0.05	15		5	32		NM27LV512-200	National	
			TTL	0.1	40		5	40	OTP Alternative	AM27X512-200C	AMD	
			TTL/CMOS	0.1	12	13	3–5	28		27LV256	ℓ† Microchip	
		NMOS	TTL	35	100		5	28		MSM27512ZB	OKI	
	250	CMOS		0.05	15		5	32		NM27LV512-250	National	50
			TTL	0.1	40		5	28	OTP Alternative	AM27X512-250C	AMD	
		NMOS	TTL	35	100		5	28		CAT27512-25	Catalyst Semi	
	300	CMOS		0.05	15		5	32		NM27LV512-300	National	
64Kx16	100	CMOS	TTL/CMOS	0.1	40	12.75	5	40		TC54H1024-100	Toshiba	
	150	CMOS	CMOS/TTL	0.2	50		5	40	OTP Alternative	AM27X1024-150C	AMD	55
	170	NMOS	TTL	35	120		5	40		MSM271024ZB	OKI	
	200	CMOS					5	40		27C210-20	Philips	
				0.05	20		3	44		NM27LV210-200	ℓ National	
			CMOS/TTL	0.2	50		5	40	OTP Alternative	AM27X1024-200C	AMD	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

One-Time Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx16											(Cont'd)	
	250	CMOS		0.05	20		3	44		NM27LV210-250	ℓ National	
			CMOS/TTL	0.2	50		5	40	OTP Alternative	AM27X1024-250C	AMD	
	300	CMOS		0.05	20		3	44		NM27LV210-300	ℓ National	
64Kx16	85	CMOS	TTL	1	40	12.75	5	40		TC54H1024-85	Toshiba	
64Kx8	150	CMOS					5	150		M5M27C102-15	Mitsubishi	5
								28		M5M27C512A-15	Mitsubishi	
			TTL	1	30	12.5	5	28		TC54512A-15	Toshiba	
	200	CMOS		1	30	12.75	3	32		M27V512-200	ℓ SGS-Thomson	
			CMOS	0.025	15	12.75	3.3	32		AM27LV512-200	ℓ AMD	
			TTL	1	30	12.5	5	28		TC54512A-20	Toshiba	10
	250	CMOS		1	30	12.75	3	32		M27V512-250	ℓ SGS-Thomson	
			CMOS	0.025	15	12.75	3.3	32		AM27LV512-250	ℓ AMD	
	300	CMOS	CMOS	0.025	15	12.75	3.3	32		AM27LV512-300	ℓ AMD	
128Kx8	85	CMOS	TTL/CMOS	0.1	40	12/75	5	32		TC54H1000A-85	Toshiba	
						12.75	5	40		TC54H1001A-85	Toshiba	15
	100	CMOS	TTL/CMOS	0.1	40	12.75	5	32		TC54H1000A-100	Toshiba	
										TC54H1001A-100	Toshiba	
	120	CMOS	CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X010-120C	AMD	
										AM27X100-120C	AMD	
			TTL	2	40	12.75	5	32		LH571000-12	Sharp	20
										LH571001-12	Sharp	
			TTL/CMOS	0/1	30	12.75	5	32		TC541001A-120	Toshiba	
				0.1	30	12.75	5	32		TC541000A-120	Toshiba	
	150	CMOS					5	32		MTM27C101P-15	Mitsubishi	
									Mask ROM Compatible	M5M27C100P-15	Mitsubishi	25
			CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X010-150C	AMD	
										AM27X100-150C	AMD	
			TTL	2	40	12.75	5	32		LH571000-15	Sharp	
										LH571001-15	Sharp	
			TTL/CMOS	0.1	30	12.75	5	32		TC541000A-150	Toshiba	30
										TC541001A-150	Toshiba	
	200	CMOS	CMOS	0.025	15	12.75	3.3	32		AM27LV010-200	ℓ AMD	
										AM27LV020-200	ℓ AMD	
			CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X010-200C	AMD	
										AM27X100-200C	AMD	35
		NMOS	TTL	35	100		5	32		MSM271000ZB	OKI	
	250	CMOS	CMOS	0.025	15	12.75	3.3	32		AM27LV010-250	ℓ AMD	
										AM27LV020-250	ℓ AMD	
			CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X010-250C	AMD	
										AM27X100-250C	AMD	40
	300	CMOS	CMOS	0.025	15	12.75	3.3	32		AM27LV010-300	ℓ AMD	
										AM27LV020-300	ℓ AMD	
128Kx16	150	CMOS	CMOS/TTL	0.1	50		5	40	OTP Alternative	AM27X2048-150C	AMD	
	200	CMOS	CMOS/TTL	0.1	50		5	40	OTP Alternative	AM27X2048-200C	AMD	
	250	CMOS	CMOS/TTL	0.1	50		5	40	OTP Alternative	AM27X2048-250C	AMD	45
128Kx1	60	CMOS	TTL	0.5	10	12	5	8		**XC17128DC**	**Xilinx (3857)**	
										XC17128DM	† **Xilinx (3857)**	
128Kx16	120	CMOS					5	40		M5M27C202-12	Mitsubishi	
	150	CMOS					5	40		M5M27C202-15	Mitsubishi	
128Kx8	120	CMOS	TTL	1	30	12.75	5	32		TC541000A-12	Toshiba	50
										TC541001A-12	Toshiba	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—EPROMs (Cont'd)

One-Time Programmable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
128Kx8											(Cont'd)
	150	CMOS					5	150		M5M27C101-15	Mitsubishi
			TTL	1	30	12.75	5	32		TC541000A-15	Toshiba
										TC541001A-15	Toshiba
256Kx8	120	CMOS	TTL	5	50		5	32		MSM27C2000ZB	OKI
	150	CMOS	CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X020-150C	AMD
					40		5	32	OTP Alternative	AM27X040-150C	AMD
	200	CMOS					5	68	16K SRAM, 8/16 bit modes, 8 bit counter, I/O port	M6M72561J	Mitsubishi
			CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X020-200C	AMD
					40		5	32	OTP Alternative	AM27X040-200C	AMD
	250	CMOS	CMOS/TTL	0.1	30		5	32	OTP Alternative	AM27X020-250C	AMD
					40		5	32	OTP Alternative	AM27X040-250C	AMD
256Kx16	150	CMOS					5	40		M5M27C402P-15	Mitsubishi
	200	CMOS					5	68	16K SRAM, 8/16 bit modes, 8 bit counter, I/O port	M6M72561J	Mitsubishi
256Kx1	60	CMOS	TTL	0.5	10	12	5	8		XC17256DC	Xilinx
										XC17256DM	† Xilinx
256Kx16	60	CMOS					5	40		M5M27404A-12	Mitsubishi
										M5M27404A-15	Mitsubishi
	120	CMOS	TTL	1	60	12.5	5	40		TC544096-120	Toshiba
										TC544200-120	Toshiba
	150	CMOS					5	40		M5M27400A-15	Mitsubishi
			TTL	1	60	12.5	5	40		TC544096-150	Toshiba
										TC544200-150	Toshiba
	200	CMOS	TTL	1	60	12.5	5	40		TC544200-200	Toshiba
256Kx8	120	CMOS					5	40		M5M27C201-12	Mitsubishi
										M5M27400A-12	Mitsubishi
	150	CMOS					5	40		M5M27C201-15	Mitsubishi
512Kx8	120	CMOS	TTL	1	60	12.50	5	32		TC544000A-120	Toshiba
	150	CMOS					5	32		M5M27C401P-15	Mitsubishi
			TTL	1	50	12	5	32		TC544000A-150	Toshiba
512Kx8	120	CMOS					5	40		M5M27400A-12	Mitsubishi
								32		M5M27401A-12	Mitsubishi
								40		M5M27404A-12	Mitsubishi
			TTL	1	60	12.5	5	32		TC544000-12	Toshiba
								40		TC544200-120	Toshiba
			TTL/CMOS	0.1	60	12.5	5	40		TC544200-12	Toshiba
	150	CMOS					5	40		M5M27400A-15	Mitsubishi
								32		M5M27401A-15	Mitsubishi
								40		M5M27404A-15	Mitsubishi
			TTL	1	60	12.5	5	32		TC544000-15	Toshiba
								40		TC544000-150	Toshiba
										TC544200-150	Toshiba
			TTL/CMOS	0.1	60	12.5	5	40		TC544200-15	Toshiba
	200	CMOS	TTL	1	60	12.5	5	40		TC544200-200	Toshiba
64Kx16	120	CMOS	CMOS/TTL	0.2	50		5	40	OTP Alternative	AM27X1024-120C	AMD

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH

Flash Memories—General Purpose

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
412Kx8	120	CMOS	TTL	100K	1	70	5	5	32		TC584000	Toshiba	
32Kx8	90	CMOS	CMOS/TTK	10K	1	30	12	5	32		AM28F256-90C	AMD	
	120	CMOS	CMOS/TTL	1K	3	80		5	28		AT29C256-12M/883	† ATMEL	
											AT29C257-12M	† ATMEL	
											AT29C257-12M/883	† ATMEL	5
				10K	1	30	12	5	32		AM28F256-120C	† AMD	
			TTL/CMOS		1	30	12.75	5	28	For Automotive Applications	A27C256-120V10	Intel	
	150							5			TMS87C257-150	TI	
		CMOS	CMOS/TTL	1K	3	50		5	32		AT29C010-15M/883	† ATMEL	
						80		5	28		AT29C256-15M/883	† ATMEL	10
									32		AT29C257-15M	† ATMEL	
											AT29C257-15M/883	† ATMEL	
				10K	1K	30	12	5	32		AM28F256-150C	† AMD	
	170							5			TMS29F258-170	° TI	
											TMS29F259-170	° TI	15
											TMS87C257-170	TI	
	200							5			TMS29F258-20	° TI	
											TMS29F258-200	° TI	
											TMS29F259-20	° TI	
											TMS29F259-200	° TI	20
		CMOS	CMOS/TTL	1K	3	80		5	28		AT29C256-20M/883	† ATMEL	
									32		AT29C257-20M	† ATMEL	
											AT29C257-20M/883	† ATMEL	
				10K	1	30	12	5	32		AM28F256-200C	† AMD	
			TTL/CMOS		1	30	12.75	5	28	For Automotive Applications	A27C256-200V10	Intel	25
											A87C257-200V10	Intel	
	250							5			TMS29F258-250	° TI	
											TMS29F259-25	° TI	
											TMS29F259-250	° TI	
		CMOS	CMOS/TTL	1K	3	80		5	28		AT29C256-25M/883	† ATMEL	30
									32		AT29C257-25M	† ATMEL	
											AT29C257-25M/883	† ATMEL	
	300							5			TMS29F258-30	° TI	
											TMS29F258-300	° TI	
											TMS29F259-30	° TI	35
											TMS29F259-300	° TI	
32Kx8	90	CMOS	CMOS/TTL	1K	3	80		5	28		AT29C256-90C	ATMEL	
						50		5	28		AT29C257-90C	ATMEL	
	100	CMOS		1K	1	30	12	5	32		M28F256-10	SGS-Thomson	
				10K	1	30	12	5	32		M28F256A-10	SGS-Thomson	40
											M28F512-10	SGS-Thomson	
	120	CMOS		1K	1	30	12	5	32		M28F256-12	SGS-Thomson	
				10K	1	30	12	5	32		M28F256A-12	SGS-Thomson	
											M28F512-12	SGS-Thomson	
			CMOS/TTL	1K	3	80		5	28		AT29C256-12C	ATMEL	45
											AT29C256-12I	ATMEL	
											AT29C256-12M	† ATMEL	
						50		5	28		AT29C257-12C	ATMEL	
											AT29C257-12I	ATMEL	
			TTL	100K	1	30	12	5	32		28F256A-120	° Intel	50
			TTL/CMOS		1	30	12.75	5	28		A87C257-120V10	Intel	
				1K	1	30	12	5	32		A28F256A-120	Intel	
	150	CMOS		1K	1	30	12	5	32		M28F256-15	SGS-Thomson	
				10K	1	30	12	5	32		M28F256A-15	SGS-Thomson	
											M28F512-15	SGS-Thomson	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
												(Cont'd)	
32Kx8	150	CMOS	CMOS/TTL	1K	3	80		5	28		AT29C256-15C	ATMEL	
											AT29C256-15I	ATMEL	
											AT29C256-15M	† ATMEL	
						50		5	32		AT29C257-15C	ATMEL	
											AT29C257-15I	ATMEL	5
			TTL	100K	1	30	12	5	32		28F256A-150	° Intel	
			TTL/CMOS	1K	1	30	12	5	32		A28F256A-150	Intel	
	200	CMOS		1K	1	30	12	5	32		M28F256-20	SGS-Thomson	
				10K	1	30	12	5	32		M28F256A-20	SGS-Thomson	
											M28F512-20	SGS-Thomson	10
			CMOS/TTL	1K	1	15		3.3	32		AT29LV256-20C	ℓ ATMEL	
											AT29LV256-20I	ℓ ATMEL	
					3	80		5	28		AT29C256-20C	ATMEL	
											AT29C256-20I	ATMEL	
											AT29C256-20M	† ATMEL	15
						50		5	32		AT29C257-20C	ATMEL	
											AT29C257-20I	ATMEL	
	250	CMOS	CMOS/TTL	1K	1	15		3.3	32		AT29LV256-25C	ℓ ATMEL	
											AT29LV256-25I	ℓ ATMEL	
					3	80		5	28		AT29C256-25C	ATMEL	20
											AT29C256-25I	ATMEL	
											AT29C256-25M	† ATMEL	
						50		5	32		AT29C257-25C	ATMEL	
											AT29C257-25I	ATMEL	
64Kx8	90	CMOS	CMOS/TTL	1K	3	50		5	32		AT29C51290I	ATMEL	25
	100							5			TMS29F512-100	TI	
	120							5			TMS29F512-12	TI	
											TMS29F512-120	TI	
		CMOS	CMOS/TTL	1K	3	50		5	32		AT29C512-12M/883	† ATMEL	
			TTL/CMOS	10K	1	30	12	5	32		CAT28F512-12	Catalyst Semi	30
											CAT28F512I-12	Catalyst Semi	
							5	5	32		CAT28F512V5-12	Catalyst Semi	
											CAT28F512V5I-12	Catalyst Semi	
	150							5			TMS29F512-15	TI	
											TMS29F512-150	TI	35
		CMOS	CMOS/TLL	10K	1	30	12	5	32		AM28F512-150C	† AMD	
			CMOS/TTL	1K	3	50		5	32		AT29C512-15M/883	† ATMEL	
			TTL/CMOS	10K	1	30	12	5	32		CAT28F512I-15	Catalyst Semi	
							5	5	32		CAT28F512V5-15	Catalyst Semi	
											CAT28F512V5I-15	Catalyst Semi	40
	200							5			TMS29F512-20	TI	
											TMS29F512-200	TI	
		CMOS	CMOS/TTL	1K	3	50		5	32		AT29C512-20M/883	† ATMEL	
			TTL	10K	1	30	12	5	32		AM28F512-200C	† AMD	
			TTL/CMOS	10K	1	30	12	5	32		CAT28F512-20	Catalyst Semi	45
											CAT28F512I-20	Catalyst Semi	
							5	5	32		CAT28F512V5I-20	Catalyst Semi	
64Kx16	120	CMOS						5	40		M5M28F102-12	Mitsubishi	
64Kx16	100	CMOS						5	40		M5M28F102-10	Mitsubishi	
				10K	1	50	12	5	44		M28F102-100	SGS-Thomson	50
	120	CMOS		10K	1	50	12	5	44		M28F102-120	SGS-Thomson	
	150	CMOS						5	40		M5M28F102-15	Mitsubishi	
				10K	1	50	12	5	44		M28F102-150	SGS-Thomson	
	200	CMOS		10K	1	50	12	5	44		M28F102-200	SGS-Thomson	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—General Purpose (Cont'd)

Organi- zation	Max Access Time (ns)	Process Tech- nology	I/O Comp- atibility	No. Erase/ Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8	90	CMOS	CMOS/TTL	1K	3	50		5	32		AT29C512-90C	ATMEL	
											AT29C512-90I	ATMEL	
	120	CMOS		100K	1	30	12	5	32		28F512-120	° Intel	
											28F512-120T	Intel	
			CMOS/TTL	1K	3	50		5	32		AT29C512-12C	ATMEL	5
											AT29C512-12I	ATMEL	
											AT29C512-12M	† ATMEL	
				10K	1	30	12	5	32		AM28F512-120C	† AMD	
			TTL/CMOS	1K	1	30	12	5	32		A28F512-120	Intel	
	150	CMOS		100K	1	30	12	5	32		28F512-150T	Intel	10
			CMOS/TTL	1K	3	50		5	32		AT29C512-15C	ATMEL	
											AT29C512-15I	ATMEL	
											AT29C512-15M	† ATMEL	
			TTL	100K	1	30	12	5	32		28F512-150	° Intel	
			TTL/CMOS	1K	1	30	12	5	32		A28F512-150	Intel	15
				10K	1	30	12	5	32		CAT28F512-15	Catalyst Semi	
	200	CMOS						5	32		CAT28F512	Catalyst Semi	
											CAT28F512V5	Catalyst Semi	
			CMOS/TTL	1K	1	15		3	32		AT29LV512-20C	ℓ ATMEL	
											AT29LV512-20I	ℓ ATMEL	20
					3	50		5	32		AT29C512-20C	ATMEL	
											AT29C512-20I	ATMEL	
											AT29C512-20M	† ATMEL	
			TTL/CMOS	10K	1	30	5	5	32		CAT28F512V5-20	Catalyst Semi	
	250	CMOS						5	32		CAT28F512V5-25	Catalyst Semi	25
			CMOS/TTL	1K	1	15		3	32		AT29LV512-25C	ℓ ATMEL	
											AT29LV512-25I	ℓ ATMEL	
128Kx8	90	CMOS	CMOS/TTL	10K	1	30	12	5	32		AM28F010-90C	AMD	
	100							5			TMS29F010-100	TI	
	120							5			TMS29F010-12	TI	30
											TMS29F010-120	TI	
		CMOS			1	30		5	32		MFM8129-12	Mosaic Semi	
				10000	100	30	12	12	32		28F001-120	Intel	
			CMOS/TTL	10K	1	30	12	5	32		AM28F010-120	AMD	
			TTL/CMOS	10K	1	30	5	5	32		CAT28F010V5-12	Catalyst Semi	35
											CAT28F010V5I-12	Catalyst Semi	
	150							5			TMS29F010-15	TI	
											TMS29F010-150	TI	
		CMOS			1	30		5	32		MFM8129-15	Mosaic Semi	
				10000	100	30	12	12	32		28F001-150	Intel	40
			CMOS/TTL	10K	1	30	12	5	32		AM28F010-150	AMD	
			TTL/CMOS	10K	1	30	5	5	32		CAT28F010V5-15	Catalyst Semi	
											CAT28F010V5I-15	Catalyst Semi	
	200							5			TMS29F010-20	TI	
											TMS29F010-200	TI	45
		CMOS			1	30		5	32		MFM8129-20	Mosaic Semi	
			CMOS/TTL	1K	3	50		5	32		AT29C010-20M/883	† ATMEL	
				10K	1	30	12	5	32		AM28F010-200	AMD	
			TTL/CMOS	10K	1	30	5	5	32		CAT28F010V5-20	Catalyst Semi	
											CAT28F010V5I-20	Catalyst Semi	50

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8												(Cont'd)	
	250	CMOS	CMOS/TTL	1K	3	50		5	32		AT29C010-25C	ATMEL	
											AT29C010-25I	ATMEL	
											AT29C010-25M †	ATMEL	
											AT29C010-25M/883 †	ATMEL	
128Kx32	90	CMOS						5	66		PUMA2F4002-90	Mosaic Semi	5
	120	CMOS						5	66		PUMA2F4000-12	Mosaic Semi	
											PUMA2F4002-12	Mosaic Semi	
											PUMA3F4003-12	Mosaic Semi	
	150	CMOS						5	66		PUMA2F4000-15	Mosaic Semi	
											PUMA2F4002-15	Mosaic Semi	10
											PUMA3F4003-15	Mosaic Semi	
	200	CMOS						5	66		PUMA2F4000-20	Mosaic Semi	
											PUMA2F4002-20	Mosaic Semi	
											PUMA3F4003-20	Mosaic Semi	
128Kx16	60	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F002BX-60**	**Intel (3650)**	15
						75	12	5	40		**28F002BX-60B**	**Intel (3650)**	
											28F002BX-60T	**Intel (3650)**	
						65	12	5	56		**28F200BX-60**	**Intel (3650)**	
						75	12	5	56		**28F200BX-60B**	**Intel (3650)**	
											28F200BX-60T	**Intel (3650)**	20
	80	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F002BX-80**	**Intel (3650)**	
						75	12	5	40		**28F002BX-80B**	**Intel (3650)**	
											28F002BX-80T	**Intel (3650)**	
						65	12	5	56		**28F200BX-80**	**Intel (3650)**	
						75	12	5	56		**28F200BX-80B**	**Intel (3650)**	25
											28F200BX-80T	**Intel (3650)**	
	90	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F002BX-90**	**Intel (3650)**	
						75	12	5	40		**28F002BX-90B**	**Intel (3650)**	
											28F002BX-90T	**Intel (3650)**	
						65	12	5	56		**28F200BX-90**	**Intel (3650)**	30
						75	12	5	56		**28F200BX-90B**	**Intel (3650)**	
											28F200BX-90T	**Intel (3650)**	
	150	CMOS		10K	0.12	22	12	3.3	40		**28F002BX-L150** ℓ	**Intel (3650)**	
									56		**28F200BX-L150**	**Intel (3650)**	
128Kx8	90	CMOS	CMOS/TTL	1K	0.02	40		5	32		**CAT29C010-90**	**Catalyst Semi (3564)**	35
					3	50		5	32		AT29C010-90C	ATMEL	
											AT29C010-90I	ATMEL	
	100	CMOS						5	32		M5M28F101-10	Mitsubishi	
				10K	1	30	12	5	32		M28F101-100	SGS-Thomson	
	120	CMOS						5	32		M5M28F101-12	Mitsubishi	40
				10K			12	5	32		HN28F101-12	Hitachi	
											MFM8128-12	Mosaic Semi	
					1	30	12	5	32		M28F101-120	SGS-Thomson	
					2	35	12	5	32		**CAT28F001BX-120B**	**Catalyst Semi (3564)**	
											CAT28F001BX-120T	**Catalyst Semi (3564)**	45
						30	12	5	32		**28F001BX-120**	**Intel (3651)**	
						35	12	5	32		**28F001BX-120B**	**Intel (3651)**	
											28F001BX-120T	**Intel (3651)**	
				100K	1	30	12	5	32		**28F010-120** °	**Intel (3653)**	
											28F010-120T	**Intel (3653)**	50
			CMOS/TTL	1K	0.02	40		5	32		**CAT29C010-12**	**Catalyst Semi (3564)**	
					3	50		5	32		AT29C010-12C	ATMEL	
											AT29C010-12I	ATMEL	
											AT29C010-12M †	ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	120	CMOS										(Cont'd)	
			TTL	10K	1	30	12	5	32		MBM28F010-12	Fujitsu	
			TTL/CMOS	10K	1	15	12	5	32		**CAT28F010-12**	**Catalyst Semi (3564)**	
						30	12	5	32		**CAT28F010I-12**	**Catalyst Semi (3564)**	
	150	CMOS						5	32		M5M28F101-15	Mitsubishi	
				10K			12	5	32		HN28F101-15	Hitachi	5
											MFM8128-15	Mosaic Semi	
					1	30	12	5	32		M28F101-150	SGS-Thomson	
					2	35	12	5	32		**CAT28F001BX-150B**	**Catalyst Semi (3564)**	
											CAT28F001BX-150T	**Catalyst Semi (3564)**	
						30	12	5	32		**28F001BX-150**	**Intel (3651)**	10
						35	12	5	32		**28F001BX-150B**	**Intel (3651)**	
											28F001BX-150T	**Intel (3651)**	
				100K	1	30	12	5	32		**28F010-150**	° **Intel (3653)**	
											28F010-150T	**Intel (3653)**	
			CMOS/TTL	1K	0.02	40		5	32		**CAT29C010-15**	**Catalyst Semi (3564)**	15
					3	50		5	32		AT29C010-15C	ATMEL	
											AT29C010-15I	ATMEL	
											AT29C010-15M	† ATMEL	
			TTL	10K	1	30	12	5	32		TC58F1001-15	Toshiba	
			TTL/CMOS	1K	1	30	12	5	32		A28F010-150	Intel	20
				10K	1	15	12	5	32		**CAT28F010-15**	**Catalyst Semi (3564)**	
						30	12	5	32		**CAT28F010I-15**	**Catalyst Semi (3564)**	
	200	CMOS		10K				5	32		MFM8128-20	Mosaic Semi	
					1	30	12	5	32		M28F101-200	SGS-Thomson	
					2	35	12	5	32		**CAT28F001BX-20B**	**Catalyst Semi (3564)**	25
											CAT28F001BX-20T	**Catalyst Semi (3564)**	
			CMOS/TTL	1K	1	15		3.3	32		AT29LV010-20C	ℓ ATMEL	
											AT29LV010-20I	ℓ ATMEL	
					3	50		5	32		AT29C010-20C	ATMEL	
											AT29C010-20I	ATMEL	30
											AT29C010-20M	† ATMEL	
			TTL	10K	1	30	12	5	32		MBM28F010-20	Fujitsu	
											TC58F1001-20	Toshiba	
			TTL/CMOS	10K	1	15	12	5	32		**CAT28F010-20**	**Catalyst Semi (3564)**	
						30	12	5	32		**CAT28F010I-20**	**Catalyst Semi (3564)**	35
	250	CMOS	CMOS/TTL	1K	1	15		3.3	32		AT29LV010-25C	ℓ ATMEL	
											AT29LV010-25I	ℓ ATMEL	
256Kx8	90	CMOS	CMOS/TTL	10K	1	30	12	5	32		AM28F020-90C	AMD	
	120	CMOS	CMOS/TTL	10K	1	30	12	5	32		AM28F020-120C	† AMD	
	150	CMOS	CMOS/TTL	10K	1	30	12	5	32		AM28F020-150C	† AMD	40
	200	CMOS	CMOS/TTL	10K	1	30	12	5	32		AM28F020-200C	† AMD	
256Kx32	150	CMOS						5	66		PUMA3F8003-15	Mosaic Semi	
	170	CMOS						5	66		PUMA3F8003-17	Mosaic Semi	
	200	CMOS						5	66		PUMA3F8003-20	Mosaic Semi	
256Kx16	60	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F004BX-60**	**Intel (3649)**	45
						75	12	5	40		**28F004BX-60B**	**Intel (3649)**	
											28F004BX-60T	**Intel (3649)**	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16	60	CMOS	CMOS/TTL	100K	1.5							(Cont'd)	
						65	12	5	56		**28F400BX-60**	**Intel (3649)**	
						75	12	5	40		**28F400BX-60B**	**Intel (3649)**	
											28F400BX-60T	**Intel (3649)**	
	80	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F004BX-80**	**Intel (3649)**	
											28F004BX-80B	**Intel (3649)**	5
											28F004BX-80T	**Intel (3649)**	
									56		**28F400BX-80**	**Intel (3649)**	
						75	12	5	40		**28F400BX-80B**	**Intel (3649)**	
											28F400BX-80T	**Intel (3649)**	
	90	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F004BX-90**	**Intel (3649)**	10
											28F004BX-90B	**Intel (3649)**	
											28F004BX-90T	**Intel (3649)**	
									56		**28F400BX-90**	**Intel (3649)**	
											28F400BX-90	**Intel (3649)**	
						75	12	5	40		**28F400BX-90B**	**Intel (3649)**	15
											28F400BX-90T	**Intel (3649)**	
	100	CMOS						5	48		M5M28F400-10	Mitsubishi	
	120	CMOS						5	48		M5M28F400-12	Mitsubishi	
			TTL/CMOS	10K	0.1	45	12	5	44		CAT28F400-12	Catalyst Semi	
	150	CMOS						5	48		M5M28F400-15	Mitsubishi	20
			TTL/CMOS	10K	0.1	45	12	5	44		CAT28F400-15	Catalyst Semi	
	200	CMOS	TTL/CMOS	10K	0.1	45	12	5	44		CAT28F400-20	Catalyst Semi	
256Kx8	60	CMOS	CMOS/TTL	100K	1.5	75	12	5	40		**28F002BX-60**	**Intel (3650)**	
											28F002BX-60B	**Intel (3650)**	
											28F002BX-60T	**Intel (3650)**	25
						65	12	5	56		**28F200BX-60**	**Intel (3650)**	
						75	12	5	56		**28F200BX-60B**	**Intel (3650)**	
											28F200BX-60T	**Intel (3650)**	
	80	CMOS		100K	1	30	12	5	32		**28F020-80**	**Intel (3652)**	
											28F020-80T	**Intel (3652)**	30
			CMOS/TTL	100K	1.5	75	12	5	40		**28F002BX-80**	**Intel (3650)**	
											28F002BX-80B	**Intel (3650)**	
											28F002BX-80T	**Intel (3650)**	
						65	12	5	56		**28F200BX-80**	**Intel (3650)**	
						75	12	5	56		**28F200BX-80B**	**Intel (3650)**	35
											28F200BX-80T	**Intel (3650)**	
	90	CMOS		100K	1	30	12	5	32		**28F020-90**	**Intel (3652)**	
											28F020-90T	**Intel (3652)**	
									32		MSI28F020-90	MSI/Scorpion	
			CMOS/TTL	100K	1.5	75	12	5	40		**28F002BX-90**	**Intel (3650)**	40
											28F002BX-90B	**Intel (3650)**	
											28F002BX-90T	**Intel (3650)**	
						65	12	5	56		**28F200BX-90**	**Intel (3650)**	
						75	12	5	56		**28F200BX-90B**	**Intel (3650)**	
											28F200BX-90T	**Intel (3650)**	45
	100	CMOS		10K	1	30	12	5	32		M28F201-100	SGS-Thomson	
			CMOS/TTL	1K			3.3	3.3	32		AT29LV020-10C	ℓ ATMEL	
											AT29LV020-10I	ℓ ATMEL	
	120	CMOS						5	32		MFM8256-12	Mosaic Semi	
				10K	1	30	12	5	32		M28F201-120	SGS-Thomson	50
			CMOS/TTL	1K			5	5	32		AT29C020C	ATMEL	
											AT29C020I	ATMEL	
												(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Flash Memories—General Purpose												**(Cont'd)**	
256Kx8	120	CMOS										(Cont'd)	
			TTL/CMOS	10K	1	30	12	5	32		**CAT28F020-12**	**Catalyst Semi (3564)**	
											CAT28F020I-12	**Catalyst Semi (3564)**	
	150	CMOS						5	32		MFM8256-15	Mosaic Semi	
				10K	0.12	22	12	3.3	40		**28F002BX-L150**	ℓ **Intel (3650)**	
									56		**28F200BX-L150**	ℓ **Intel (3650)**	5
					1	30	12	5	32		M28F201-150	SGS-Thomson	
				100K	1	30	12	5	32		**28F020-150**	**Intel (3652)**	
											28F020-150T	**Intel (3652)**	
									32		MSI28F020-150	MSI/Scorpion	
			TTL/CMOS	10K	0.12	30	12	3.3	44		**28F200BX-150**	ℓ **Intel (3650)**	10
					1	30	12	5	32		**CAT28F020-15**	**Catalyst Semi (3564)**	
											CAT28F020I-15	**Catalyst Semi (3564)**	
	200	CMOS						5	32		MFM8256-20	Mosaic Semi	
				10K	1	30	12	5	32		M28F201-200	SGS-Thomson	
				100K	1	30	12	5	32		**28F020-200**	**Intel (3652)**	15
											28F020-200T	**Intel (3652)**	
			CMOS/TTL	1K			3.3	3.3	32		AT29LV020-20C	ℓ ATMEL	
											AT29LV020-20I	ℓ ATMEL	
			TTL/CMOS	10K	1	30	12	5	32		**CAT28F020-20**	**Catalyst Semi (3564)**	
											CAT28F020I-20	**Catalyst Semi (3564)**	20
	250	CMOS	CMOS/TTL	1K			3.3	3.3	32		AT29LV020-25C	ℓ ATMEL	
											AT29LV020-25I	ℓ ATMEL	
256Kx8, 256Kx8	150	CMOS	TTL/CMOS	10K	0.12	30	12	3.3	44		**28F002BX-150**	ℓ **Intel (3650)**	
512Kx8	120	CMOS		10K	1	100		5	32		MFM8512-12	Mosaic Semi	
	150	CMOS		10K	1	100		5	32		MFM8512-15	Mosaic Semi	25
	200	CMOS		10K	1	100		5	32		MFM8512-20	Mosaic Semi	
512Kx16	150	CMOS						12	80		M28F001AX-150	Intel	
512Kx16	120	CMOS						12	80		ISM001FLKA	Intel	
			TTL	10K	0.4	20.3	12	5	80		iSM001FLKA-120	Intel	
	200	CMOS						12	80		SMM28F001AX-200	Intel	30
			TTL	10K	0.4	20.3	12	5	80		iSM001FLKA-200	Intel	
512Kx8	60	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F004BX-60**	**Intel (3649)**	
						75	12	5	40		**28F004BX-60B**	**Intel (3649)**	
											28F004BX-60T	**Intel (3649)**	
						65	12	5	56		**28F400BX-60**	**Intel (3649)**	35
						75	12	5	40		**28F400BX-60B**	**Intel (3649)**	
											28F400BX-60T	**Intel (3649)**	
	80	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F004BX-80**	**Intel (3649)**	
											28F004BX-80B	**Intel (3649)**	
											28F004BX-80T	**Intel (3649)**	40
									56		**28F400BX-80**	**Intel (3649)**	
						75	12	5	40		**28F400BX-80B**	**Intel (3649)**	
											28F400BX-80T	**Intel (3649)**	
	90	CMOS	CMOS/TTL	100K	1.5	65	12	5	40		**28F004BX-90**	**Intel (3649)**	
											28F004BX-90B	**Intel (3649)**	45
											28F004BX-90T	**Intel (3649)**	
						75	12	5	40		**28F400BX-90B**	**Intel (3649)**	
											28F400BX-90T	**Intel (3649)**	
	100	CMOS						5	48		M5M28F400-10	Mitsubishi	
	120	CMOS						5	48		M5M28F400-12	Mitsubishi	50
												(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
												(Cont'd)
512Kx8	120	CMOS		10K			12	5	32		HN28F4001-12	Hitachi
					20	100		5	32		MFM8512G-12	Mosaic Semi
											MFM8512GM-12	† Mosaic Semi
											MFM8512J-12	Mosaic Semi
											MFM8512JM-12	† Mosaic Semi
											MFM8512S-12	Mosaic Semi
											MFM8512SM-12	† Mosaic Semi
											MFM8512V-12	Mosaic Semi
											MFM8512VM-12	† Mosaic Semi
											MFM8512W-12	Mosaic Semi
											MFM8512WM-12	† Mosaic Semi
			CMOS/TTL	1K			5	5	32		AT29C040C	ATMEL
											AT29C040I	ATMEL
											AT29C040M	† ATMEL
	150	CMOS						5	48		M5M28F400-15	Mitsubishi
				10K			12	5	32		HN28F4001-15	Hitachi
					20	100		5	32		MFM8512G-15	Mosaic Semi
											MFM8512GM-15	† Mosaic Semi
											MFM8512J-15	Mosaic Semi
											MFM8512JM-15	† Mosaic Semi
											MFM8512S-15	Mosaic Semi
											MFM8512SM-15	† Mosaic Semi
											MFM8512V-15	Mosaic Semi
											MFM8512VM-15	† Mosaic Semi
											MFM8512W-15	Mosaic Semi
											MFM8512WM-15	† Mosaic Semi
	200	CMOS		10K	20	100		5	32		MFM8512G-20	Mosaic Semi
											MFM8512GM-20	† Mosaic Semi
											MFM8512J-20	Mosaic Semi
											MFM8512JM-20	† Mosaic Semi
											MFM8512S-20	Mosaic Semi
											MFM8512SM-20	† Mosaic Semi
											MFM8512V-20	Mosaic Semi
											MFM8512VM-20	† Mosaic Semi
											MFM8512W-20	Mosaic Semi
											MFM8512WM-20	† Mosaic Semi
			CMOS/TTL	1K			3.3	3.3	32		AT29LV040-20C	ℓ ATMEL
											AT29LV040-20I	ℓ ATMEL
	250	CMOS	CMOS/TTL	1K			3.3	3.3	32		AT29LV040-25C	ℓ ATMEL
											AT29LV040-25I	ℓ ATMEL
1Mx8	120	CMOS						5	35		MF81000-12	Mosaic Semi
	150	CMOS						5	35		MF81000-15	Mosaic Semi
	200	CMOS						5	35		MF81000-20	Mosaic Semi
1Mx16	70	ETOX		1M				5	56	User-Selectable 3.3 or 5V Operation	**28F016SA**	**Intel (3647)**
1Mx8	85	CMOS	TTL/CMOS	100K	2	50	12	5	44	16–64K Byte Blocks	**28F008SA-85**	**Intel (3648)**
		ETOX		100K				5	40		**28F008SA**	**Intel (3648)**
	90	CMOS	TTL/CMOS	100K	2	50	12	5	44	16–64K Byte Blocks	**28F008SA-90**	**Intel (3648)**
	120	CMOS	TTL/CMOS	100K	2	35	12	5	44	16–64K Byte Blocks	**28F008SA-120**	**Intel (3648)**
	200	CMOS		10K	8	50	12	12	68	Flash Memory Card	iMC001	Intel
2Mx16	70	ETOX		1M				5	55	User Selectable 3.3 or 5V Operation	**DD28F032SA**	**Intel (3646)**
2Mx8	70	ETOX		1M				5	56	User-Selectable 3.3 or 5V Operation	**28F016SA**	**Intel (3647)**
	100	CMOS						3.3	48		M5M28F016-10	ℓ Mitsubishi
	120	CMOS						3.3	48		M5M28F016-12	ℓ Mitsubishi
	150	CMOS						3.3	48		M5M28F016-15	ℓ Mitsubishi
	200	CMOS		10K	8	50	12	12	68	Flash Memory Card	iMC002	Intel
4Mx8	70	ETOX		1M				5	55	User Selectable 3.3 or 5V Operation	**DD28F032SA**	**Intel (3646)**
	200	CMOS		10K	7	70	12	12	68	Flash Memory Card	iMC004	Intel
64Kx8	90	CMOS	CMOS/TTL	10K	1	30	12	5	32		AM28F512-90C	AMD

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—Modules

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	No. Erase/ Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx8	200	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-20	† Dense-Pac	
16Mx1	120	CMOS						5	66		3F16000-12	Mosaic Semi	
	150	CMOS						5	66		3F16000-15	Mosaic Semi	
	200	CMOS						5	66		3F16000-20	Mosaic Semi	
128x32	150–250	CMOS						5	66	User-configurable as x8,x16,x32	WF128K32-XHX	† White Tech	5
512x16	120	CMOS						5	80		MH51216FNA-12	Mitsubishi	
	150	CMOS						5	80		MH51216FNA-15	Mitsubishi	
1228Kx32	150	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-15	† Dense-Pac	
32Kx32	200	CMOS						5	66		DPZ32X32-20I	Dense-Pac	
											DPZ32X32-20M	† Dense-Pac	10
64Kx16	200	CMOS						5	66		DPZ32X32-20I	Dense-Pac	
											DPZ32X32-20M	† Dense-Pac	
128Kx16	120	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-12	† Dense-Pac	
	150	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-15	† Dense-Pac	
	170	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-17	† Dense-Pac	15
	200	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-20	† Dense-Pac	
	250	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-25	† Dense-Pac	
128Kx32	120	CMOS		100K	4	120		5	68		PUMA68F4003-12	Mosaic Semi	
			TTL	1K	1.2	200		5	66		PUMA2F4001-12	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-12	† Dense-Pac	20
	150	CMOS		100K	4	120		5	68		PUMA68F4003-15	Mosaic Semi	
			TTL	1K	1.2	200		5	66		PUMA2F4001-15	† Mosaic Semi	
				10K	3	400	12.6	5	66		PUMA2F4000-15	† Mosaic Semi	
	170	CMOS		100K	4	120	12	5	66		PUMA2F4003-17	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-17	† Dense-Pac	25
	200	CMOS		100K	4	120	12	5	66		PUMA2F4003-20	Mosaic Semi	
									68		PUMA68F4003-20	Mosaic Semi	
			TTL	1K	1.2	200		5	66		PUMA2F4001-20	† Mosaic Semi	
				10K	3	400	12.6	5	66		PUMA2F4000-20	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-20	† Dense-Pac	30
	250	CMOS		100K	4	120	12	5	66		PUMA2F4003-25	Mosaic Semi	
			TTL	10K	3	400	12.6	5	66		PUMA2F4000-25	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-25	† Dense-Pac	
128Kx16	150	CMOS	TTL/CMOS	10K	8	66	12	5	80		ISM002FLKA-150	Intel	
128Kx32	120	CMOS	TTL		12	280		5	66		DPZ128X32-12C	Dense-Pac	35
						300		5	66		DPZ128X32-12I	Dense-Pac	
						320		5	66		DPZ128X32-12M	† Dense-Pac	
	150	CMOS		10K	3	240	12	5	68		67F4000-15	Mosaic Semi	
											67F4000-15I	Mosaic Semi	
											67F4000-15M	† Mosaic Semi	40
											67F4000-15MB	† Mosaic Semi	
			TTL		12	280		5	66		DPZ128X32-15C	Dense-Pac	
						300		5	66		DPZ128X32-15I	Dense-Pac	
						320		5	66		DPZ128X32-15M	† Dense-Pac	
	200	CMOS		10K	3	240	12	5	68		67F4000-20	Mosaic Semi	45
											67F4000-20I	Mosaic Semi	
											67F4000-20M	† Mosaic Semi	
											67F4000-20MB	† Mosaic Semi	
	250	CMOS		10K	3	240	12	5	68		67F4000-25	Mosaic Semi	
											67F4000-25I	Mosaic Semi	50
											67F4000-25M	† Mosaic Semi	
											67F4000-25MB	† Mosaic Semi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–FLASH (Cont'd)

Flash Memories–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	200	CMOS						5	66		DPZ32X32-20I	Dense-Pac	
											DPZ32X32-20M	† Dense-Pac	
256Kx8	120	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ128X16A3-12	† Dense-Pac	
	150	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-15	† Dense-Pac	
	170	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-17	† Dense-Pac	5
	200	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-20	† Dense-Pac	
	250	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ128X16A3-25	† Dense-Pac	
256Kx16	120	CMOS						5	42		MH25616FNA-12	Mitsubishi	
				100K	4	62		5	68		PUMA68F4003-12	Mosaic Semi	
			TTL	1K	1.2	106		5	66		PUMA2F4001-12	† Mosaic Semi	10
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-12	† Dense-Pac	
											DPZ256X16V3-12	† Dense-Pac	
	150	CMOS						5	42		MH25616FNA-15	Mitsubishi	
				100K	4	62		5	68		PUMA68F4003-15	Mosaic Semi	
			TTL	1K	1.2	106		5	66		PUMA2F4001-15	† Mosaic Semi	15
				10K	3	206	12.6	5	66		PUMA2F4000-15	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-15	† Dense-Pac	
	170	CMOS		100K	4	62	12	5	66		PUMA2F4003-17	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-17	† Dense-Pac	
											DPZ256X16V3-17	† Dense-Pac	20
	200	CMOS						5	42		MH25616FNA-20	Mitsubishi	
				100K	4	62	12	5	66		PUMA2F4003-20	Mosaic Semi	
									68		PUMA68F4003-20	Mosaic Semi	
			TTL	1K	1.2	106		5	66		PUMA2F4001-20	† Mosaic Semi	
				10K	3	206	12.6	5	66		PUMA2F4000-20	† Mosaic Semi	25
			TTL/CMOS	10K			12	5	66	PGA	DPZ128X32V3-20	† Dense-Pac	
											DPZ256X16V3-20	† Dense-Pac	
	250	CMOS		100K	4	62	12	5	66		PUMA2F4003-25	Mosaic Semi	
			TTL	CMOS			12	5	66	PGA	DPZ128X32V3-25	† Dense-Pac	
				10K	3	206	12.6	5	66		PUMA2F4000-25	† Mosaic Semi	30
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X16V3-25	† Dense-Pac	
256Kx32	120	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-12	† Dense-Pac	
											DPZ256X32V3-12	† Dense-Pac	
	150	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-15	† Dense-Pac	
	170	CMOS		100K	4	120	12	5	66		PUMA2F8003-17	Mosaic Semi	35
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-17	† Dense-Pac	
	200	CMOS		100K	4	120	12	5	66		PUMA2F8003-20	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-20	† Dense-Pac	
	250	CMOS		100K	4	120	12	5	66		PUMA2F8003-25	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-25	† Dense-Pac	40
256Kx16	120		TTL	10K	4	100		5	50	EEPROM	DPZ256X16A3-12C	Dense-Pac	
		CMOS	TTL		12	145		5	66		DPZ128X32-12C	Dense-Pac	
						155		5	66		DPZ128X32-12I	Dense-Pac	
						165		5	66		DPZ128X32-12M	† Dense-Pac	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-12	† Dense-Pac	45
	150		TTL	10K	4	100		5	50	EEPROM	DPZ256X16A3-15B	† Dense-Pac	
											DPZ256X16A3-15C	Dense-Pac	
											DPZ256X16A3-15I	Dense-Pac	
											DPZ256X16A3-15M	† Dense-Pac	
		CMOS		10K	3	126	12	5	68		67F4000-15	Mosaic Semi	50
											67F4000-15I	Mosaic Semi	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16	150	CMOS		10K	3	126	12	5	68			(Cont'd)	
											67F4000-15M	† Mosaic Semi	
											67F4000-15MB	† Mosaic Semi	
			TTL		12	145		5	66		DPZ128X32-15C	Dense-Pac	
						155		5	66		DPZ128X32-15I	Dense-Pac	
						165		5	66		DPZ128X32-15M	† Dense-Pac	5
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-15	† Dense-Pac	
									66	PGA	DPZ256X16V3-15	† Dense-Pac	
	170		TTL	10K	4	100		5	50	EEPROM	DPZ256X16A3-17B	† Dense-Pac	
											DPZ256X16A3-17C	Dense-Pac	
											DPZ256X16A3-17I	Dense-Pac	10
											DPZ256X16A3-17M	† Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-17	† Dense-Pac	
	200		TTL	10K	4	100		5	50	EEPROM	DPZ256X16A3-20B	† Dense-Pac	
											DPZ256X16A3-20C	Dense-Pac	
											DPZ256X16A3-20I	Dense-Pac	15
											DPZ256X16A3-20M	† Dense-Pac	
		CMOS		10K	3	126	12	5	68		67F4000-20	Mosaic Semi	
											67F4000-20I	Mosaic Semi	
											67F4000-20M	† Mosaic Semi	
											67F4000-20MB	† Mosaic Semi	20
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-20	† Dense-Pac	
	250		TTL	10K	4	100		5	50	EEPROM	DPZ256X16A3-25B	† Dense-Pac	
											DPZ256X16A3-25C	Dense-Pac	
											DPZ256X16A3-25I	Dense-Pac	
											DPZ256X16A3-25M	† Dense-Pac	25
		CMOS		10K	3	126	12	5	68		67F4000-25	Mosaic Semi	
											67F4000-25I	Mosaic Semi	
											67F4000-25M	† Mosaic Semi	
											67F4000-25MB	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-25	† Dense-Pac	30
512Kx2	120	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ512X16V3-12	† Dense-Pac	
512Kx8	120	CMOS		100K	4	33		5	68		PUMA68F4003-12	Mosaic Semi	
			TTL	1K	1.2	59		5	66		PUMA2F4001-12	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X16V3-12	† Dense-Pac	
	150	CMOS		100K	4	33		5	68		PUMA68F4003-15	Mosaic Semi	35
			TTL	1K	1.2	59		5	66		PUMA2F4001-15	† Mosaic Semi	
				10K	3	109	12.6	5	66		PUMA2F4000-15	† Mosaic Semi	
	170	CMOS		100K	4	33	12	5	66		PUMA2F4003-17	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X16V3-17	† Dense-Pac	
	200	CMOS		100K	4	33	12	5	66		PUMA2F4003-20	Mosaic Semi	40
									68		PUMA68F4003-20	Mosaic Semi	
			TTL	1K	1.2	59		5	66		PUMA2F4001-20	† Mosaic Semi	
				10K	3	109	12.6	5	66		PUMA2F4000-20	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X16V3-20	† Dense-Pac	
	250	CMOS		100K	4	33	12	5	66		PUMA2F4003-25	Mosaic Semi	45
			TTL	10K	3	109	12.6	5	66		PUMA2F4000-25	† Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X16V3-25	† Dense-Pac	
512Kx16	120	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ512X16A3-12	† Dense-Pac	
	150	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-15	† Dense-Pac	
									50	PGA	DPZ512X16A3-15	† Dense-Pac	50
									66	PGA	DPZ512X16V3-15	† Dense-Pac	
	170	CMOS		100K	4	62	12	5	66		PUMA2F8003-17	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-17	† Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Flash Memories—Modules												**(Cont'd)**	
512Kx16	170	CMOS	TTL/CMOS	10K			12	5				(Cont'd)	
									50	PGA	DPZ512X16A3-17 †	Dense-Pac	
									66	PGA	DPZ512X16V3-17 †	Dense-Pac	
	200	CMOS		100K	4	62	12	5	66		PUMA2F8003-20	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-20 †	Dense-Pac	
									50	PGA	DPZ512X16A3-20 †	Dense-Pac	5
									66	PGA	DPZ512X16V3-20 †	Dense-Pac	
	250	CMOS		100K	4	62	12	5	66		PUMA2F8003-25	Mosaic Semi	
			TTL/CMOS	10K			12	5	66	PGA	DPZ256X32V3-25 †	Dense-Pac	
									50	PGA	DPZ512X16A3-25 †	Dense-Pac	
									66	PGA	DPZ512X16V3-25 †	Dense-Pac	10
512Kx32	150	CMOS	TTL	10K	2	240	12	5	66		PUMA2F16000-15 †	Mosaic Semi	
									68		PUMA67F16000-15 †	Mosaic Semi	
	200	CMOS	TTL	10K	2	240	12	5	66		PUMA2F16000-20 †	Mosaic Semi	
									68		PUMA67F16000-20 †	Mosaic Semi	
	250	CMOS	TTL	10K	2	240	12	5	66		PUMA2F16000-25 †	Mosaic Semi	15
									68		PUMA67F16000-25 †	Mosaic Semi	
512Kx16	120	CMOS	TTL/CMOS	10K	8	66	12	5	80		ISM001FLKA-120	Intel	
	200	CMOS	TTL/CMOS	10K	8	66	12	5	80		iSM001FLKA-200	Intel	
512Kx32	120		TTL	10K				5	66	EEPROM	DPZ512X32V3-120	Dense-Pac	
					16	210		5	66	EEPROM	DPZ512X32V3-12C	Dense-Pac	20
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ512X32V3-12 †	Dense-Pac	
	150		TTL	10K				5	66	EEPROM	DPZ512X32V3-150	Dense-Pac	
					16	210		5	66	EEPROM	DPZ512X32V3-15B †	Dense-Pac	
											DPZ512X32V3-15C	Dense-Pac	
											DPZ512X32V3-15I	Dense-Pac	25
											DPZ512X32V3-15M †	Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ512X32V3-15 †	Dense-Pac	
	170		TTL	10K				5	66	EEPROM	DPZ512X32V3-170	Dense-Pac	
					16	210		5	66	EEPROM	DPZ512X32V3-17B †	Dense-Pac	
											DPZ512X32V3-17C	Dense-Pac	30
											DPZ512X32V3-17I	Dense-Pac	
											DPZ512X32V3-17M †	Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ512X32V3-17 †	Dense-Pac	
	200		TTL	10K				5	66	EEPROM	DPZ512X32V3-200	Dense-Pac	
					16	210		5	66	EEPROM	DPZ512X32V3-20B †	Dense-Pac	35
											DPZ512X32V3-20C	Dense-Pac	
											DPZ512X32V3-20I	Dense-Pac	
											DPZ512X32V3-20M †	Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ512X32V3-20 †	Dense-Pac	
	250		TTL	10K				5	66	EEPROM	DPZ512X32V3-250	Dense-Pac	40
					16	210		5	66	EEPROM	DPZ512X32V3-25B †	Dense-Pac	
											DPZ512X32V3-25C	Dense-Pac	
											DPZ512X32V3-25I	Dense-Pac	
											DPZ512X32V3-25M †	Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ512X32V3-25 †	Dense-Pac	45
512Kx8	120	CMOS						5	32		MF8512FK-12	Mosaic Semi	
			TTL		12	80		5	66		DPZ128X32-12C	Dense-Pac	
						85		5	66		DPZ128X32-12I	Dense-Pac	
						90		5	66		DPZ128X32-12M †	Dense-Pac	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-12 †	Dense-Pac	50
	150	CMOS						5	32		MF8512FK-15	Mosaic Semi	
				10K	3	69	12	5	68		67F4000-15	Mosaic Semi	
											67F4000-15I	Mosaic Semi	
											67F4000-15M †	Mosaic Semi	
											67F4000-15MB †	Mosaic Semi	55
												(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	150	CMOS										(Cont'd)	
			TTL		12	80		5	66		DPZ128X32-15C	Dense-Pac	
						85		5	66		DPZ128X32-15I	Dense-Pac	
						90		5	66		DPZ128X32-15M	† Dense-Pac	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-15	† Dense-Pac	
									66	PGA	DPZ256X16V3-15	† Dense-Pac	5
	170	CMOS						5	32		MF8512SC-17	Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-17	† Dense-Pac	
	200	CMOS						5	32		MF8512FK-20	Mosaic Semi	
											MF8512SC-20	Mosaic Semi	
				10K	3	69	12	5	68		67F4000-20	Mosaic Semi	10
											67F4000-20I	Mosaic Semi	
											67F4000-20M	† Mosaic Semi	
											67F4000-20MB	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-20	† Dense-Pac	
	250	CMOS						5	32		MF8512SC-25	Mosaic Semi	15
				10K	3	69	12	5	68		67F4000-25	Mosaic Semi	
											67F4000-25I	Mosaic Semi	
											67F4000-25M	† Mosaic Semi	
											67F4000-25MB	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ256X16A3-25	† Dense-Pac	20
1MKx8	170	CMOS		100K	4	33	12	5	66		PUMA2F8003-17	Mosaic Semi	
	200	CMOS		100K	4	33	12	5	66		PUMA2F8003-20	Mosaic Semi	
	250	CMOS		100K	4	33	12	5	66		PUMA2F8003-25	Mosaic Semi	
1Mx8	120	CMOS	TTL/CMOS	10K			12	5	50W	PGA	DPZ512X16A3-12	† Dense-Pac	
									66	PGA	DPZ512X16V3-12	† Dense-Pac	25
	150	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ512X16A3-15	† Dense-Pac	
									66	PGA	DPZ512X16V3-15	† Dense-Pac	
	170	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ512X16A3-17	† Dense-Pac	
									66	PGA	DPZ512X16V3-17	† Dense-Pac	
	200	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ512X16A3-20	† Dense-Pac	30
									66	PGA	DPZ512X16V3-20	† Dense-Pac	
	250	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ512X16A3-25	† Dense-Pac	
									66	PGA	DPZ512X16V3-25	† Dense-Pac	
1Mx16	120	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-12	† Dense-Pac	
	150	CMOS	TTL	10K	2	120	12	5	66		PUMA2F16000-15	† Mosaic Semi	35
									68		PUMA67F16000-15	† Mosaic Semi	
	170	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-17	† Dense-Pac	
	200	CMOS	TTL	10K	2	120	12	5	66		PUMA2F16000-20	† Mosaic Semi	
									68		PUMA67F16000-20	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-20	† Dense-Pac	40
	250	CMOS	TTL	10K	2	120	12	5	66		PUMA2F16000-25	† Mosaic Semi	
									68		PUMA67F16000-25	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-25	† Dense-Pac	
1Mx16	120		TTL	10K				5	50	EEPROM	DPZ1MW16A3-120	Dense-Pac	
									66	EEPROM	DPZ512X32V3-120	Dense-Pac	45
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-12	† Dense-Pac	
											DPZ512X32V3-12	Dense-Pac	
	150		TTL	10K				5	50	EEPROM	DPZ1MW16A3-150	Dense-Pac	
									66	EEPROM	DPZ512X32V3-150	Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
												(Cont'd)	
1Mx16	150	CMOS	TTL	10K	16	75		5	50		**DPZ1MS16-15C**	**Dense-Pac (3580)**	
			TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-15	† Dense-Pac	
									66	PGA	DPZ1MX16V3-15	† Dense-Pac	
											DPZ512X32V3-15	† Dense-Pac	
	170		TTL	10K				5	50	EEPROM	DPZ1MW16A3-170	Dense-Pac	5
									66	EEPROM	DPZ512X32V3-170	Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-17	† Dense-Pac	
											DPZ512X32V3-17	† Dense-Pac	
	200		TTL	10K				5	50	EEPROM	DPZ1MW16A3-200	Dense-Pac	
									66	EEPROM	DPZ512X32V3-200	Dense-Pac	10
		CMOS	TTL	10K	16	75		5	50		**DPZ1MS16-20C**	**Dense-Pac (3580)**	
			TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-20	† Dense-Pac	
											DPZ512X32V3-20	† Dense-Pac	
	250		TTL	10K				5	50	EEPROM	DPZ1MW16A3-250	Dense-Pac	
									66	EEPROM	DPZ512X32V3-250	Dense-Pac	15
		CMOS	TTL	10K	16	75		5	50		**DPZ1MS16-25C**	**Dense-Pac (3580)**	
			TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-25	† Dense-Pac	
											DPZ512X32V3-25	† Dense-Pac	
1Mx32	120		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-120	Dense-Pac	
	150		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-150	Dense-Pac	20
	170		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-170	Dense-Pac	
	200		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-200	Dense-Pac	
	250		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-250	Dense-Pac	
1Mx8	120	CMOS						5	35		MF8100RKX-12	Mosaic Semi	
	150	CMOS						5	35		MF8100RKX-15	Mosaic Semi	25
	200	CMOS						5	35		MF8100RKX-20	Mosaic Semi	
				10000			12	5	34		WF1024K8-200	† White Tech	
2Mx8	170	CMOS	TTL/CMOS	10K			12	5	6	PGA	DPZ512X32V3-17	† Dense-Pac	
2Mx8	120	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-12	† Dense-Pac	
	150	CMOS	TTL	10K	2	60	12	5	66		PUMA2F16000-15	† Mosaic Semi	30
									68		PUMA67F16000-15	† Mosaic Semi	
	170	CMOS	TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-17	† Dense-Pac	
	200	CMOS	TTL	10K	2	60	12	5	66		PUMA2F16000-20	† Mosaic Semi	
									68		PUMA67F16000-20	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-20	† Dense-Pac	35
	250	CMOS	TTL	10K	2	60	12	5	66		PUMA2F16000-25	† Mosaic Semi	
									68		PUMA67F16000-25	† Mosaic Semi	
			TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-25	† Dense-Pac	
2Mx16	250	CMOS	TTL/CMOS	10K			12	5	50		DPZ2MS16XP-25	Dense-Pac	
	300	CMOS	TTL/CMOS	10K			12	5	50		DPZ2MS16XP-30	Dense-Pac	40
2Mx32	250	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ2MX32V3-25	Dense-Pac	
2Mx16	120		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-120	Dense-Pac	
									50	EEPROM	DPZ2MW16MA3-120	Dense-Pac	
									66	EEPROM	DPZ2MX16MV3-120	Dense-Pac	
	150		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-150	Dense-Pac	45
									50	EEPROM	DPZ2MW16MA3-150	Dense-Pac	
									66	EEPROM	DPZ2MX16MV3-150	Dense-Pac	
	170		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-170	Dense-Pac	
									50	EEPROM	DPZ2MW16MA3-170	Dense-Pac	
									66	EEPROM	DPZ2MX16MV3-170	Dense-Pac	50

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   •Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx16												(Cont'd)	
	200		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-200	Dense-Pac	
									50	EEPROM	DPZ2MW16MA3-200	Dense-Pac	
									66	EEPROM	DPZ2MX16MV3-200	Dense-Pac	
		CMOS	TTL	10K	16	75		5	50		DPZ2MS16-20C	Dense-Pac	
			TTL/CMOS	10K			12	5	50		DPZ2MS16XP-20	Dense-Pac	5
	250		TTL	10K				5	66	EEPROM	DPZ1MW32MV3-250	Dense-Pac	
									50	EEPROM	DPZ2MW16MA3-250	Dense-Pac	
									66	EEPROM	DPZ2MX16MV3-250	Dense-Pac	
		CMOS	TTL	10K	16	75		5	50		DPZ2MS16-25C	Dense-Pac	
	300	CMOS	TTL	10K	16	75		5	50		DPZ2MS16-30C	Dense-Pac	10
2Mx8	120		TTL	10K				5	50	EEPROM	DPZ2MX8A3-120	Dense-Pac	
					16	65		5	50		DPZ2MX8A3-12C	Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-12	† Dense-Pac	
											DPZ512X32V3-12	† Dense-Pac	
	150		TTL	10K				5	50	EEPROM	DPZ2MX8A3-150	Dense-Pac	15
					16	65		5	50		DPZ2MX8A3-15B	† Dense-Pac	
											DPZ2MX8A3-15C	Dense-Pac	
											DPZ2MX8A3-15I	Dense-Pac	
											DPZ2MX8A3-15M	† Dense-Pac	
		CMOS	TTL	10K	16	45		5	50		**DPZ1MS16-15C**	**Dense-Pac (3580)**	20
			TTL/CMOS	10K			12	5	50	PGA	DPZ1MX16A3-15	† Dense-Pac	
									66	PGA	DPZ1MX16V3-15	† Dense-Pac	
											DPZ512X32V3-15	† Dense-Pac	
	170		TTL	10K				5	50	EEPROM	DPZ2MX8A3-170	Dense-Pac	
					16	65		5	50		DPZ2MX8A3-17B	† Dense-Pac	25
											DPZ2MX8A3-17C	Dense-Pac	
											DPZ2MX8A3-17I	Dense-Pac	
											DPZ2MX8A3-17M	† Dense-Pac	
		CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-17	† Dense-Pac	
	200		TTL	10K				5	50	EEPROM	DPZ2MX8A3-200	Dense-Pac	30
					16	65		5	50		DPZ2MX8A3-20B	† Dense-Pac	
											DPZ2MX8A3-20C	Dense-Pac	
											DPZ2MX8A3-20I	Dense-Pac	
											DPZ2MX8A3-20M	† Dense-Pac	
		CMOS	TTL	10K	16	45		5	50		**DPZ1MS16-20C**	**Dense-Pac (3580)**	35
			TTL/CMOS	10K			12	5	66	PGA	DPZ512X32V3-20	† Dense-Pac	
	250		TTL	10K				5	50	EEPROM	DPZ2MX8A3-250	Dense-Pac	
					16	65		5	50		DPZ2MX8A3-25B	† Dense-Pac	
											DPZ2MX8A3-25C	Dense-Pac	
											DPZ2MX8A3-25I	Dense-Pac	40
											DPZ2MX8A3-25M	† Dense-Pac	
		CMOS	TTL	10K	16	45		5	50		**DPZ1MS16-25C**	**Dense-Pac (3580)**	
			TTL/CMOS	10K			12	5	66	PGA	DPZ1MX16V3-25	† Dense-Pac	
											DPZ512X32V3-25	† Dense-Pac	
4Mx16	250	CMOS	TTL/CMOS	10K			12	5	66	PGA	DPZ2MX32V3-25	† Dense-Pac	45
4Mx16	120		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-120	Dense-Pac	
	150		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-150	Dense-Pac	
	170		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-170	Dense-Pac	
	200		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-200	Dense-Pac	
	250		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-250	Dense-Pac	50
4Mx8	120		TTL	10K				5	66	EEPROM	DPZ2MX16MV3-120	Dense-Pac	
									50	EEPROM	DPZ4MX8MA3-120	Dense-Pac	
	150		TTL	10K				5	66	EEPROM	DPZ2MX16MV3-150	Dense-Pac	
									50	EEPROM	DPZ4MX8MA3-150	Dense-Pac	
	170		TTL	10K				5	66	EEPROM	DPZ2MX16MV3-170	Dense-Pac	55
									50	EEPROM	DPZ4MX8MA3-170	Dense-Pac	
												(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—FLASH (Cont'd)

Flash Memories—Modules (Cont'd)

(Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	No. Erase/Write Cycle	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx8	200		TTL	10K				5	66	EEPROM	DPZ2MX16MV3-200	Dense-Pac	
									50	EEPROM	DPZ4MX8MA3-200	Dense-Pac	
		CMOS	TTL	10K	16	45		5	50		DPZ2MS16-20C	Dense-Pac	
	250		TTL	10K				5	66	EEPROM	DPZ2MX16MV3-250	Dense-Pac	
									50	EEPROM	DPZ4MX8MA3-250	Dense-Pac	5
		CMOS	TTL	10K	16	45		5	50		DPZ2MS16-25C	Dense-Pac	
	300	CMOS	TTL	10K	16	45		5	50		DPZ2MS16-30C	Dense-Pac	
8Mx8	120		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-120	Dense-Pac	
	150		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-150	Dense-Pac	
	170		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-170	Dense-Pac	10
	200		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-200	Dense-Pac	
	250		TTL	10K				5	66	EEPROM	DPZ4MX16MV3-250	Dense-Pac	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs

Electrically Erasable—General Purpose

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
8x8	120	CMOS	TTL/CMOS	10K	0.1	30		5	28	Software Data Protection; Toggle Bit; 5ms Write Time	**CAT28C64B-12**	**Catalyst Semi (3564)**
8x256x8	0.38							5	8	Serial	24LC16	Microchip
15x8			CMOS		0.0004	5		1.2	16		H7028	ℓ EM Micro
16x8	350	CMOS			0.1	1		3	8		X24C001	ℓ Xicor
				100K	0.1	1		3	8		X24001	ℓ Xicor
16x16								5	8	Serial	NMC93CS06	National
	—							5	8		NMC9306	National
		CMOS						3–5	8		NMC93C06-3	ℓ National
				1M	0.05	3		5	8	Serial Access	ST93C06	SGS-Thomson
				100K	0.1	4		5	8		93C06	Microchip
			TTL	100K	0.25	3		5	8	Serial	KM93C06	Samsung
											KM93C06I	Samsung
											KM93C07	Samsung
											KM93C07I	Samsung
	50	CMOS		10K	0.2	4		5	8	Serial EEPROM	NM93C13	National
				100K	0.05	3		3	8		NM93CS06L	ℓ National
											NM93CS06LE	ℓ National
											NM93C06L	ℓ National
											NM93C06LE	ℓ National
	200							5	8		NMC9307	National
											M9306	SGS-Thomson
	250	CMOS		100K	0.05	3		5	8		NM93CS06	National
											NM93C06	National
			TTL	100K	0.002	5		5	8		XL93LC06	EXEL
						2		3	8		XL93LC06-3	ℓ EXEL
	300	CMOS		100K	0.05	3		5	8		NM93CS06E	National
											NM93C06E	National
	500	CMOS		100K	0.1	4		5	8		NM93CS06M	National
											NM93C06M	National
	1000							5,25	14		MCM2801	Motorola
16x32								5	8	Serial	NMC93CS26	National
											NMC93CS26M	National
16x64								5	8	Serial	NMC93CS46	National
		Serial						5	8		NMC93CS46M	National
16x8		CMOS		100K	0.001	5		5	8	Serial	**S2940I**	**Seiko Instr (3761)**
	350	CMOS		100K	0.1	3		3	8		X24C00	ℓ Xicor
32x16 + 32x16		CMOS			0.001	2		5	8	Serial	**S2913CI**	**Seiko Instr (3761)**
											S2913CR	**Seiko Instr (3761)**
											S2919CR	**Seiko Instr (3761)**
											S2919GI	**Seiko Instr (3761)**
											S2919GR	**Seiko Instr (3761)**
				100K	0.001	2		5	8		**S2919CI**	**Seiko Instr (3761)**
32x8	70	CMOS		10K	2	80		5	28	High Speed	X28HC256-70	Xicor
39x8 + 9x8		CMOS		100K	0.001	5		5	8	Serial	**S2961I**	**Seiko Instr (3761)**
64x16								2.5	8	Serial	ST93C547	ℓ SGS-Thomson
		CMOS						5	8		59C11	Microchip
											93C46	Microchip
											ST93CS46A	SGS-Thomson
					0.001	2		5	8	Serial	**S2913AI**	**Seiko Instr (3761)**
											S2919AR	**Seiko Instr (3761)**
				1M	0.005	3		3	8	Serial Access	ST93CS46	ℓ SGS-Thomson
					0.05	3		2.5	8	Serial Access	ST93CS47	ℓ SGS-Thomson
								5	8	Serial Access	ST93C46A	SGS-Thomson

(Continued)

† Mil Temp Range (−55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
												(Cont'd)	
64x16		CMOS		10K		3		5	8		MSM16811	OKI	
						5		5	8		MSM16811P	OKI	
						3		5	8		MSM16911	OKI	
						5		5	8		MSM16911P	OKI	
				100K	0.001	2		5	8	Serial	**S2913AR**	**Seiko Instr (3761)**	5
											S2914AI	**Seiko Instr (3761)**	
											S2914AID	**Seiko Instr (3761)**	
											S2914AR	**Seiko Instr (3761)**	
											S2919AI	**Seiko Instr (3761)**	
					0.05	3		3	8		NM93C46AL	ℓ National	10
					0.1	3		3	8		NM93C46ALE	ℓ National	
			TTL	100K	0.002	5		5	8		XL93LC46	EXEL	
								3	8		XL93LC46-3	ℓ EXEL	
					0.25	3		5	8	Serial	KM93C46	Samsung	
											KM93C46I	Samsung	15
											KM93C46V	Samsung	
											KM93C46VI	Samsung	
		Serial						5	8		IS93C46	ISSI	
											IS93C46-3	ISSI	
											NMC9346C	National	20
	25	CMOS		100K	0.1	4		5	8		93LC46	Microchip	
											93LC46B	Microchip	
	50	CMOS		10K		3		5	8	Serial EEPROM	MSM16751	OKI	
											MSM16851	OKI	
											MSM16951	OKI	25
					0.2	4		5	8	Serial EEPROM	NM93C14	National	
				100K	0.05	3		3	8		NM93CS46L	ℓ National	
											NM93CS46LE	ℓ National	
											NM93C46L	ℓ National	
											NM93C46LE	ℓ National	30
	100	CMOS		100K	0.03	0.5		5	8	4-Wire Serial	AT59C11-10C	ATMEL	
											AT59C11-10I	ATMEL	
	200	CMOS		10K		2		3	8	Serial EEPROM	MSM16731	ℓ OKI	
											MSM16831	ℓ OKI	
											MSM16931	ℓ OKI	35
				100K	0.003	2		2.5	8		CAT64C10I	ℓ Catalyst Semi	
											CAT64LC10	ℓ Catalyst Semi	
	250	CMOS						5	14		NMC95C12	National	
				100K	0.05	2		5	8		NM59C11	National	
						3		5	8		NM93CS46	National	40
											NM93C46	National	
											NM93C46A	National	
			TTL	100K	0.002	5		3	8		XL93CS46-3	ℓ EXEL	
								5	8		XL93C46	EXEL	
	300	CMOS		100K	0.05	3		5	8		NM93CS46E	National	45
											NM93C46E	National	
					0.1	2		5	8		NM59C11E	National	
						3		5	8		NM93C46AE	National	
	450							5	16		NMC9346	National	
	500	CMOS						5	14		NMC95C12M	National	50
				100K	0.1	2		5	8		NM59C11M	National	
						4		5	8		NM93CS46M	National	
											NM93C46AM	National	
											NM93C46M	National	
	1000	CMOS	TTL	100K	0.002	5		5	8		XL93CS46	ℓ EXEL	55
	4000	CMOS						5	8	Serial Architecture	M6M80011	Mitsubishi	
	10000	CMOS		100K	0.1	3		1.8	8		AT59C11-10M	ℓ† ATMEL	
											AT93C46-10C	ℓ ATMEL	
											AT93C46-10I	ℓ ATMEL	
											AT93C46-10M	ℓ† ATMEL	60

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64x16 + 64x16		CMOS			0.001	2		5	8	Serial	**S2923CR**	**Seiko Instr (3761)**	
				100K	0.001	2		5	8	Serial	**S2923CI**	**Seiko Instr (3761)**	
64x16 + 64x16		CMOS			0.001	2		5	8		**S2929CR**	**Seiko Instr (3761)**	
											S2929GR	**Seiko Instr (3761)**	
				100K	0.001	2	2.7	5	8		**S2929CI**	**Seiko Instr (3761)**	5
											S2929GI	**Seiko Instr (3761)**	
64x16/128x8								5	8	Serial	**CAT93C46AH**	**Catalyst Semi (3565)**	
											CAT93C46H	Catalyst Semi	
	100	CMOS		100K	0.1	5		5	8	Serial	CAT59C11	Catalyst Semi	
											CAT59C11I	Catalyst Semi	10
						3		5	8	Serial	**CAT93C46**	**Catalyst Semi (3565)**	
											CAT93C46A	**Catalyst Semi (3565)**	
											CAT93C46AI	**Catalyst Semi (3565)**	
	400	CMOS		100K	0.002	2	2	2.2	8	3-Wire Bus	CAT32C101	ℓ Catalyst Semi	
					0.05	2		3	8	Serial	CAT33C101	ℓ Catalyst Semi	15
											CAT33C101I	ℓ Catalyst Semi	
64x16/128x8	100	CMOS		100K	0.1	3		5	8		CAT93C46B	Catalyst Semi	
											CAT93C46BI	Catalyst Semi	
										Serial	CAT93C46I	Catalyst Semi	
64x16, 128x8								5	8	Serial	CAT59C11A	Catalyst Semi	20
											CAT59C11H	Catalyst Semi	
		CMOS			0.1	4	4.5	5	8	Serial	**S2911I**	**Seiko Instr (3761)**	
				10K	0.1	3		5	8	Serial	**S2914R**	**Seiko Instr (3761)**	
				100K	0.1	3	2.7	5	8	Serial	**S2911R**	**Seiko Instr (3761)**	
											S2917I	**Seiko Instr (3761)**	25
128x8		CMOS						5	8	Serial I^2C Bus	XL24C01A	EXEL	
											XL24C01A-3	EXEL	
											59C11	Microchip	
											µPD6253	NEC	
				10K		3		5	8		MSM16811	OKI	30
						5		5	8		MSM16811P	OKI	
						3		5	8		MSM16911	OKI	
						5		5	8		MSM16911P	OKI	
				100K	0.05	3		3	8		NM93C46AL	ℓ National	
					0.1	3		3	8		NM93C46ALE	ℓ National	35
	0.0035	CMOS		100K	0.05	2		3	8		X24C01A	ℓ Xicor	
											X24012	ℓ Xicor	
					0.1	2		3	8		X24C01	ℓ Xicor	
	0.38							5	8	Serial	24C01A	Microchip	
											24LC01	Microchip	40
											85C72	Microchip	
	10 ms	NMOS						5	8		SDA2516-2	Siemens	
	25	CMOS		100K	0.1	4		5	8		93LC46	Microchip	
											93LC46A	Microchip	
	50	CMOS		10K		3		5	8	Serial EEPROM	MSM16751	OKI	45
											MSM16851	OKI	
											MSM16951	OKI	
	180	CMOS						5	18		NMC98C10-1	National	
	200	CMOS		10K		2		3	8	Serial EEPROM	MSM16731	ℓ OKI	
											MSM16831	ℓ OKI	50
											MSM16931	ℓ OKI	
	250	CMOS		100K	0.05	2		5	8		NM59C11	National	
						3		5	8		NM93C46A	National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–E^2 PROMs (Cont'd)

Electrically Erasable–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
					0.8	6		5	14		NM95C12	National	
	300	CMOS						5	18		NMC98C10	National	
								3–6	8		X24LC01	ℓ Xicor	
				100K	0.1	2		5	8		NM59C11E	National	
						3		5	8		NM93C46AE	National	5
					0.8	6		5	14		NM95C12E	National	
	500	CMOS		100K	0.1	2		5	8		NM59C11M	National	
						4		5	8		NM93C46AM	National	
					0.8	6		5	14		NM95C12M	National	
	10000	CMOS		100K	0.1	3		1.8	8		AT59C11-10M	ℓ† ATMEL	10
											AT93C46-10C	ℓ ATMEL	
											AT93C46-10I	ℓ ATMEL	
											AT93C46-10M	ℓ† ATMEL	
128x16								5	8	Serial	IS93C56	ISSI	
											NMC93CS56	National	15
		CMOS						3–5	8		NMC93C56x3	ℓ National	
				10K		3		5	8		MSM16812	OKI	
											MSM16912	OKI	
			CMOS	100K	0.1	3	2.5–5.5	2.5–5.5	8	3-Wire Serial	93LCS56	ℓ Microchip	
	27							5	8	Serial	93C56	Microchip	20
		CMOS		100K	0.1	3		5	14		93LC56	Microchip	
									8		93LC56B	Microchip	
	50	CMOS		100K	0.05	3		3	8		NM93CS56L	ℓ National	
											NM93CS56LE	ℓ National	
											NM93C56L	ℓ National	25
											NM93C56LE	ℓ National	
											NM93C66LE	ℓ National	
	200	CMOS		100K	0.003	2		2.5	8		CAT64LC20	ℓ Catalyst Semi	
											CAT64LC20I	ℓ Catalyst Semi	
	250	CMOS		100K	0.05	3		5	8		NM93CS56	National	30
											NM93C56	National	
			TTL	100K	0.002	5		5	8		XL93LC56	EXEL	
								3	8		XL93LC56-3	ℓ EXEL	
	300	CMOS		100K	0.05	3		5	8		NM93CS56E	National	
											NM93C56E	National	35
	500	CMOS						5	8		NMC93C56	National	
				100K	0.1	4		5	8		NM93CS56M	National	
											NM93C56M	National	
	1000							5	8		ER5912	Microchip	
	10000	CMOS		100K	0.01	1		1.8	8		AT93C57-10C	ℓ ATMEL	40
											AT93C57-10I	ℓ ATMEL	
					0.1	3		1.8	8		AT59C12-10C	ℓ ATMEL	
											AT59C12-10I	ℓ ATMEL	
											AT59C12-10M	ℓ† ATMEL	
											AT93C56-10C	ℓ ATMEL	45
											AT93C56-10I	ℓ ATMEL	
											AT93C56-10M	ℓ† ATMEL	
128x16/256x8	100	CMOS		100K	0.1	4		5	8	Serial	CAT35C202I	Catalyst Semi	
128x16, 256x8								5	8	Serial	CAT35C202H	Catalyst Semi	
128x16		CMOS			0.001	2		5	8	Serial	S2922AR	Seiko Instr	50
											S2929AI	**Seiko Instr (3761)**	
											S2929AR	**Seiko Instr (3761)**	
				1M	0.005	3		5	8	Serial Access	ST93C46T	SGS-Thomson	
					0.05	3		5	8	Serial Access	ST93C56	SGS-Thomson	
				100K	0.001	2	2.7	5	8	Serial	S2922AI	Seiko Instr	55
											S2924AI	**Seiko Instr (3761)**	
											S2924AR	**Seiko Instr (3761)**	
					0.1	3		5	8	Serial	KM93CS56	Samsung	
											KM93C56	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128x16		CMOS		100K	0.1							(Cont'd)	
						2		3	8	Serial	KM93C56V	ℓ Samsung	
						3		5	8	Serial	KM93C57	Samsung	
						2		3	8	Serial	KM93C57V	ℓ Samsung	
	50	CMOS		1M	0.001	1		3	8		NM93C56LZ	National	
	1000	CMOS		10K	0.1	3		5	8		XL90C21	EXEL	5
			TTL	100K	0.004	5		5	8		XL93C56	EXEL	
	4000	CMOS						5	8	Serial Architecture	M6M80021	Mitsubishi	
128x16 + 128x16		CMOS			0.001	2		5	8	Serial	**S2933CI**	**Seiko Instr (3761)**	
											S2939CI	**Seiko Instr (3761)**	
											S2939CR	**Seiko Instr (3761)**	10
											S2939GI	**Seiko Instr (3761)**	
											S2939GR	**Seiko Instr (3761)**	
				100K	0.001	2	2.7	5	8		**S2933CR**	**Seiko Instr (3761)**	
128x16/256x8													
	100	CMOS		100K	0.1	3		5	8	Serial	**CAT35C102**	**Catalyst Semi (3565)**	
											CAT35C102I	**Catalyst Semi (3565)**	15
											CAT35C202	Catalyst Semi	
											CAT93C56	**Catalyst Semi (3565)**	
											CAT93C56I	**Catalyst Semi (3565)**	
	400	CMOS		100K	0.05	2		3	8	Serial	**CAT93LC56**	ℓ **Catalyst Semi (3565)**	
											CAT93LC56I	ℓ **Catalyst Semi (3565)**	20
128x8		CMOS		1M	0.1	2		3	8	Serial Access	ST24C01	ℓ SGS-Thomson	
				100K	0.1	4		5	8	Serial	**S2918I**	**Seiko Instr (3761)**	
			TTL/CMOS	100K	2	1	2	2	8	3-Wire Bus	CAT32C101-2	ℓ Catalyst Semi	
	Serial	CMOS						5	8		CAT33C201	Catalyst Semi	
	0.0035	CMOS		100K	0.004	3		5	8		**CAT24C01**	**Catalyst Semi (3565)**	25
	10 ms	NMOS						5	8		SDA2506-2	Siemens	
	100	CMOS		100K	0.018	3		5	14	2-Wire Serial	AT24C01A-10C	ATMEL	
											AT24C01A-10I	ATMEL	
					0.03	0.5		5	8	4-Wire Serial	AT59C11-10C	ATMEL	
											AT59C11-10I	ATMEL	30
											AT59C22-10C	ATMEL	
											AT59C22-10I	ATMEL	
	300	CMOS			0.004	3		3–6	8		**CAT24LC01**	**Catalyst Semi (3565)**	
				10K	5	15		5	18		SC22101	Sierra	
											SC22201	Sierra	35
	10000	CMOS	TTL	100K	0.15	3		5	8		AT24C01-10C	ATMEL	
											AT24C01-10I	ATMEL	
256x1	200	CMOS						5	8		NMC9313B	National	
256x4	300	CMOS						5	18		X2212A	Xicor	
											X2212A/10	Xicor	40
											X2212A/5	Xicor	
256x8										IC serial interface	PCF8582B	Philips	
											PCF8582C	Philips	
										I^2C serial interface	PCF8582D	Philips	
											PCF8582E	Philips	45
								2.5	8	Serial	ST25C02	ℓ SGS-Thomson	
		CMOS						5	8	Serial I^2C Bus	XL24C02	EXEL	
											XL24C02-3	EXEL	
											μPD6252	NEC	
											ST24C02	SGS-Thomson	50
												(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256x8		CMOS		10K		3		5	8		MSM16812	OKI	
											MSM16912	OKI	
			CMOS	100K	0.1	3	2.5–5.5	2.5–5.5	8	3-Wire Serial	93LCS56	ℓ Microchip	
	0.0035	CMOS		100K	0.05	2		3	8		X24C02	ℓ Xicor	
											X24022	ℓ Xicor	5
					0.1	3		5	8	I^{2}C Bus	NM24C02	National	
											NM24C02E	National	
											NM24C02M	National	
											NM24C03	National	
											NM24C03E	National	10
											NM24C03M	National	
	0.007	CMOS		100K	0.1	3		2.5	8		NM24C02L	ℓ National	
											NM24C02LE	ℓ National	
											NM24C03L	ℓ National	
											NM24C03LE	ℓ National	15
	0.38							5	8	Serial	24LC02	Microchip	
											85C82	Microchip	
		Serial						5	8	Serial	24C02A	Microchip	
	27	CMOS		100K	0.1	3		5	14		93LC56	Microchip	
									8		93LC56A	Microchip	20
	300	CMOS						5	8		X2402M	Xicor	
	10000							5	8		X2402	Xicor	
		CMOS		100K	0.01	1		1.8	8		AT93C57-10C	ℓ ATMEL	
											AT93C57-10I	ℓ ATMEL	
					0.1	3		1.8	8		AT59C12-10C	ℓ ATMEL	25
											AT59C12-10I	ℓ ATMEL	
											AT59C12-10M	ℓ† ATMEL	
											AT93C56-10C	ℓ ATMEL	
											AT93C56-10I	ℓ ATMEL	
											AT93C56-10M	ℓ† ATMEL	30
256x16								5	8	Serial	IS93C66	ISSI	
											NMC93CS66	National	
		CMOS	CMOS	100K	0.1	3	2.5–5.5	2.5–5.5	8	3-Wire Serial	93LCS66	‡ Microchip	
	27	CMOS		100K	0.1	3		5	8		93LC66	Microchip	
											93LC66B	Microchip	35
	50	CMOS		100K	0.05	3		3	8		NM93CS66L	ℓ National	
											NM93CS66LE	ℓ National	
											NM93C66L	ℓ National	
	200	CMOS						5	8		KM35C704	Samsung	
				100K	0.003	2		2.5	8		CAT64LC40	ℓ Catalyst Semi	40
											CAT64LC40I	ℓ Catalyst Semi	
	250	CMOS		100K	0.05	3		5	8		NM93C66	National	
			TTL	100K	0.002	5		5	8		XL93LC66	EXEL	
	300	CMOS		100K	0.05	3		5	8		NM93CS66E	National	
											NM93C66E	National	45
	500	CMOS						5	8		NMC93C66	National	
				100K	0.1	4		5	8		NM93CS66M	National	
											NM93C66M	National	
	10000	CMOS		100K	0.1	3		1.8	8		AT59C13-10M	ℓ† ATMEL	
											AT93C66-10C	ℓ ATMEL	50
											AT93C66-10I	ℓ ATMEL	
											AT93C66-10M	ℓ† ATMEL	
256x16/512x8	50	CMOS			0.25	3		5	8		CAT35C804B	Catalyst Semi	
											CAT35C804BI	Catalyst Semi	
				100K	0.25	3		3	8		CAT33C804A	ℓ Catalyst Semi	55
											CAT33C804AI	ℓ Catalyst Semi	
											CAT33C804B	ℓ Catalyst Semi	
											CAT33C804BI	ℓ Catalyst Semi	
								5	8		CAT35C704I	Catalyst Semi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256x16		CMOS			0.001	2		5	8	Serial	**S2934AR**	**Seiko Instr (3761)**	
											S2939AI	**Seiko Instr (3761)**	
											S2939AR	**Seiko Instr (3761)**	
				1M	0.05	3		3	14	Serial Access	ST93CS56	ℓ SGS-Thomson	
								2.5	14	Serial Access	ST93CS57	ℓ SGS-Thomson	5
								3	14	Serial Access	ST93CS66	SGS-Thomson	
								2.5	14	Serial Access	ST93CS67	SGS-Thomson	
				100K	0.001	2	2.7	5	8	Serial	**S2934AI**	**Seiko Instr (3761)**	
					0.1	3		5	8	Serial	KM93CS66	Samsung	
											KM93C66	Samsung	10
						2		3	8	Serial	KM93C66V	ℓ Samsung	
						3		5	8	Serial	KM93C67	Samsung	
						2		3	8	Serial	KM93C67V	ℓ Samsung	
	100	CMOS		100K	0.03	0.5		5	8	4-Wire Serial	AT59C13-10C	ATMEL	
	250	CMOS	TTL	100K	0.002	5		3	8		XL93LC66-3	ℓ EXEL	15
	1000	CMOS	TTL	10K	0.004	5		5	8		XL93C66	EXEL	
					0.1	3		5	8		XL90C41	EXEL	
	4000	CMOS						5	8	Serial Architecture	M6M80041	Mitsubishi	
256x16/512x8													
	50	CMOS			0.25	3		5	8		CAT35C804A	Catalyst Semi	
				100K	0.25	3		5	8		CAT35C704	Catalyst Semi	20
	100	CMOS		100K	0.1	3		5	8		**CAT35C104**	**Catalyst Semi (3565)**	
											CAT35C104I	**Catalyst Semi (3565)**	
	400	CMOS		100K	0.05	2		3	8	Serial	**CAT33C104**	ℓ **Catalyst Semi (3565)**	
											CAT33C104I	ℓ **Catalyst Semi (3565)**	
256x16, 512x8		Serial						5	8		**CAT35C104H**	**Catalyst Semi (3565)**	25
											CAT35C804AI	Catalyst Semi	
256x8		CMOS		1M	0.005	1		2.5	8	Serial Access	ST25C02A	ℓ SGS-Thomson	
					0.1	2		3	8	Serial Access	ST24C02A	ℓ SGS-Thomson	
				100K	0.1	3		5	8	Serial	KM93C57	Samsung	
						2		3	8	Serial	KM93C57V	ℓ Samsung	30
		HCMOS		100K *	0.001	3		5	8		MCM2814	Motorola	
	10 ms	NMOS						5	8		SDA2526-2	Siemens	
	100	CMOS		100K	0.018	3		5	14	2-Wire Serial	AT24C02-10C	ATMEL	
											AT24C02-10I	ATMEL	
					0.03	0.5		5	8	4-Wire Serial	AT59C13-10I	ATMEL	35
											AT59C22-10C	ATMEL	
											AT59C22-10I	ATMEL	
	250	CMOS		100K	0.004	3		3	8	Serial I^{2}C Bus	**CAT24C02A**	ℓ **Catalyst Semi (3565)**	
											CAT24C02AI	ℓ **Catalyst Semi (3565)**	
											CAT24LC02	ℓ **Catalyst Semi (3565)**	40
											CAT24LC02A	ℓ **Catalyst Semi (3565)**	
											CAT24LC02AI	ℓ **Catalyst Semi (3565)**	
											CAT24LC02I	ℓ **Catalyst Semi (3565)**	
			TTL/CMOS	100K	1μA	3	5	5	8	Serial I^{2}C Bus	**CAT24C02**	**Catalyst Semi (3565)**	
											CAT24C02I	**Catalyst Semi (3565)**	45
265x16	250	CMOS		100K	0.05	3		5	8		NM93CS66	National	
512x1		CMOS						5	8		SPM28C51C	S-MOS	
512x8								5	8		X2404	Xicor	
		CMOS						5	8		K24CF04	National	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–E^2 PROMs (Cont'd)

Electrically Erasable–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
												(Cont'd)	
512x8		CMOS						5	8		K24CF04I	National	
											X24C04I	National	
											µPD6254	NEC	
											X24LC04	Xicor	
			CMOS	100K	0.1	3	2.5–5.5	2.5–5.5	8	3-Wire Serial	93LCS66	ℓ‡ Microchip	5
	0.0035	CMOS		100K	0.1	3		5	8	I^2C Bus	NM24C04	National	
											NM24C04E	National	
											NM24C04M	National	
											NM24C05	National	
											NM24C05E	National	10
											NM24C05M	National	
											NM24C09	National	
											NM24C17	National	
	0.007	CMOS		100K	0.1	3		2.5	8		NM24C04L	ℓ National	
											NM24C04LE	ℓ National	15
											NM24C05L	ℓ National	
											NM24C05LE	ℓ National	
	0.38	Serial						5	8		24C04A	Microchip	
											24LC04	Microchip	
											85C92	Microchip	20
	10 ms	NMOS						5	8		SDA2546	Siemens	
	27	CMOS		100K	0.1	3		5	8		93LC66	Microchip	
											93LC66A	Microchip	
	150	CMOS						5	24		28C04-15	Microchip	
											28C04A-15	Microchip	25
			CMOS/TTL	100K	2	30		5	24		AT28C04-15C	ATMEL	
					3	45		5	24		AT28C04-15I	ATMEL	
											AT28C04-15M	† ATMEL	
											AT28C04-15M/883	† ATMEL	
	180	CMOS						5	18		NMC98C40-1	National	30
	200	CMOS						5	24		28C04-20	Microchip	
											28C04A-20	Microchip	
			CMOS/TTL	100K	2	30		5	24		AT28C04-20C	ATMEL	
					3	45		5	24		AT28C04-20I	ATMEL	
											AT28C04-20M	† ATMEL	35
											AT28C04-20M/883	† ATMEL	
	240	CMOS		100K	0.15	3		5	8		NM25C04	National	
	250							5			2804A-250	SEEQ	
									24		X2804A-25	Xicor	
		CMOS						5	24		AT28C04-25	ATMEL	40
											28C04-25	Microchip	
											28C04A-25	Microchip	
			CMOS/TTL	100K	2	30		5	24		AT28C04-25C	ATMEL	
					3	45		5	24		AT28C04-25I	ATMEL	
											AT28C04-25M	† ATMEL	45
											AT28C04-25M/883	† ATMEL	
	300							5	8		X2404M	Xicor	
									24		X2804A	Xicor	
											X2804AM	Xicor	
		CMOS						5	18		NMC98C40	National	50
			CMOS/TTL	100K	3	45		5	24		AT28C04-30M/883	† ATMEL	
	350							5	24		X2804A-35	Xicor	
		CMOS	CMOS/TTL	100K	3	45		5	24		AT28C04-35M/883	† ATMEL	
	450							5	24		X2804A-45	Xicor	
		CMOS	CMOS/TTL	100K	3	45		5	24		AT28C04-45M/883	† ATMEL	55
	500	CMOS		100K	0.15	3		5	8		NM25C04E	National	
											NM25C04M	† National	
	3500	CMOS	CMOS	100K	0.002	1	5	5	8	Serial I^2C Bus	XL24C04	EXEL	
							3	3	8	Serial I^2C Bus	XL24C04-3	ℓ EXEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–E^2 PROMs (Cont'd)

Electrically Erasable–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/ Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512x8												(Cont'd)	
	10000	CMOS		100K	0.1	3		1.8	8		AT59C13-10M	ℓ† ATMEL	
											AT93C66-10C	ℓ ATMEL	
											AT93C66-10I	ℓ ATMEL	
											AT93C66-10M	ℓ† ATMEL	
512x16/1Kx8	50	CMOS		100K	0.01	3		5	8		CAT35C108	Catalyst Semi	5
						4		5	8		CAT35C108I	Catalyst Semi	
	250	CMOS		100K	0.01	2		3	8		CAT33C108	ℓ Catalyst Semi	
						3		3	8		CAT33C108I	ℓ Catalyst Semi	
512x8		CMOS						5	8		X24C04	Xicor	
					0.15	3		5	8		X25040	Xicor	10
				1M	0.005	1		2.5	14	Serial Access	ST25C04	ℓ SGS-Thomson	
					0.1	2		3	8	Serial Access	ST24C04	ℓ SGS-Thomson	
				100K	0.1	3		5	8	Serial	KM93C67	Samsung	
						2		3	8	Serial	KM93C67V	ℓ Samsung	
		1.5		10^8	0.025	0.01	5	5	8	Serial EEPROM	FM24C04	Ramtron	15
	100	CMOS		100K	0.018	3		5	14	2-Wire Serial	AT24C04-10C	ATMEL	
											AT24C04-10I	ATMEL	
					0.03	0.5		5	8	4-Wire Serial	AT59C13-10C	ATMEL	
											AT59C13-10I	ATMEL	
	200	CMOS						5	24		AT28C04-20	ATMEL	20
	240	CMOS		1M	0.15	3		5	8		NM25C04L	National	
	250	CMOS		100K	0.004	3	5	5	8	Serial I^2C Bus	**CAT24C04**	**Catalyst Semi (3565)**	
											CAT24C04I	**Catalyst Semi (3565)**	
								3	8	Serial I^2C Bus	**CAT24LC04**	ℓ **Catalyst Semi (3565)**	
											CAT24LC04I	ℓ **Catalyst Semi (3565)**	25
			TTL/CMOS		1.2	8	5	5	24		FM1208-250	Ramtron	
		NMOS	TTL	10K	40	80		5	24		XL2804A-250	EXEL	
	300	CMOS						5	8		X24C04M	Xicor	
		NMOS	TTL	10K	40	80		5	24		XL2804A-300	EXEL	
	350	NMOS	TTL	10K	40	80		5	24		XL2804A-350	EXEL	30
	450	NMOS	TTL	10K	40	80		5	24		XL2804A-450	EXEL	
768x1		CMOS		100K	0.02	2	4.5	5	8	Bit Sequential	**S2980I**	**Seiko Instr (3761)**	
1K-Bit								5	8	Serial	BR93LC46	ROHM	
1Kx1	200	CMOS						5	8		NMC9314B	National	
											MSM16811RS	OKI	35
											MSM16911RS	OKI	
1Kx8		CMOS	CMOS	10K	0.1	3	2.5–5.5	2.5–5.5	8	2-Wire Serial	24LC08	ℓ‡ Microchip	
	0.0035	CMOS		100K	0.1	3		5	8	I^2C Bus	NM24C08	National	
											NM24C08E	National	
											NM24C08M	National	40
											NM24C09E	National	
											NM24C09M	National	
	10 ms	NMOS						5	8		SDA2586	Siemens	
	650							5	24		HB3108A	Hughes	
											HC3108A	Hughes	45
1Kx16	50	CMOS		100K	0.05	3		5	8		NM93C86A	National	
											NM93C86AE	National	
	100	CMOS		100K	0.1	4		5	8		NM93C86AM	National	
1Kx16/2Kx8	50	CMOS		100K	0.01	3		5	8		**CAT35C116**	**Catalyst Semi (3565)**	
						4		5	8		**CAT35C116I**	**Catalyst Semi (3565)**	50
	250	CMOS		100K	0.01	2		3	8		**CAT33C116**	ℓ **Catalyst Semi (3565)**	
						3		3	8		**CAT33C116I**	ℓ **Catalyst Semi (3565)**	
1Kx8		CMOS		1M	0.005	2		2.5	8	Serial Access	ST25C08	ℓ SGS-Thomson	
					0.1	2		3	8	Serial Access	ST24C08	ℓ SGS-Thomson	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–E^2 PROMs (Cont'd)

Electrically Erasable–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx8												(Cont'd)	
	0.0035	CMOS		1M	0.1	3		5	8	I^{2}C Bus	NM25C08L	National	
											NM25C09L	National	
	100	CMOS		100K	0.018	3		5	14	2-Wire Serial	AT24C08-10C	ATMEL	
	250	CMOS		100K	0.004	3	5	5	8	Serial I^{2}C Bus	**CAT24C08**	**Catalyst Semi (3565)**	
											CAT24C08I	**Catalyst Semi (3565)**	5
								3	14	Serial I^{2}C Bus	**CAT24LC08**	ℓ **Catalyst Semi (3565)**	
											CAT24LC08I	ℓ **Catalyst Semi (3565)**	
	10000	CMOS	TTL	100K	0.15	3		5	8		AT24C08-10I	ATMEL	
2Kx8		CMOS						5	8		X24LC16	Xicor	
					0.05	3		5	8		X24164	Xicor	10
			CMOS	10K	0.1	3	4.5	5	8	2-Wire Serial	24C16	‡ Microchip	
		Serial						5	8		ST24C16	SGS-Thomson	
	0.0035	CMOS		100K	0.1	3		5	8	I^{2}C Bus	NM24C16	National	
											NM24C16E	National	
											NM24C16M	National	15
											NM24C17E	National	
											NM24C17M	National	
	45	CMOS						5	24		AT28HC16-45	ATMEL	
											AT28HC191-45	ATMEL	
											AT28HC291-45	ATMEL	20
											M36C16-45	• SEEQ	
											M38C16-45	SEEQ	
											36C16-45	• SEEQ	
			CMOS/TTL	1K	3	80		5	24		AT28HC191L-45M/883	† ATMEL	
											AT28HC291L-45M/883	† ATMEL	25
					60	80		5	24		AT28HC191-45M/883	ATMEL	
											AT28HC291-45M/883	ATMEL	
				100K	60	80		5	24		AT28HC16-45C	ATMEL	
											AT28HC16-45I	ATMEL	
	50	CMOS		100K	0.05	3		5	8		NM93C86A	National	30
											NM93C86AE	National	
	55	CMOS						5	24		AT28HC16-55	ATMEL	
											AT28HC16L-55	ATMEL	
											AT28HC191-55	ATMEL	
											AT28HC291-55	ATMEL	35
											M36C16-55	• SEEQ	
											M38C16-55	SEEQ	
			CMOS/TTL	1K	3	80		5	24		AT28HC191L-55M/883	† ATMEL	
											AT28HC291L-55M/883	† ATMEL	
					60	80		5	24		AT28HC191-55M/883	† ATMEL	40
											AT28HC291-55M/883	† ATMEL	
				100K	3	80		5	24		AT28HC16L-55C	ATMEL	
											AT28HC16L-55I	ATMEL	
											AT28HC16L-55M	† ATMEL	
											AT28HC16L-55M/883	† ATMEL	45
					60	80		5	24		AT28HC16-55C	ATMEL	
											AT28HC16-55I	ATMEL	
											AT28HC16-55M	† ATMEL	
											AT28HC16-55M/883	† ATMEL	
	70	CMOS						5	24		AT28HC16-70	ATMEL	50
											AT28HC16L-70	ATMEL	
				10K	2	40		5	24		X28HC16-70	Xicor	
			CMOS/TTL	100K	3	80		5	24		AT28HC16L-70C	ATMEL	
											AT28HC16L-70I	ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)		
2Kx8	70	CMOS	CMOS/TTL	100K	3	80		5	24		AT28HC16L-70M	† ATMEL	
											AT28HC16L-70M/883	† ATMEL	
					60	80		5	24		AT28HC-16-70C	ATMEL	
											AT28HC16-70I	ATMEL	
											AT28HC16-70M	† ATMEL	5
											AT28HC16-70M/883	† ATMEL	
	90	CMOS						5	24		AT28HC16-90	ATMEL	
											AT28HC16L-90	ATMEL	
				10K	2	40		5	24		X28HC16-90	Xicor	
			CMOS/TTL	100K	3	80		5	24		AT28HC16L-90C	ATMEL	10
											AT28HC16L-90I	ATMEL	
											AT28HC16L-90M	† ATMEL	
											AT28HC16L-90M/883	† ATMEL	
					60	80		5	24		AT28HC16-90C	ATMEL	
											AT28HC16-90I	ATMEL	15
											AT28HC16-90M	† ATMEL	
											AT28HC16-90M/883	† ATMEL	
		NMOS		10K	50	110		5	32		X2816CM-90	† Xicor	
	100	CMOS		10K	2	30		5	24		XL28C16A	EXEL	
				100K	0.1	4		5	8		NM93C86AM	National	20
	120	CMOS		10K	2	40		5	24		X28HC16-12	Xicor	
		NMOS		10K	50	110		5	32		X2816C-12	Xicor	
											X2816CI-12	Xicor	
											X2816CM-12	† Xicor	
	150							5	24		28C16A-15	Microchip	25
											X2816B	Xicor	
		CMOS						5	24		AT28C16-15	ATMEL	
									28		28C17-15	Microchip	
											28C17A-15	Microchip	
									24		MSM28C16-15RS	OKI	30
			CMOS/TTL	100K	2	30		5	24		AT28C16-15C	ATMEL	
									28		AT28C17-15C	ATMEL	
					3	45		5	24		AT28C16-15I	ATMEL	
											AT28C16-15M	† ATMEL	
											AT28C16-15M/883	† ATMEL	35
									28		AT28C17-15I	ATMEL	
											AT28C17-15M	† ATMEL	
											AT28C17-15M/883	† ATMEL	
			TTL		1	30		5	24		MSM28C16A-15	OKI	
		NMOS		10K	50	110		5	32		X2816C-15	Xicor	40
											X2816CI-15	Xicor	
											X2816CM-15	† Xicor	
	200							5	24		NMC9816A-20	National	
											M2816A-200	° SEEQ	
									28		2817A-200	SEEQ	45
											2817AH-200	SEEQ	
									24		52B13-200	SEEQ	
											52B13H-200	SEEQ	
									28		5517AH	SEEQ	
		CMOS						5	24		AT28C16-20	ATMEL	50
											28C16A-20	Microchip	
									28		28C17-20	Microchip	
											28C17A-20	Microchip	
									24		MSM28C16-20RS	OKI	
											X2816C-20	Xicor	55
			CMOS/TTL	100K	2	30		5	24		AT28C16-20C	ATMEL	
									28		AT28C17-20C	ATMEL	
					3	45		5	24		AT28C16-20I	ATMEL	
											AT28C16-20M	† ATMEL	
											AT28C16-20M/883	† ATMEL	60

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Electrically Erasable—General Purpose												(Cont'd)	
												(Cont'd)	
2Kx8	200	CMOS	CMOS/TTL	100K	3	45		5	28		AT28C17-20I	ATMEL	
											AT28C17-20M	† ATMEL	
											AT28C17-20M/883	† ATMEL	
			TTL		1	30		5	24		MSM28C16A-20	OKI	
		NMOS						5	28		M2817A-200	SEEQ	5
				10K	50	110		5	32		X2816CI-20	Xicor	
											X2816CM-20	† Xicor	
	250							5	30	Cartridge	DS1217A-16	Dallas	
									24		M2816A	Intel	
									28		M2817A-25	Intel	10
									24		NMC9816A-25	National	
											2816A-250	• SEEQ	
											52B13-250	SEEQ	
											52B13H-250	SEEQ	
											5516A-250	• SEEQ	15
									28		5517A-250	SEEQ	
									24		X2816B-25	Xicor	
											X2816BM-25	Xicor	
		CMOS						5	24		AT28C16-25	ATMEL	
											28C16A-25	Microchip	20
									28		28C17-25	Microchip	
											28C17A-25	Microchip	
			CMOS/TTL	100K	2	30		5	24		AT28C16-25C	ATMEL	
									28		AT28C17-25C	ATMEL	
					3	45		5	24		AT28C16-25I	ATMEL	25
						4		5	24		AT28C16-25M	† ATMEL	
						45		5	24		AT28C16-25M/883	† ATMEL	
									28		AT28C17-25I	ATMEL	
											AT28C17-25M	† ATMEL	
											AT28C17-25M/883	† ATMEL	30
		NMOS						5	24		M2816A-250	• SEEQ	
									28		M2817A-250	SEEQ	
									24		M52B13-250	SEEQ	
											M52B13H-250	SEEQ	
											2816AH-250	• SEEQ	35
									28		2817A-250	SEEQ	
											2817AH-250	SEEQ	
											5517AH-250	SEEQ	
	300							5	24		M52B13-300	SEEQ	
											M52B13H-300	SEEQ	40
											2816A-300	• SEEQ	
											5516A-300	• SEEQ	
											X2816AM	Xicor	
											X2816BM	Xicor	
		CMOS						5	24		AT28C16-30	ATMEL	45
									28		AT28C17-30	ATMEL	
			CMOS/TTL	100K	2	30		5	28		AT28C17-30M/883	† ATMEL	
					3	45		5	24		AT28C16-30M/883	† ATMEL	
		NMOS						5	28		M2817A-300	SEEQ	
									24		2816AH-300	• SEEQ	50
									28		2817A-300	SEEQ	
											2817AH-300	SEEQ	
											5517A-300	SEEQ	
											5517AH-300	SEEQ	
	350							5	28		M2817A-35	Intel	55
									24		NMC9816A-35	National	
											2816A-350	• SEEQ	
											52B13-350	SEEQ	
								5,21	24		52B13H-350	SEEQ	
								5	24		X2816AM-35	Xicor	60
											X2816B-35	Xicor	
		CMOS						5	24		AT28C16-35	ATMEL	
									28		AT28C17-35	ATMEL	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8	350	CMOS										(Cont'd)	
			CMOS/TTL	100K	2	30		5	28		AT28C17-35M/883	† ATMEL	
					3	45		5	24		AT28C16-35M/883	† ATMEL	
		NMOS						5	28		KM2817A-35	Samsung	
									24		M2816A-350	° SEEQ	
											M52B13-350	SEEQ	5
											M52B13H-350	SEEQ	
	450							5	28		M2817	Intel	
									24		X2816AM-45	Xicor	
		CMOS						5	24		AT28C16-45	ATMEL	
									28		AT28C17-45	ATMEL	10
			CMOS/TTL	100K	2	30		5	28		AT28C17-45M/883	† ATMEL	
					3	45		5	24		AT28C16-45M/883	† ATMEL	
	3500	CMOS	CMOS	100K	0.002	1	5	5	8	Serial I²C Bus	XL24C16	EXEL	
							3	3	8	Serial I²C Bus	XL24C16-3	ℓ EXEL	
2Kx8		CMOS			0.05	3		5	8		X24C16	Xicor	15
				1M	0.005	1		2.5	8	Serial Access	ST25C01	ℓ SGS-Thomson	
				100K	0.1	2		4.5	8	Serial Access	ST24C16C	SGS-Thomson	
			Parallel		0.1	25		5	24		**S2840A**	**Seiko Instr (3761)**	
	0.0035	CMOS		1M	0.1	3		5	8	I²C Bus	NM25C16L	National	
											NM25C17L	National	20
	35							5	24		36C16-35	° SEEQ	
		CMOS						5	24		AT28HC191-35	ATMEL	
											AT28HC291-35	ATMEL	
			CMOS/TTL	1K	60	80		5	24		AT28HC191-35C	ATMEL	
											AT28HC291-35C	ATMEL	25
	45	CMOS	CMOS/TTL	1K	3	80		5	24		AT28HC191L-45C	ATMEL	
											AT28HC191L-45I	ATMEL	
											AT28HC191L-45M	† ATMEL	
											AT28HC291L-45C	ATMEL	
											AT28HC291L-45I	ATMEL	30
											AT28HC291L-45M	† ATMEL	
					60	80		5	24		AT28HC191-45C	ATMEL	
											AT28HC191-45I	ATMEL	
											AT28HC191-45M	† ATMEL	
											AT28HC291-45C	ATMEL	35
											AT28HC291-45I	ATMEL	
											AT28HC291-45M	† ATMEL	
	55	CMOS		10K	2	40		5	24		X28HC16-55	Xicor	
			CMOS/TTL	1K	3	80		5	24		AT28HC191L-55C	ATMEL	
											AT28HC191L-55I	ATMEL	40
											AT28HC191L-55M	† ATMEL	
											AT28HC291L-55C	ATMEL	
											AT28HC291L-55I	ATMEL	
											AT28HC291L-55M	† ATMEL	
					60	80		5	24		AT28HC191-55C	ATMEL	45
											AT28HC191-55I	ATMEL	
											AT28HC191-55M	† ATMEL	
											AT28HC291-55C	ATMEL	
											AT28HC291-55I	ATMEL	
											AT28HC291-55M	† ATMEL	50
			TTL		45	90		5	24		XL46C15-55	EXEL	
	60	CMOS	TTL		45	90		5	24		XL46C15-60	EXEL	
	70	CMOS	TTL		45	90		5	24		XL46C15-70	EXEL	
	85	CMOS	TTL		45	90		5	24		XL46C15-85	EXEL	
	90	NMOS		10K	50	110		5	24		X2816C-90	Xicor	55
									32		X2816CI-90	Xicor	
	100	CMOS		10K	2	30		5	24		XL28C16B-100	EXEL	
				100K	0.018	3		5	14	2-Wire Serial	AT24C16-10C	ATMEL	
											AT24C16-10I	ATMEL	
											AT24C164-10C	ATMEL	60
											AT24C164-10I	ATMEL	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
												(Cont'd)	
2Kx8	150	CMOS		10K	2	30		5	24		XL28C16B-150	EXEL	
				100K	1	30		5	32		KM28C16-15	Samsung	
											KM28C17-15	Samsung	
			TTL					5	28		AT28C17-15	ATMEL	
	200	CMOS			0.1	25		5	28		**CAT28C17A**	**Catalyst Semi (3564)**	5
				1K	0.001	25	2.7	5	28	Parallel	S2812A	Seiko Instr	
				10K	1	35		5	28		**CAT28C17AI-20**	**Catalyst Semi (3564)**	
					2	30		5	24		XL28C16A-200	EXEL	
											XL28C16B-200	EXEL	
				100K	1	30		5	32		KM28C16-20	Samsung	10
											KM28C16I-20	Samsung	
											KM28C17-20	Samsung	
											KM28C17I-20	Samsung	
			TTL					5	28		AT28C17-20	ATMEL	
			TTL/CMOS	10K	1	35		5	24		**CAT28C16A-20**	**Catalyst Semi (3564)**	15
									28		**CAT28C17A-20**	**Catalyst Semi (3564)**	
				410K	1	35		5	24		**CAT28C16AI-20**	**Catalyst Semi (3564)**	
	250	CMOS		10K	2	30		5	24		XL28C16B-250	EXEL	
				100K	0.004	3	5	5	8	Serial I^{2}C Bus	**CAT24C16**	**Catalyst Semi (3565)**	
											CAT24C16I	**Catalyst Semi (3565)**	20
							3	3	14	Serial I^{2}C Bus	**CAT24LC16**	ℓ **Catalyst Semi (3565)**	
											CAT24LC16I	ℓ **Catalyst Semi (3565)**	
					1	30		5	32		KM28C16-25	Samsung	
											KM28C16I-25	Samsung	
											KM28C17-25	Samsung	25
											KM28C17I-25	Samsung	
			TTL					5	28		AT28C17-25	ATMEL	
		NMOS	TTL	10K	40	110		5	24		XL2816A-250	EXEL	
	300	CMOS						5	8		X24C16M	Xicor	
		NMOS	TTL	10K	40	110		5	24		XL2816A-300	EXEL	30
	350	NMOS	TTL	10K	40	110		5	24		XL2816A-350	EXEL	
	450	NMOS	TTL	10K	40	110		5	24		XL2816A-450	EXEL	
	700	CMOS	TTL/CMOS	10K	0.05	10		3	24		CAT28C16V3-70	ℓ Catalyst Semi	
4Kx8		CMOS			0.05	3		5	8		X24042	Xicor	
	35	CMOS						5	24		36C32-35	SEEQ	35
											38C32-35	SEEQ	
	45	CMOS						5	24		36C32-45	SEEQ	
									28		38C32-45	SEEQ	
	50	CMOS		100K	0.25	3		3	8		CAT33C704I	ℓ Catalyst Semi	
	55	CMOS						5	24		36C32-55	SEEQ	40
									28		38C32-55	SEEQ	
	250	CMOS		100K	0.004	3	5	5	8	Serial I^{2}C Bus	CAT24C32	Catalyst Semi	
											CAT24C32I	Catalyst Semi	
4Kx16								5	8	Serial	CAT33C804	Catalyst Semi	
4Kx8	50	CMOS		100K	0.25	3		3	8	Serial	CAT33C704	ℓ Catalyst Semi	45
8Kx8		CMOS			0.05	3		5	8		X24C08	Xicor	
	60	CMOS						5	28		M38C64-60	SEEQ	
											X28HC64-60	Xicor	
	70							5	28		X2864H-70	• Xicor	
		CMOS						5	28		AT28HC64-70	ATMEL	50
				10K	2	40		5	28		X28HC64-70	Xicor	
			CMOS/TTL	100K	60	80		5	28		AT28HC64-70M	† ATMEL	
	90							5	28		X2864H-90	• Xicor	
		CMOS		10K	2	40		5	28		X28HC64-90	Xicor	
												(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
												(Cont'd)	
8Kx8	90	CMOS	CMOS/TTL	100K	3	80		5	28		AT28HC64L-90M	ATMEL	
					60	80		5	28		AT28HC64-90M	† ATMEL	
	120							5	28		X2864B-12	° Xicor	
											X2864BM-12	° Xicor	
		CMOS						5	28		X28C64-12	Xicor	5
											X28C64B-12	Xicor	
				10K	2	40		5	28		X28HC64-12	Xicor	
			CMOS/TTL	100K	3	80		5	28		AT28HC64L-12M	† ATMEL	
					60	80		5	28		AT28HC64-12M	† ATMEL	
			TTL	10K	1	30		5	28		MSM28C64A-12	OKI	10
	150							5	28		X2864B-15	° Xicor	
											X2864BM-15	° Xicor	
		CMOS						5	28		AT28PC64-15	ATMEL	
											28C64A-15	Microchip	
											MSM28C64-15RS	OKI	15
											X28C64	Xicor	
											X28C64-15	Xicor	
											X28C64B-15	Xicor	
											X28C64BM-15	Xicor	
											X28C64M-15	Xicor	20
				10K	1	40		5	28		CAT28C64AI-15	Catalyst Semi	
											CAT28C65AI-15	Catalyst Semi	
				100K	2	60		5	32		X28C64I-15	Xicor	
			CMOS/TTL	100K	2	30		5	28		AT28C64X-15C	ATMEL	
					3	45		5	28		AT28C64-15M/883	† ATMEL	25
											AT28C64X-15I	ATMEL	
											AT28C64X-15M	† ATMEL	
											AT28C64X-15M/883	† ATMEL	
			TTL	10K	1	30		5	28		MSM28C64A-15	OKI	
	180							5	28		X2864B-18	° Xicor	30
											X2864BM-18	° Xicor	
		CMOS						5	28		X28C64-18	Xicor	
											X28C64B-18	Xicor	
											X28C64BM-18	Xicor	
											X28C64M-18	Xicor	35
	200							5	28		52B33H-200	SEEQ	
											X2864AM-25	° Xicor	
		CMOS						5	28		AT28PC64-20	ATMEL	
											HN58C65-20	Hitachi	
											MSM28C64-20RS	OKI	40
											28C64-200	SEEQ	
											55C65-200	SEEQ	
											X28C64-20	Xicor	
											X28C64M	Xicor	
				10K	1	40		5	28		CAT28C64AI-20	Catalyst Semi	45
											CAT28C65A-20	Catalyst Semi	
											CAT28C65AI-20	Catalyst Semi	
				100K	2	60		5	32		X28C64I-20	Xicor	
			CMOS/TTL	100K	2	30		5	28		AT28C64X-20C	ATMEL	
					3	45		5	28		AT28C64-20M/883	† ATMEL	50
											AT28C64X-20I	ATMEL	
											AT28C64X-20M	† ATMEL	
											AT28C64X-20M/883	† ATMEL	
			TTL	10K	1	30		5	28		MSM28C64A-20	OKI	
		NMOS						5	28		52B33-200	SEEQ	55
				10K				5	28		AM9864-20C	AMD	
	250							5	30	Cartridge	DS1217A-64	Dallas	
									28		M2864A-25	Intel	
											M2864H-250	SEEQ	
											52B33H-250	SEEQ	60
									24		X2864A-25	° Xicor	
												(Continued)	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	250	CMOS						5	28		AT28PC64-25	ATMEL	
											HN58C65-25	Hitachi	
											28C64A-25	Microchip	
											M28C64-250	SEEQ	
											TMS28C64-25	TI	5
				10K	1	40		5	28		CAT28C64AI-25	Catalyst Semi	
											CAT28C65AI-25	Catalyst Semi	
				100K	2	60		5	32		X28C64I-25	Xicor	
			CMOS/TTL	100K	2	30		5	28		AT28C64X-25C	ATMEL	
					3	45		5	28		AT28C64-25M/883	† ATMEL	10
											AT28C64X-25I	ATMEL	
											AT28C64X-25M	† ATMEL	
											AT28C64X-25M/883	† ATMEL	
			TTL/CMOS	10K	1	40		5	28		CAT28C64A-25	Catalyst Semi	
		NMOS						5	28		M2864-250	SEEQ	15
											2864-250	SEEQ	
											2864-350	SEEQ	
											2864H-250	SEEQ	
											52B33-250	SEEQ	
				10K				5	28		AM9864-25C	AMD	20
	300							5	28		M2864A-30	Intel	
									24		M52B33-300	SEEQ	
									28		28C64-250	SEEQ	
											52B33-300	SEEQ	
											52B33H-300	SEEQ	25
											X2864A	• Xicor	
									24		X2864AM	• Xicor	
		CMOS						5	28		AT28PC64-30	ATMEL	
			CMOS/TTL	100K	3	45		5	28		AT28C64-30M/883	† ATMEL	
											AT28C64X-30M/883	† ATMEL	30
						80		5	28		AT28PC64-30M/883	† ATMEL	
		NMOS						5	28		M2864H-300	SEEQ	
											M52B33H-300	SEEQ	
											2864-300	SEEQ	
											2864H-300	SEEQ	35
				10K				5	28		AM9864-30C	AMD	
	350							5	24		X2864A-35	• Xicor	
											X2864AM-35	• Xicor	
		CMOS						5	28		AT28PC64-35	ATMEL	
											TMS28C64-35	TI	40
			CMOS/TTL	100K	3	45		5	28		AT28C64-35M/883	† ATMEL	
											AT28C64X-35M/883	† ATMEL	
						80		5	28		AT28PC64-35M/883	† ATMEL	
		NMOS						5	28		52B33-350	SEEQ	
				10K				5	28		AM9864-35C	AMD	45
	450							5	28		X2864A-45	• Xicor	
									24		X2864AM-45	• Xicor	
		CMOS	CMOS/TTL	100K	3	45		5	28		AT28C64-45M/883	† ATMEL	
											AT28C64X-45M/883	† ATMEL	
8Kx32	150	CMOS	TTL	100K	12	180		5	66		PUMA2E256-15	† Mosaic Semi	50
	200	CMOS	TTL	100K	12	180		5	66		PUMA2E256-20	† Mosaic Semi	
	250	CMOS	TTL	100K	12	180		5	66		PUMA2E256-25	† Mosaic Semi	
8Kx8	55	CMOS		10K	2	40		5	28		X28HC64-55	Xicor	
			CMOS/TTL		60	80		5	28		AT28HC64-55	ATMEL	
				100K	60	80		5	32		AT28HC64-55C	ATMEL	55
											AT28HC64-55I	ATMEL	
	70	CMOS	CMOS/TTL		3	80		5	28		AT28HC64L-70	ATMEL	
				100K	3	80		5	32		AT28HC64L-70C	ATMEL	
											AT28HC64L-70I	ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	70	CMOS	CMOS/TTL	100K								(Cont'd)	
					60	80		5	32		AT28HC64-70C	ATMEL	
											AT28HC64-70I	ATMEL	
											AT28HC64-70M/883 †	ATMEL	
	90	CMOS	CMOS/TTL		3	80		5	28		AT28HC64L-90	ATMEL	
					60	80		5	28		AT28HC64-90	ATMEL	5
				100K	3	80		5	32		AT28HC64L-90C	ATMEL	
											AT28HC64L-90I	ATMEL	
											AT28HC64L-90M/883 †	ATMEL	
					60	80		5	32		AT28HC64-90C	ATMEL	
											AT28HC64-90I	ATMEL	10
											AT28HC64-90M/883 †	ATMEL	
	120	CMOS			0.2	60		5	24		X86C64	Xicor	
					0.5	60		5	24		X68C64	Xicor	
											X88C64	Xicor	
				10K	1	30		5	28		**CAT28C65B-12**	**Catalyst Semi (3564)**	15
				100K	1	40		5	32	Toggle Bit	KM28C64A-12	Samsung	
											KM28C65A-12	Samsung	
			CMOS/TTL		3	80		5	28		AT28HC64L-12	ATMEL	
					60	80		5	28		AT28HC64-12	ATMEL	
				100K	2	30		5	28		AT28C64-12C	ATMEL	20
											AT28C64-12I	ATMEL	
											AT28C64-12M †	ATMEL	
					3	80		5	32		AT28HC64L-12C	ATMEL	
											AT28HC64L-12I	ATMEL	
											AT28HC64L-12M/883 †	ATMEL	25
					60	80		5	32		AT28HC64-12C	ATMEL	
											AT28HC64-12I	ATMEL	
											AT28HC64-12M/883 †	ATMEL	
			TTL/CMOS	10000	0.1	30	5	5	28	Software Data Protection; Toggle Bit; 5ms Write Time	**CAT28C64BI-12**	**Catalyst Semi (3564)**	
	150	CMOS						5	28		M5M28C64-15	Mitsubishi	30
				10K	0.1	30		5	28		XL28C64B-150	EXEL	
					1	40		5	28		CAT28C64A-15	Catalyst Semi	
						30		5	28		**CAT28C65B-15**	**Catalyst Semi (3564)**	
											CAT28C65BI-15	**Catalyst Semi (3564)**	
					2	30		5	28		XL28C64-150	EXEL	35
				100K	1	40		5	32	Toggle Bit	KM28C64A-15	Samsung	
											KM28C64AI-15	Samsung	
											KM28C65A-15	Samsung	
											KM28C65AI-15	Samsung	
					2	30		5	32	Parallel Access	M28C64C-150	SGS-Thomson	40
			CMOS/TTL	100K	2	30		5	28		AT28C64-15C	ATMEL	
						60		5	32		AT28C64B-15C	ATMEL	
											AT28C64B-15I	ATMEL	
											AT28C64B-15M †	ATMEL	
											AT28C64B-15M/883 †	ATMEL	45
					3	45		5	28		AT28C64-15I	ATMEL	
											AT28C64-15M †	ATMEL	
						80		5	32		AT28PC64-15C	ATMEL	
											AT28PC64-15I	ATMEL	
											AT28PC64-15M †	ATMEL	50
											AT28PC64-15M/883 †	ATMEL	
			TTL/CMOS	10K	0.1	30		5	28	Software Data Protection; Toggle Bit; 5ms Write Time	**CAT28C64B-15**	**Catalyst Semi (3564)**	
											CAT28C64BI-15	**Catalyst Semi (3564)**	
					1	40		5	28		CAT28C65A-15	Catalyst Semi (Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8												(Cont'd)	
	200	CMOS						5	28		M5M28C64-20	Mitsubishi	
											X28C64M-20	Xicor	
				1K	0.001	25	2.7	5	28	Parallel	S2860A	Seiko Instr	
							4.5	5	28	Parallel	S2864A	Seiko Instr	
				10K	0.1	30		5	28		XL28C64B-200	EXEL	5
					1	30		5	28		**CAT28C65B-20**	**Catalyst Semi (3564)**	
											CAT28C65BI-20	**Catalyst Semi (3564)**	
					2	30		5	28		XL28C64-200	EXEL	
				100K	1	40		5	32	Toggle Bit	KM28C64A-20	Samsung	
											KM28C64AI-20	Samsung	10
											KM28C65A-20	Samsung	
											KM28C65AI-20	Samsung	
					2	30		5	32	Parallel Access	M28C64C-200	SGS-Thomson	
			CMOS	100K	0.05	8		3	32		AT28LV64-20C	ℓ ATMEL	
											AT28LV64-20I	ATMEL	15
			CMOS/TTL	100K	2	30		5	28		AT28C64-20C	ATMEL	
						60		5	32		AT28C64B-20C	ATMEL	
											AT28C64B-20I	ATMEL	
											AT28C64B-20M	† ATMEL	
											AT28C64B-20M/883	† ATMEL	20
					3	45		5	28		AT28C64-20I	ATMEL	
											AT28C64-20M	† ATMEL	
						80		5	32		AT28PC64-20C	ATMEL	
											AT28PC64-20I	ATMEL	
											AT28PC64-20M	† ATMEL	25
											AT28PC64-20M/883	† ATMEL	
			TTL	100K	1	50		5	28		µPD28C64-20	NEC	
			TTL/CMOS	10K	0.1	30		5	28	Software Data Protection; Toggle Bit; 5ms Write Time	**CAT28C64B-20**	**Catalyst Semi (3564)**	
											CAT28C64BI-20	**Catalyst Semi (3564)**	
					1	40		5	28		CAT28C64A-20	Catalyst Semi	30
	250	CMOS						5	28		CAT28C64A-250	Catalyst Semi	
											HN58C65-30	Hitachi	
											HN58C66-25	Hitachi	
											X28C64-25	Xicor	
											X28C64M-25	Xicor	35
									24		X28C64T-25	Xicor	
				10K	0.1	30		5	28		XL28C64B-250	EXEL	
					1	40		5	28		CAT28C65A-25	Catalyst Semi	
					2	30		5	28		XL28C64-250	EXEL	
				100K	1	40		5	32	Toggle Bit	KM28C64A-25	Samsung	40
											KM28C64AI-25	Samsung	
											KM28C65A-25	Samsung	
											KM28C65AI-25	Samsung	
			CMOS/TTL	100K	2	30		5	28		AT28C64-25C	ATMEL	
						60		5	32		AT28C64B-25C	ATMEL	45
											AT28C64B-25I	ATMEL	
											AT28C64B-25M	† ATMEL	
											AT28C64B-25M/883	† ATMEL	
					3	45		5	28		AT28C64-25I	ATMEL	
											AT28C64-25M	† ATMEL	50
						80		5	32		AT28PC64-25C	ATMEL	
											AT28PC64-25I	ATMEL	
											AT28PC64-25M	† ATMEL	
											AT28PC64-25M/883	† ATMEL	
			TTL	100K	1	50		5	28		µPD28C64-25	NEC	55
		NMOS	TTL	10K	50	110		5	28		XL2864A-250	EXEL	
											XL2865A-250	EXEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8												(Cont'd)	
	300	CMOS						5	28		HN58C66-30	Hitachi	
			CMOS	100K	0.05	8		2.7	32		AT28LV64-30C	ℓ ATMEL	
											AT28LV64-30I	ℓ ATMEL	
		NMOS	TTL	10K	50	110		5	28		XL2864A-300	EXEL	
											XL2865A-300	EXEL	5
	350	CMOS						5	24		X28C64T-35	Xicor	
		NMOS	TTL	10K	50	110		5	28		XL2864A-350	EXEL	
											XL2865A-350	EXEL	
	450	NMOS	TTL	10K	50	110		5	28		XL2864A-450	EXEL	
											XL2865A-450	EXEL	10
16Kx8x4	150	CMOS						5	28		GR27513	Greenwich	
16Kx16	150	CMOS	TTL	100K	12	96		5	66		PUMA2E256-15	† Mosaic Semi	
	200	CMOS	TTL	100K	12	96		5	66		PUMA2E256-20	† Mosaic Semi	
	250	CMOS	TTL	100K	12	96		5	66		PUMA2E256-25	† Mosaic Semi	
32Kx8	55	CMOS						5	66		PUMA2E256-55	Mosaic Semi	15
	70	CMOS						5	66		PUMA2E256-70	Mosaic Semi	
			CMOS/TTL	100K	60	80		5	28		AT28HC256-70C	ATMEL	
											AT28HC256-70I	ATMEL	
	85	CMOS						5	28		MEM832-85	Mosaic Semi	
	90	CMOS						5	66		PUMA2E256-90	Mosaic Semi	20
									28		28C256A-200	SEEQ	
			CMOS/TTL	100K	60	80		5	28		AT28HC256-90C	ATMEL	
											AT28HC256-90I	ATMEL	
											AT28HC256-90M	† ATMEL	
											AT28HC256-90M/883	† ATMEL	25
											AT28HC256L-90C	ATMEL	
											AT28HC256L-90I	ATMEL	
	100	CMOS						5	28		MEM832-10	Mosaic Semi	
											28HC256-90	SEEQ	
	120	CMOS						5	66		PUMA2E256-12	Mosaic Semi	30
									28		28HC256-120	SEEQ	
			CMOS/TTL	100K	60	80		5	28		AT28HC256-12C	ATMEL	
											AT28HC256-12I	ATMEL	
											AT28HC256-12M	† ATMEL	
											AT28HC256-12M/883	† ATMEL	35
											AT28HC256L-12C	ATMEL	
											AT28HC256L-12I	ATMEL	
											AT28HC256L-12M	† ATMEL	
											AT28HC256L-12M/883	† ATMEL	
	150	CMOS						5	28		AT28C256-15	ATMEL	40
											KM28C256	Samsung	
									32		KM28C256J	Samsung	
									28		28C256A-150	SEEQ	
				100K	2	60		5	32		X28C256I-15	Xicor	
			CMOS/TTL	100K	3	80		5	28		AT28C256-15M/883	† ATMEL	45
			TTL	100K	12	54		5	66		PUMA2E256-15	† Mosaic Semi	
		NMOS						5	28		X28C256B-15	° Xicor	
	180	CMOS						5	28		X28C256-18	° Xicor	
											X28C256M-18	° Xicor	
		NMOS						5	28		X28C256B-18	° Xicor	50
	200	CMOS						5	28		AT28C256-20	ATMEL	
											MEM832-20	Mosaic Semi	
											28C256-200	SEEQ	
											55C256-200	SEEQ	
											X28C256I-20	° Xicor	55
			CMOS/TTL	100K	3	80		5	28		AT28C256-20M/883	† ATMEL	
			TTL	100K	12	54		5	66		PUMA2E256-20	† Mosaic Semi	
	250							5	30		DS1217A-192	Dallas	
											DS1217A-256	Dallas	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

(Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	No. Erase/ Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	250	CMOS						5	28		AT28C256-25	ATMEL	
											MEM832-25	Mosaic Semi	
											M28C256-250	SEEQ	
											28C256-250	SEEQ	
										200 degC	8023	White Tech	5
											X28C256I-25	• Xicor	
			CMOS/TTL	100K	3	80		5	28		AT28C256-25M/883	† ATMEL	
			TTL	100K	12	54		5	66		PUMA2E256-25	† Mosaic Semi	
		NMOS	TTL		1	30		5	28		TC58257-25LV	Toshiba	
	300							5	28		X28C256M	• Xicor	10
		CMOS						5	28		AT28C256-30	ATMEL	
											28C256-300	SEEQ	
											X28C256I	• Xicor	
			CMOS/TTL	100K	3	80		5	28		AT28C256-30M/883	† ATMEL	
	350							5	28		X28C256-35	• Xicor	15
											X28C256M-35	• Xicor	
		CMOS						5	28		AT28C256-35	ATMEL	
			CMOS/TTL	100K	3	80		5	28		AT28C256-35M/883	† ATMEL	
32Kx32	120	CMOS		100K	12	320		5	66		PUMA2E1000-12	Mosaic Semi	
32Kx8	25			10K				5	32		X28TC256-25	Xicor	20
	35	CMOS						5	32		X28TC256-35	Xicor	
	45	CMOS		10K	25	80		5	28	Very High Speed	X28VC256-45	Xicor	
	55	CMOS		10K	25	80		5	28	Very High Speed	X28VC256-55	Xicor	
	70	CMOS		10K	25	80		5	28	Very High Speed	X28VC256-70	Xicor	
			CMOS/TTL		60	80		5	28		AT28HC256-70	ATMEL	25
	90	CMOS		10K	0.3	80		5	32		MEM832-90	Mosaic Semi	
											MEM832I-90	Mosaic Semi	
											MEM832M-90	† Mosaic Semi	
											MEM832MB-90	† Mosaic Semi	
					2	80		5	28	High Speed	X28HC256-90	Xicor	30
					25	80		5	28	Very High Speed	X28VC256-90	Xicor	
			CMOS/TTL		3	80		5	28		AT28HC256L-90	ATMEL	
					60	80		5	28		AT28HC256-90	ATMEL	
	120	CMOS		10K	0.3	80		5	32		MEM832-12	Mosaic Semi	
											MEM832I-12	Mosaic Semi	35
											MEM832M-12	† Mosaic Semi	
											MEM832MB-12	† Mosaic Semi	
					2	80		5	28	High Speed	X28HC256-12	Xicor	
				100K	1	60		5	32	Toggle Bit	KM28C256A-12	Samsung	
											KM28C256AI-12	Samsung	40
			CMOS/TTL		3	80		5	28		AT28HC256L-12	ATMEL	
					60	80		5	28		AT28HC256-12	ATMEL	
	150	CMOS						5	28		X28C256	• Xicor	
											X28C256-15	Xicor	
											X28C256M-15	• Xicor	45
				10K	0.1	30		5	28		XL28C256-150	EXEL	
					0.3	80		5	32		MEM832-15	Mosaic Semi	
											MEM832I-15	Mosaic Semi	
											MEM832M-15	† Mosaic Semi	
											MEM832MB-15	† Mosaic Semi	50
				100K	1	60		5	32	Toggle Bit	KM28C256-15	Samsung	
											KM28C256A-15	Samsung	
											KM28C256AI-15	Samsung	
											KM28C256I-15	Samsung	
			CMOS/TTL	100K	3	80		5	28		AT28C256-15C	ATMEL	55
											AT28C256-15I	ATMEL	
											AT28C256-15M	† ATMEL	
	170	CMOS						5	28		TC58257A-17	Toshiba	
		NMOS	TTL		1	30		5	28		TC58257-17LV	Toshiba	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Electrically Erasable—General Purpose												**(Cont'd)**	
32Kx8												(Cont'd)	
	200	CMOS						5	28		**CAT28C256M-20**	**Catalyst Semi (3564)**	
											HN58C256-20	Hitachi	
											HN58C257-20	Hitachi	
											X28C256-20	° Xicor	
											X28C256M-20	° Xicor	5
				10K	0.1	30		5	28		XL28C256-200	EXEL	
				100K	1	460		5	32		KM28C256-20	Samsung	
						60		5	32	Toggle Bit	KM28C256A-20	Samsung	
											KM28C256AI-20	Samsung	
											KM28C256I-20	Samsung	10
			CMOS	100K			3.3	3.3	32		AT28LV256-20C	ℓ ATMEL	
											AT28LV256-20I	ℓ ATMEL	
			CMOS/TTL	100K	3	80		5	28		AT28C256-20C	ATMEL	
											AT28C256-20I	ATMEL	
											AT28C256-20M	† ATMEL	15
			TTL		1	30	12.75	5	28		TC58257A-20	Toshiba	
				100K	1	50		5	28		µPD28C256-20	NEC	
			TTL/CMOS	10K	1	30		5	28		**CAT28C256-20**	**Catalyst Semi (3564)**	
											CAT28C256I-20	**Catalyst Semi (3564)**	
		NMOS	TTL		1	30		5	28		TC58257-20LV	Toshiba	20
	250							5	28		X28C256-25	° Xicor	
											X28C256M-25	° Xicor	
											X28256-25	° Xicor	
											X28256M-25	° Xicor	
		CMOS						5	28		**CAT28C256M-25**	**Catalyst Semi (3564)**	25
				10K	0.1	30		5	28		XL28C256-250	EXEL	
				100K	1	60		5	32	Toggle Bit	KM28C256-25	Samsung	
											KM28C256I-25	Samsung	
			CMOS/TTL	100K	3	80		5	28		AT28C256-25C	ATMEL	
											AT28C256-25I	ATMEL	30
											AT28C256-25M	† ATMEL	
			TTL		1	30	12.75	5	28		TC58257A-25	Toshiba	
				100K	1	50		5	28		µPD28C256-25	NEC	
			TTL/CMOS	10K	1	30		5	28		**CAT28C256-25**	**Catalyst Semi (3564)**	
											CAT28C256I-25	**Catalyst Semi (3564)**	35
	300							5	28		X28256	° Xicor	
											X28256M	° Xicor	
		CMOS						5	28		**CAT28C256M-30**	**Catalyst Semi (3564)**	
			CMOS	100K			3.3	3.3	32		AT28LV256-30C	ℓ ATMEL	
											AT28LV256-30I	ℓ ATMEL	40
			TTL/CMOS	10K	1	30		5	28		**CAT28C256-30**	**Catalyst Semi (3564)**	
											CAT28C256I-30	**Catalyst Semi (3564)**	
	350							3	32		HN58V257-35	ℓ Hitachi	
								5	28		X28256M-35	° Xicor	
		CMOS	CMOS/TTL	100K	3	80		5	28		AT28C256-35M	† ATMEL	45
64Kx4	300	CMOS						5	18		X2210A	Xicor	
											X2210A/10	Xicor	
											X2210A/5	Xicor	
64Kx8	90	CMOS		10K	4	82		5	32		MEM864-90	Mosaic Semi	
	120	CMOS		10K	3	50		5	32		X28C512I-12	Xicor	50
					4	82		5	32		MEM864-12	Mosaic Semi	
												(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Electrically Erasable—General Purpose												**(Cont'd)**	
64Kx8												(Cont'd)	
	150	CMOS						5	28	Emulator with Battery	GR27512	Greenwich	
				10K	3	50		5	32		X28C512-15	Xicor	
											X28C512I-15	Xicor	
					4	82		5	32		MEM864-15	Mosaic Semi	
	200							5,12	32		48F512-200	SEEQ	5
		CMOS						5	40		AT281024-20	ATMEL	
				10K	3	50		5	32		X28C512-20	Xicor	
											X28C512I-20	Xicor	
	250							5	30	Cartridge	DS1217M-1/2	Dallas	
								5,12	32		48F512-250	SEEQ	10
		CMOS		10K	3	50		5	32		X28C512-25	Xicor	
											X28C512I-25	Xicor	
	300							5,12	32		48F512-300	SEEQ	
64Kx16	150	CMOS	CMOS/TTL	100K	5	100		5	40		AT28C1024-15M/883 †	ATMEL	
	200	CMOS	CMOS/TTL	100K	5	100		5	40		AT28C1024-20M/883 †	ATMEL	15
	250	CMOS	CMOS/TTL	100K	5	100		5	40		AT28C1024-25M/883 †	ATMEL	
64Kx32	120	CMOS		100K	12	200		5	66		PUMA2E2000-12	Mosaic Semi	
	150	CMOS		100K	12	200		5	66		PUMA2E2000-15	Mosaic Semi	
	200	CMOS		100K	12	200		5	66		PUMA2E2000-20	Mosaic Semi	
	250	CMOS		100K	12	200		5	66		PUMA2E2000-25	Mosaic Semi	20
64Kx16	120	CMOS		100K	12	210		5	66		PUMA2E1000-12 †	Mosaic Semi	
			CMOS/TTL	100K	5	100		5	40		AT28C1024-12C	ATMEL	
											AT28C1024-12I	ATMEL	
	150	CMOS	CMOS/TTL	100K	5	100		5	40		AT28C1024-15C	ATMEL	
											AT28C1024-15I	ATMEL	25
											AT28C1024-15M †	ATMEL	
	200	CMOS	CMOS/TTL	100K	5	100		5	40		AT28C1024-20C	ATMEL	
											AT28C1024-20I	ATMEL	
											AT28C1024-20M †	ATMEL	
	250	CMOS	CMOS/TTL	100K	5	100		5	40		AT28C1024-25C	ATMEL	30
											AT28C1024-25I	ATMEL	
											AT28C1024-25M †	ATMEL	
64Kx8	90	CMOS						5	32		AM28F512-90	AMD	
	120	CMOS		10K	3	50		5	32		X28C512-12	Xicor	
											X28C512M-12 †	Xicor	35
	150	CMOS			0.1	30	4.5	5	32		**S28F512R**	**Seiko Instr (3761)**	
				10K	3	50		5	32		X28C512M-15 †	Xicor	
	200	CMOS						5	32		X28C512M-20	Xicor	
	250	CMOS						5	32		X28C512M-25	Xicor	
128Kx8	70	CMOS						5	66		PUMA2E1000-70	Mosaic Semi	40
	90	CMOS						5	66		PUMA2E1000-90	Mosaic Semi	
	100	CMOS		100K	13	90		5	32		ME8128L-10	Mosaic Semi	
	120	CMOS						5	32		AM28F010-90	AMD	
											AT28MC010-12	ATMEL	
											28C010-120	SEEQ	45
				100K	13	90		5	32		ME8128L-12	Mosaic Semi	
			CMOS/TTL	100K	3	80		5	32		AT28C010-12M/883 †	ATMEL	
	150	CMOS						5	32		AT28MC010-15	ATMEL	
											GR27010	Greenwich	
									66		PUMA2E1000-15	Mosaic Semi	50
									32		28C010-150	SEEQ	
				10K	3	50		5	32		X28C010I-15	Xicor	
				100K	13	90		5	32		ME8128L-15	Mosaic Semi	
			CMOS/TTL	100K	3	80		5	32		AT28C010-15M/883 †	ATMEL	
	200							5,12	32		48F010-200	SEEQ	55
		CMOS						5	32		AT28MC010-20	ATMEL	
												(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	200	CMOS						5				(Cont'd)	
									66		PUMA2E1000-20	Mosaic Semi	
									32		28C010-200	SEEQ	
				10K	3	50		5	32		X28C010I-20	Xicor	
				100K	13	90		5	32		ME8128-20	Mosaic Semi	
			CMOS/TTL	100K	3	80		5	32		AT28C010-20M/883	† ATMEL	5
	250							5	30	Cartridge	DS1217M-1	Dallas	
								5,12	32		48F010-250	SEEQ	
		CMOS						5	32		AT28MC010-25	ATMEL	
									66		PUMA2E1000-25	Mosaic Semi	
									56		8090	White Tech	10
				10K	3	50		5	32		X28C010I-25	Xicor	
				100K	13	90		5	32		ME8128-25	Mosaic Semi	
			CMOS/TTL	100K	3	80		5	32		AT28C010-25M/883	† ATMEL	
	300							5,12	32		48F010-300	SEEQ	
		CMOS						5	32		X28C010M-30	Xicor	15
				100K	13	90		5	32		ME8128-30	Mosaic Semi	
	350	CMOS						5	32		X28C010M-35	Xicor	
				100K	13	90		5	32		ME8128-35	Mosaic Semi	
128Kx16	120	CMOS		100K	12	106		5	66		PUMA2E2000-12	Mosaic Semi	
	150	CMOS		100K	12	106		5	66		PUMA2E2000-15	Mosaic Semi	20
	200	CMOS		100K	12	106		5	66		PUMA2E2000-20	Mosaic Semi	
	250	CMOS		100K	12	106		5	66		PUMA2E2000-25	Mosaic Semi	
128Kx8	100	CMOS		10K	11.32	352		5	32		ME8128-10L	Mosaic Semi	
											ME8128-10LI	Mosaic Semi	
											ME8128-10LM	† Mosaic Semi	25
											ME8128-10LMB	† Mosaic Semi	
					264	352		5	32		ME8128-10	Mosaic Semi	
											ME8128-10I	Mosaic Semi	
											ME8128-10M	† Mosaic Semi	
											ME8128-10MB	† Mosaic Semi	30
	120	CMOS						5	32		HN58C1001-12	Hitachi	
				10K	3	50		5	32		X28C010-12	Xicor	
											X28C010I-12	Xicor	
											X28C010M-12	Xicor	
					11.32	352		5	32		ME8128-12L	Mosaic Semi	35
											ME8128-12LI	Mosaic Semi	
											ME8128-12LM	† Mosaic Semi	
											ME8128-12LMB	† Mosaic Semi	
					264	352		5	32		ME8128-12	Mosaic Semi	
											ME8128-12I	Mosaic Semi	40
											ME8128-12M	† Mosaic Semi	
											ME8128-12MB	† Mosaic Semi	
				100K	1	60		5	32	Toggle Bit	KM29C010-12	Samsung	
					12	155		5	66		PUMA2E1000-12	Mosaic Semi	
			CMOS/TTL	100K	3	80		5	32		AT28C010-12C	ATMEL	45
											AT28C010-12I	ATMEL	
											AT28C010-12M	† ATMEL	
		NMOS	TTL	100K	1	40		5	32		MEM8129-12	Mosaic Semi	
											MEM8129I-12	Mosaic Semi	
											MEM8129M-12	† Mosaic Semi	50
											MEM8129MB-12	† Mosaic Semi	
	150	CMOS						5	32		WE128K8-150	† White Tech	
				10K	3	50		5	32		X28C010-15	Xicor	
											X28C010M-15	Xicor	
					11.32	352		5	32		ME8128-15L	Mosaic Semi	55
											ME8128-15LI	Mosaic Semi	
											ME8128-15LM	† Mosaic Semi	
											ME8128-15LMB	† Mosaic Semi	
					264	352		5	32		ME8128-15	Mosaic Semi	
											ME8128-15I	Mosaic Semi	60
											ME8128-15M	† Mosaic Semi	
											ME8128-15MB	† Mosaic Semi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Electrically Erasable—General Purpose												**(Cont'd)**	
128Kx8	150	CMOS										(Cont'd)	
				100K	1	60		5	32	Toggle Bit	KM29C010-15	Samsung	
			CMOS/TTL	100K	3	80		5	32		AT28C010-15C	ATMEL	
											AT28C010-15I	ATMEL	
											AT28C010-15M	† ATMEL	
			TTL	10K	20	50		5	32		MFM8128-15	Mosaic Semi	5
		NMOS	TTL	10K	1	40		5	32		MEM8129-15	† Mosaic Semi	
				100K	1	40		5	32		MEM8129I-15	Mosaic Semi	
											MEM8129M-15	† Mosaic Semi	
											MEM8129MB-15	Mosaic Semi	
	200	CMOS						5	32		X28C010M-20	Xicor	10
				10K	3	50		5	32		X28C010-20	Xicor	
				100K	1	60		5	32	Toggle Bit	KM29C010-20	Samsung	
			CMOS/TTL	100K	3	80		5	32		AT28C010-20C	ATMEL	
											AT28C010-20I	ATMEL	
											AT28C010-20M	† ATMEL	15
			TTL	10K	20	50		5	32		MFM8128-20	Mosaic Semi	
		NMOS	TTL	10K	1	40		5	32		MEM8129-20	† Mosaic Semi	
				100K	1	40		5	32		MEM8129I-20	Mosaic Semi	
											MEM8129M-20	† Mosaic Semi	
											MEM8129MB-20	Mosaic Semi	20
	250							3	32		HN58V1001-25	ℓ Hitachi	
		CMOS						5	32		X28C010M-25	Xicor	
				10K	3	50		5	32		X28C010-25	Xicor	
			CMOS/TTL	100K	3	80		5	32		AT28C010-25C	ATMEL	
											AT28C010-25I	ATMEL	25
											AT28C010-25M	† ATMEL	
		NMOS	TTL	10K	1	40		5	32		MEM8129-25	Mosaic Semi	
				100K	1	40		5	32		MEM8129I-25	Mosaic Semi	
											MEM8129M-25	† Mosaic Semi	
											MEM8129MB-25	† Mosaic Semi	30
256Kx8	120	CMOS		100K	12	59		5	66		PUMA2E2000-12	Mosaic Semi	
	150	CMOS		100K	12	59		5	66		PUMA2E2000-15	Mosaic Semi	
	200	CMOS		100K	12	59		5	66		PUMA2E2000-20	Mosaic Semi	
	250							5	30	Cartridge	DS1217M-2	Dallas	
		CMOS		100K	12	59		5	66		PUMA2E2000-25	Mosaic Semi	35
256Kx8		CMOS			0.15	2		5	8		X25C02	Xicor	
	120	CMOS	TTL	10K	2	64		5	32		ME8256SC-12	Mosaic Semi	
	150	CMOS						5	32		WE256K8-150	† White Tech	
				10K	2.2	70		5	32		ME8256-15	Mosaic Semi	
											ME8256-15I	Mosaic Semi	40
											ME8256-15M	† Mosaic Semi	
											ME8256-15MB	† Mosaic Semi	
			TTL	10K	2	64		5	32		ME8256SC-15	Mosaic Semi	
	200	CMOS		10K	2.2	70		5	32		ME8256-20	Mosaic Semi	
											ME8256-20I	Mosaic Semi	45
											ME8256-20M	† Mosaic Semi	
											ME8256-20MB	† Mosaic Semi	
			TTL	10K	2	64		5	32		ME8256SC-20	Mosaic Semi	
512Kx8	250							5	30	Cartridge	DS1217M-4	Dallas	
512Kx8	120	CMOS		10K	14	64		5	32		ME8512-12	Mosaic Semi	50
											ME8512I-12	Mosaic Semi	
											ME8512M-12	† Mosaic Semi	
											ME8512MB-12	† Mosaic Semi	
	150	CMOS		10K	2.2	70		5	32		ME8512-15	Mosaic Semi	
											ME8512-15I	Mosaic Semi	55
											ME8512-15M	† Mosaic Semi	
											ME8512-15MB	† Mosaic Semi	
					14	64		5	32		ME8512I-15	Mosaic Semi	
											ME8512M-15	† Mosaic Semi	
											ME8512MB-15	† Mosaic Semi	60
	200	CMOS		10K	2.2	70		5	32		ME8512-20	Mosaic Semi	
											ME8512-20I	Mosaic Semi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	200	CMOS		10K	2.2	70		5	32			(Cont'd)	
											ME8512-20M	† Mosaic Semi	
											ME8512-20MB	† Mosaic Semi	
					14	64		5	32		ME8512I-20	Mosaic Semi	
											ME8512M-20	† Mosaic Semi	
											ME8512MB-20	† Mosaic Semi	5
			TTL	100K	1	50		5	24		µPD28C04-20	NEC	
											µPD28C05-20	NEC	
	250	CMOS	TTL	100K	1	50		5	24		µPD28C04-25	NEC	
											µPD28C05-25	NEC	
2Mx8	80	CMOS		100K	0.1	40		5	44	NAND EEPROM	**TC5816**	**Toshiba (3821)**	10
4Mx1	150	CMOS						5	68		67E4000X-15	Mosaic Semi	
	200	CMOS						5	68		67E4000X-20	Mosaic Semi	
	250	CMOS						5	68		67E4000X-25	Mosaic Semi	
64Kx16	250	CMOS	CMOS/TTL	100K	5	100		5	40	Low Voltage	AT28C1204-25M	† ATMEL	

Electrically Erasable—Modules

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512x8	250							5	38		COB65404EE	Microchip	15
512x8	150	CMOS	CMOS/TTL		3	110	5	5	32	Automatic Page Write	**WE512K8-XCX**	**† White Tech (3852)**	
2Kx8	250							5	38		COB65416EE	Microchip	
8Kx16	55	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8X16-55C	Dense-Pac	
	70	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-70C	Dense-Pac	
											DPE8M628-70I	Dense-Pac	20
											DPE8M628-70M	† Dense-Pac	
						160		5	40		DPE8X16-70C	Dense-Pac	
											DPE8X16-70I	Dense-Pac	
											DPE8X16-70M	† Dense-Pac	
	90	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-90C	Dense-Pac	25
											DPE8M628-90I	Dense-Pac	
											DPE8M628-90M	† Dense-Pac	
						160		5	40		DPE8X16-90C	Dense-Pac	
											DPE8X16-90I	Dense-Pac	
											DPE8X16-90M	† Dense-Pac	30
	120	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-120C	Dense-Pac	
											DPE8M628-120I	Dense-Pac	
											DPE8M628-120M	† Dense-Pac	
						160		5	40		DPE8X16-12C	Dense-Pac	
											DPE8X16-12I	Dense-Pac	35
											DPE8X16-12M	† Dense-Pac	
	150	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-150C	Dense-Pac	
											DPE8M628-150I	Dense-Pac	
											DPE8M628-150M	† Dense-Pac	
						160		5	40		DPE8X16-15C	Dense-Pac	40
											DPE8X16-15I	Dense-Pac	
											DPE8X16-15M	† Dense-Pac	
	170	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-170C	Dense-Pac	
											DPE8M628-170I	Dense-Pac	
											DPE8M628-170M	† Dense-Pac	45
	200	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-200C	Dense-Pac	
											DPE8M628-200I	Dense-Pac	
											DPE8M628-200M	† Dense-Pac	
						160		5	40		DPE8X16-20C	Dense-Pac	
											DPE8X16-20I	Dense-Pac	50
											DPE8X16-20M	† Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx16												(Cont'd)	
	250	CMOS	CMOS/TTL	10K	6	165		5	40		DPE8M628-250C	Dense-Pac	
											DPE8M628-250I	Dense-Pac	
											DPE8M628-250M	† Dense-Pac	
						160		5	40		DPE8X16-25C	Dense-Pac	
											DPE8X16-25I	Dense-Pac	5
											DPE8X16-25M	† Dense-Pac	
8Kx32	55	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-55C	Dense-Pac	
	70	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-70C	Dense-Pac	
											DPE832-70I	Dense-Pac	
											DPE832-70M	† Dense-Pac	10
	90	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-90C	Dense-Pac	
											DPE832-90I	Dense-Pac	
											DPE832-90M	† Dense-Pac	
	120	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-120C	Dense-Pac	
											DPE832-120I	Dense-Pac	15
											DPE832-120M	† Dense-Pac	
	150	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-150C	Dense-Pac	
											DPE832-150I	Dense-Pac	
											DPE832-150M	† Dense-Pac	
	200	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-200C	Dense-Pac	20
											DPE832-200I	Dense-Pac	
											DPE832-200M	† Dense-Pac	
	250	CMOS	CMOS/TTL	10K	12	320		5	66		DPE832-250C	Dense-Pac	
											DPE832-250I	Dense-Pac	
											DPE832-250M	† Dense-Pac	25
16Kx16	55	CMOS	CMOS/TTL	10K	12	170		5	66		DPE832-55C	Dense-Pac	
	70	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-70C	Dense-Pac	
											DPE8M656-70I	Dense-Pac	
											DPE8M656-70M	† Dense-Pac	
									66		DPE832-70C	Dense-Pac	30
											DPE832-70I	Dense-Pac	
											DPE832-70M	† Dense-Pac	
	90	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-90C	Dense-Pac	
											DPE8M656-90I	Dense-Pac	
											DPE8M656-90M	† Dense-Pac	35
									66		DPE832-90C	Dense-Pac	
											DPE832-90I	Dense-Pac	
											DPE832-90M	† Dense-Pac	
	120	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-120C	Dense-Pac	
											DPE8M656-120I	Dense-Pac	40
											DPE8M656-120M	† Dense-Pac	
									66		DPE832-120C	Dense-Pac	
											DPE832-120I	Dense-Pac	
											DPE832-120M	† Dense-Pac	
	150	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-150C	Dense-Pac	45
											DPE8M656-150I	Dense-Pac	
											DPE8M656-150M	† Dense-Pac	
									66		DPE832-150C	Dense-Pac	
											DPE832-150I	Dense-Pac	
											DPE832-150M	† Dense-Pac	50
	170	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-170C	Dense-Pac	
											DPE8M656-170I	Dense-Pac	
											DPE8M656-170M	† Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/ Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Electrically Erasable—Modules												**(Cont'd)**	
16Kx16												(Cont'd)	
	200	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-200C	Dense-Pac	
											DPE8M656-200I	Dense-Pac	
											DPE8M656-200M	† Dense-Pac	
									66		DPE832-200C	Dense-Pac	
											DPE832-200I	Dense-Pac	5
											DPE832-200M	† Dense-Pac	
	250	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M656-250C	Dense-Pac	
											DPE8M656-250I	Dense-Pac	
											DPE8M656-250M	† Dense-Pac	
									66		DPE832-250C	Dense-Pac	10
											DPE832-250I	Dense-Pac	
											DPE832-250M	† Dense-Pac	
16Kx8	25	CMOS	CMOS/TTL	10K	6	90		5	40		DPE8X16-25I	Dense-Pac	
	55	CMOS	CMOS/TTL	10K	6	90		5	40		DPE8X16-55C	Dense-Pac	
	70	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-70C	Dense-Pac	15
											DPE8M628-70I	Dense-Pac	
											DPE8M628-70M	† Dense-Pac	
						90		5	40		DPE8X16-70C	Dense-Pac	
											DPE8X16-70I	Dense-Pac	
											DPE8X16-70M	† Dense-Pac	20
	90	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-90C	Dense-Pac	
											DPE8M628-90I	Dense-Pac	
											DPE8M628-90M	† Dense-Pac	
						90		5	40		DPE8X16-90C	Dense-Pac	
											DPE8X16-90I	Dense-Pac	25
											DPE8X16-90M	† Dense-Pac	
	120	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-120C	Dense-Pac	
											DPE8M628-120I	Dense-Pac	
											DPE8M628-120M	† Dense-Pac	
						90		5	40		DPE8X16-12C	Dense-Pac	30
											DPE8X16-12I	Dense-Pac	
											DPE8X16-12M	† Dense-Pac	
	150	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-150C	Dense-Pac	
											DPE8M628-150I	Dense-Pac	
											DPE8M628-150M	† Dense-Pac	35
						90		5	40		DPE8X16-15C	Dense-Pac	
											DPE8X16-15I	Dense-Pac	
											DPE8X16-15M	† Dense-Pac	
	170	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-170C	Dense-Pac	
											DPE8M628-170I	Dense-Pac	40
											DPE8M628-170M	† Dense-Pac	
	200	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-200C	Dense-Pac	
											DPE8M628-200I	Dense-Pac	
											DPE8M628-200M	† Dense-Pac	
						90		5	40		DPE8X16-20C	Dense-Pac	45
											DPE8X16-20I	Dense-Pac	
											DPE8X16-20M	† Dense-Pac	
	250	CMOS	CMOS/TTL	10K	6	85		5	40		DPE8M628-250C	Dense-Pac	
											DPE8M628-250I	Dense-Pac	
											DPE8M628-250M	† Dense-Pac	50
						90		5	40		DPE8X16-25C	Dense-Pac	
											DPE8X16-25M	† Dense-Pac	
32Kx16	90	CMOS	TTL	100K	56	210		5	66	Also has 512K SRAM	PUMA2X0215-9035	Mosaic Semi	
										Also has 512K SRAM, 45 ns	PUMA2X0215-9045	Mosaic Semi	
										Also has 512K SRAM	PUMA2X0215-9055	Mosaic Semi	55
											PUMA2X0215-9070	Mosaic Semi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx16	120	CMOS	TTL	100K	56	210		5	66	Also has 512K SRAM	PUMA2X0215-1235	Mosaic Semi
											PUMA2X0215-1245	Mosaic Semi
											PUMA2X0215-1255	Mosaic Semi
											PUMA2X0215-1270	Mosaic Semi
	150	CMOS	TTL	100K	12	166		5	66	Also has 512K SRAM	PUMA2X0212-1510	Mosaic Semi
											PUMA2X0212-1512	Mosaic Semi
											PUMA2X0212-1515	Mosaic Semi
											PUMA2X0212-1585	Mosaic Semi
	200	CMOS	TTL	100K	12	166		5	66	Also has 512K SRAM	PUMA2X0212-2010	Mosaic Semi
						89		5	66	Also has 512K SRAM, 120 ns	PUMA2X0212-2012	Mosaic Semi
						166		5	66	Also has 512K SRAM, 150 ns	PUMA2X0212-2015	Mosaic Semi
										Also has 512K SRAM	PUMA2X0212-2085	Mosaic Semi
	250	CMOS	TTL	100K	12	166		5	66	Also has 512K SRAM	PUMA2X0212-2510	Mosaic Semi
											PUMA2X0212-2512	Mosaic Semi
											PUMA2X0212-2515	Mosaic Semi
											PUMA2X0212-2585	Mosaic Semi
32Kx16	70	CMOS	TTL	10K	6	160		5	40		DPE32X16-70C	Dense-Pac
											DPE32X16-70I	Dense-Pac
											DPE32X16-70M	† Dense-Pac
	90	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8M612-90C	Dense-Pac
											DPE8M612-90I	Dense-Pac
											DPE8M612-90M	† Dense-Pac
			TTL	10K	6	160		5	40		DPE32X16-90C	Dense-Pac
											DPE32X16-90I	Dense-Pac
											DPE32X16-90M	† Dense-Pac
	120	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8M612-120C	Dense-Pac
											DPE8M612-120I	Dense-Pac
											DPE8M612-120M	† Dense-Pac
			TTL	10K	6	160		5	40		DPE32X16-12C	Dense-Pac
											DPE32X16-12I	Dense-Pac
											DPE32X16-12M	† Dense-Pac
	150	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8M612-150C	Dense-Pac
											DPE8M612-150I	Dense-Pac
											DPE8M612-150M	† Dense-Pac
			TTL	10K	6	160		5	40		DPE32X16-15C	Dense-Pac
											DPE32X16-15I	Dense-Pac
											DPE32X16-15M	† Dense-Pac
	170	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8M612-170C	Dense-Pac
											DPE8M612-170I	Dense-Pac
											DPE8M612-170M	† Dense-Pac
	200	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8M612-200C	Dense-Pac
											DPE8M612-200I	Dense-Pac
											DPE8M612-200M	† Dense-Pac
			TTL	10K	6	160		5	40		DPE32X16-20C	Dense-Pac
											DPE32X16-20I	Dense-Pac
											DPE32X16-20M	† Dense-Pac
	250	CMOS	CMOS/TTL	10K	6	160		5	40		DPE8M612-250C	Dense-Pac
											DPE8M612-250I	Dense-Pac
											DPE8M612-250M	† Dense-Pac
			TTL	10K	6	160		5	40		DPE32X16-25C	Dense-Pac
											DPE32X16-25I	Dense-Pac
											DPE32X16-25M	† Dense-Pac
32Kx32	70	CMOS		10K	100	320		5	66		PUMA2E1000-70	Mosaic Semi
											PUMA2E1000I-70	† Mosaic Semi
											PUMA2E1000M-70	† Mosaic Semi
											PUMA2E1000MB-70	† Mosaic Semi

(Continued)

† Mil Temp Range (−55° to 125°C)　‡ High Rad Resistance　•Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—Modules **(Cont'd)**

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
												(Cont'd)
32Kx32	70	CMOS	CMOS/TTL	10K	12	320		5	66		DPE3232-70C	Dense-Pac
											DPE3232-70I	Dense-Pac
											DPE3232-70M	† Dense-Pac
	90	CMOS		100K	12	320		5	66		PUMA2E1000-90	Mosaic Semi
											PUMA2E1000I-90	Mosaic Semi
											PUMA2E1000M-90	† Mosaic Semi
											PUMA2E1000MB-90	† Mosaic Semi
			CMOS/TTL	10K	12	320		5	66		DPE3232-90C	Dense-Pac
											DPE3232-90I	Dense-Pac
											DPE3232-90M	† Dense-Pac
	120	CMOS		100K	12	320		5	66		PUMA2E1000I-12	Mosaic Semi
											PUMA2E1000M-12	† Mosaic Semi
											PUMA2E1000MB-12	† Mosaic Semi
			CMOS/TTL	10K	12	320		5	66		DPE3232-120C	Dense-Pac
											DPE3232-120I	Dense-Pac
											DPE3232-120M	† Dense-Pac
	150	CMOS		100K	12	320		5	66		2E1000-15	Mosaic Semi
			CMOS/TTL	10K	12	320		5	66		DPE3232-150C	Dense-Pac
											DPE3232-150I	Dense-Pac
											DPE3232-150M	† Dense-Pac
	200	CMOS		100K	12	320		5	66		2E1000-20	Mosaic Semi
			CMOS/TTL	10K	12	320		5	66		DPE3232-200C	Dense-Pac
											DPE3232-200I	Dense-Pac
											DPE3232-200M	† Dense-Pac
	250	CMOS		100K	12	320		5	66		2E1000-25	Mosaic Semi
			CMOS/TTL	10K	12	320		5	66		DPE3232-250C	Dense-Pac
											DPE3232-250I	Dense-Pac
											DPE3232-250M	† Dense-Pac
32Kx8	55	CMOS	CMOS/TTL	10K	12	90		5	66		DPE832-55C	Dense-Pac
	70	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-70C	Dense-Pac
											DPE8M656-70I	Dense-Pac
											DPE8M656-70M	† Dense-Pac
									66		DPE832-70C	Dense-Pac
											DPE832-70I	Dense-Pac
											DPE832-70M	† Dense-Pac
	90	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-90C	Dense-Pac
											DPE8M656-90I	Dense-Pac
											DPE8M656-90M	† Dense-Pac
									66		DPE832-90C	Dense-Pac
											DPE832-90I	Dense-Pac
											DPE832-90M	† Dense-Pac
	120	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-120C	Dense-Pac
											DPE8M656-120I	Dense-Pac
											DPE8M656-120M	† Dense-Pac
									66		DPE832-120C	Dense-Pac
											DPE832-120I	Dense-Pac
											DPE832-120M	† Dense-Pac
	150	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-150C	Dense-Pac
											DPE8M656-150I	Dense-Pac
											DPE8M656-150M	† Dense-Pac
									66		DPE832-150C	Dense-Pac
											DPE832-150I	Dense-Pac
											DPE832-150M	† Dense-Pac
	170	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-170C	Dense-Pac
											DPE8M656-170I	Dense-Pac
											DPE8M656-170M	† Dense-Pac

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
	200	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-200C	Dense-Pac	
											DPE8M656-200I	Dense-Pac	
											DPE8M656-200M †	Dense-Pac	
									56		DPE832-200C	Dense-Pac	
											DPE832-200I	Dense-Pac	5
											DPE832-200M †	Dense-Pac	
	250	CMOS	CMOS/TTL	10K	12	90		5	40		DPE8M656-250C	Dense-Pac	
											DPE8M656-250I	Dense-Pac	
											DPE8M656-250M †	Dense-Pac	
									56		DPE832-250C	Dense-Pac	10
											DPE832-250I	Dense-Pac	
											DPE832-250M †	Dense-Pac	
64Kx8	90	CMOS	TTL	100K	56	133		5	66	Also has 512K SRAM	PUMA2X0215-9035	Mosaic Semi	
										Also has 512K SRAM, 45 ns	PUMA2X0215-9045	Mosaic Semi	
										Also has 512K SRAM	PUMA2X0215-9055	Mosaic Semi	15
											PUMA2X0215-9070	Mosaic Semi	
	120	CMOS	TTL	100K	56	133		5	66	Also has 512K SRAM	PUMA2X0215-1235	Mosaic Semi	
											PUMA2X0215-1245	Mosaic Semi	
											PUMA2X0215-1255	Mosaic Semi	
											PUMA2X0215-1270	Mosaic Semi	20
	150	CMOS	TTL	100K	12	89		5	66	Also has 512K SRAM	PUMA2X0212-1510	Mosaic Semi	
											PUMA2X0212-1512	Mosaic Semi	
											PUMA2X0212-1515	Mosaic Semi	
											PUMA2X0212-1585	Mosaic Semi	
	200	CMOS	TTL	100K	12	89		5	66	Also has 512K SRAM	PUMA2X0212-2010	Mosaic Semi	25
											PUMA2X0212-2012	Mosaic Semi	
										Also has 512K SRAM, 150 ns	PUMA2X0212-2015	Mosaic Semi	
										Also has 512K SRAM	PUMA2X0212-2085	Mosaic Semi	
	250	CMOS	TTL	100K	12	89		5	66	Also has 512K SRAM	PUMA2X0212-2510	Mosaic Semi	
											PUMA2X0212-2512	Mosaic Semi	30
											PUMA2X0212-2515	Mosaic Semi	
											PUMA2X0212-2585	Mosaic Semi	
64Kx16	70	CMOS		10K	100	210		5	66		PUMA2E1000-70	Mosaic Semi	
											PUMA2E1000I-70	Mosaic Semi	
											PUMA2E1000M-70 †	Mosaic Semi	35
					210	155		5	66		PUMA2E1000MB-70 †	Mosaic Semi	
			CMOS/TTL	10K	12	170		5	66		DPE3232-70C	Dense-Pac	
											DPE3232-70I	Dense-Pac	
											DPE3232-70M †	Dense-Pac	
	90	CMOS		100K	12	210		5	66		PUMA2E1000-90	Mosaic Semi	40
											PUMA2E1000I-90	Mosaic Semi	
											PUMA2E1000M-90 †	Mosaic Semi	
											PUMA2E1000MB-90 †	Mosaic Semi	
			CMOS/TTL	10K	12	170		5	66		DPE3232-90C	Dense-Pac	
											DPE3232-90I	Dense-Pac	45
											DPE3232-90M †	Dense-Pac	
									40		DPE8M624-90C	Dense-Pac	
											DPE8M624-90I	Dense-Pac	
											DPE8M624-90M †	Dense-Pac	
	120	CMOS		100K	12	210		5	66		PUMA2E1000I-12	Mosaic Semi	50
											PUMA2E1000M-12 †	Mosaic Semi	
											PUMA2E1000MB-12 †	Mosaic Semi	
			CMOS/TTL	10K	12	170		5	66		DPE3232-120C	Dense-Pac	
											DPE3232-120I	Dense-Pac	
											DPE3232-120M †	Dense-Pac	55
									40		DPE8M624-120C	Dense-Pac	
											DPE8M624-120I	Dense-Pac	
											DPE8M624-120M †	Dense-Pac	
	150	CMOS		100K	12	166		5	66		2E1000-15	Mosaic Semi	
			CMOS/TTL	10K	12	170		5	66		DPE3232-150C	Dense-Pac	60

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											DPE3232-150I	Dense-Pac	
											DPE3232-150M	† Dense-Pac	
									40		DPE8M624-150C	Dense-Pac	
											DPE8M624-150I	Dense-Pac	
											DPE8M624-150M	† Dense-Pac	5
	170	CMOS	CMOS/TTL	10K	12	170		5	40		DPE8M624-170C	Dense-Pac	
											DPE8M624-170I	Dense-Pac	
											DPE8M624-170M	† Dense-Pac	
	200	CMOS		100K	12	166		5	66		2E1000-20	Mosaic Semi	
			CMOS/TTL	10K	12	170		5	66		DPE3232-200C	Dense-Pac	10
											DPE3232-200I	Dense-Pac	
											DPE3232-200M	† Dense-Pac	
									40		DPE8M624-200C	Dense-Pac	
											DPE8M624-200I	Dense-Pac	
											DPE8M624-200M	† Dense-Pac	15
	250	CMOS		100K	12	166		5	66		2E1000-25	Mosaic Semi	
			CMOS/TTL	10K	12	170		5	66		DPE3232-250C	Dense-Pac	
											DPE3232-250I	Dense-Pac	
											DPE3232-250M	† Dense-Pac	
									40		DPE8M624-250C	Dense-Pac	20
											DPE8M624-250I	Dense-Pac	
											DPE8M624-250M	† Dense-Pac	
64Kx32	90	CMOS	CMOS/TTL	10K	24	340		5	60		DPE6434-90C	Dense-Pac	
											DPE6434-90I	Dense-Pac	
											DPE6434-90M	† Dense-Pac	25
	120	CMOS	CMOS/TTL	10K	24	340		5	60		DPE6434-120C	Dense-Pac	
											DPE6434-120I	Dense-Pac	
											DPE6434-120M	† Dense-Pac	
											DPE6434-150M	† Dense-Pac	
	150	CMOS	CMOS/TTL	10K	24	340		5	60		DPE6434-150C	Dense-Pac	30
											DPE6434-150I	Dense-Pac	
	170	CMOS	CMOS/TTL	10K	24	340		5	60		DPE6434-170C	Dense-Pac	
											DPE6434-170I	Dense-Pac	
											DPE6434-170M	† Dense-Pac	
	200	CMOS	CMOS/TTL	10K	24	340		5	60		DPE6434-200C	Dense-Pac	35
											DPE6434-200I	Dense-Pac	
											DPE6434-200M	† Dense-Pac	
	250	CMOS	CMOS/TTL	10K	24	340		5	60		DPE6434-250C	Dense-Pac	
											DPE6434-250I	Dense-Pac	
											DPE6434-250M	† Dense-Pac	40
64Kx8	70	CMOS	TTL	10K	6	90		5	40		DPE32X16-70C	Dense-Pac	
											DPE32X16-70I	Dense-Pac	
											DPE32X16-70M	† Dense-Pac	
	90	CMOS						5	32		ME864SC-90	Mosaic Semi	
			CMOS/TTL	10K	6	85		5	32		DPE4648-90C	Dense-Pac	45
											DPE5648-90C	Dense-Pac	
											DPE5648-90I	Dense-Pac	
											DPE5648-90M	† Dense-Pac	
									40		DPE8M612-90C	Dense-Pac	
											DPE8M612-90I	Dense-Pac	50
											DPE8M612-90M	† Dense-Pac	
			TTL	10K	6	90		5	40		DPE32X16-90C	Dense-Pac	
											DPE32X16-90I	Dense-Pac	
											DPE32X16-90M	† Dense-Pac	
	100							5	32		DPE4648-100	Dense-Pac	55
	120	CMOS						5	32		ME864SC-12	Mosaic Semi	
			CMOS/TTL	10K	6	85		5	32		DPE4648-120C	Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–E² PROMs (Cont'd)

Electrically Erasable–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8	120	CMOS	CMOS/TTL	10K	6	85		5	32		(Cont'd)		
											DPE5648-120C	Dense-Pac	
											DPE5648-120I	Dense-Pac	
											DPE5648-120M	† Dense-Pac	
									40		DPE8M612-120C	Dense-Pac	
											DPE8M612-120I	Dense-Pac	5
											DPE8M612-120M	† Dense-Pac	
			TTL	10K	6	90		5	40		DPE32X16-12C	Dense-Pac	
											DPE32X16-12I	Dense-Pac	
											DPE32X16-12M	† Dense-Pac	
	150	CMOS						5	32		ME864SC-15	Mosaic Semi	10
			CMOS/TTL	10K	6	85		5	32		DPE4648-150C	Dense-Pac	
											DPE5648-150C	Dense-Pac	
											DPE5648-150I	Dense-Pac	
											DPE5648-150M	† Dense-Pac	
									40		DPE8M612-150C	Dense-Pac	15
											DPE8M612-150I	Dense-Pac	
											DPE8M612-150M	† Dense-Pac	
			TTL	10K	6	90		5	40		DPE32X16-15C	Dense-Pac	
											DPE32X16-15I	Dense-Pac	
											DPE32X16-15M	† Dense-Pac	20
	170	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-170C	Dense-Pac	
											DPE5648-170C	Dense-Pac	
											DPE5648-170I	Dense-Pac	
											DPE5648-170M	† Dense-Pac	
									40		DPE8M612-170C	Dense-Pac	25
											DPE8M612-170I	Dense-Pac	
											DPE8M612-170M	† Dense-Pac	
	200	CMOS						5	32		ME864SC-20	Mosaic Semi	
			CMOS/TTL	10K	6	85		5	32		DPE4648-200C	Dense-Pac	
											DPE5648-200C	Dense-Pac	30
											DPE5648-200I	Dense-Pac	
											DPE5648-200M	† Dense-Pac	
									40		DPE8M612-200C	Dense-Pac	
											DPE8M612-200I	Dense-Pac	
											DPE8M612-200M	† Dense-Pac	35
			TTL	10K	6	90		5	40		DPE32X16-20C	Dense-Pac	
											DPE32X16-20I	Dense-Pac	
											DPE32X16-20M	† Dense-Pac	
	250	CMOS						5	32		ME864SC-25	Mosaic Semi	
			CMOS/TTL	10K	6	85		5	32		DPE4648-250C	Dense-Pac	40
											DPE5648-250C	Dense-Pac	
											DPE5648-250I	Dense-Pac	
											DPE5648-250M	† Dense-Pac	
									40		DPE8M612-250C	Dense-Pac	
											DPE8M612-250I	Dense-Pac	45
											DPE8M612-250M	† Dense-Pac	
			TTL	10K	6	90		5	40		DPE32X16-25C	Dense-Pac	
											DPE32X16-25I	Dense-Pac	
											DPE32X16-25M	† Dense-Pac	
	300	CMOS						5	32		ME864SC-30	Mosaic Semi	50
128Kx8	100							5	32		DPE41288-100	Dense-Pac	
	120	CMOS	CMOS/TTL	100K	8	100		5	32		AT28MC010-12C	ATMEL	
											AT28MC010-12I	ATMEL	
											AT28MC010-12M	† ATMEL	
											AT28MC010-12MB	† ATMEL	55
	150	CMOS	CMOS/TTL	100K	8	100		5	32		AT28MC010-15C	ATMEL	
											AT28MC010-15I	ATMEL	
											AT28MC010-15M	† ATMEL	
											AT28MC010-15MB	† ATMEL	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8												(Cont'd)	
	200	CMOS	CMOS/TTL	100K	8	100		5	32		AT28MC010-20C	ATMEL	
											AT28MC010-20I	ATMEL	
											AT28MC010-20M	† ATMEL	
											AT28MC010-20MB	† ATMEL	
	250	CMOS						5	32		XM28C010--25	Xicor	5
											XM28C010M-25	Xicor	
			CMOS/TTL	100K	8	100		5	32		AT28MC010-25C	ATMEL	
											AT28MC010-25I	ATMEL	
											AT28MC010-25M	† ATMEL	
											AT28MC010-25MB	† ATMEL	10
		CMOS Module						5	32		XM28C010	Xicor	
	300	CMOS						5	32		DPE41288-300	Dense-Pac	
											XM28C010M	Xicor	
	350	CMOS						5	32		DPE41288-350	Dense-Pac	
128Kx32	120	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-12	† Dense-Pac	15
		NMOS	TTL	100K	2	200		5	66		PUMA3E4000X-12	† Mosaic Semi	
	150	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-15	† Dense-Pac	
		NMOS	TTL	100K	2	200		5	66		PUMA3E4000X-15	† Mosaic Semi	
	170	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-17	† Dense-Pac	
	200	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-20	† Dense-Pac	20
		NMOS	TTL	100K	2	200		5	66		PUMA3E4000X-20	† Mosaic Semi	
	250	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-25	† Dense-Pac	
	300	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-30	† Dense-Pac	
128Kx16	90	CMOS	CMOS/TTL	10K	24	180		5	60		DPE6434-90C	Dense-Pac	
											DPE6434-90I	Dense-Pac	25
											DPE6434-90M	† Dense-Pac	
	120	CMOS	CMOS/TTL	10K	24	180		5	60		DPE6434-120C	Dense-Pac	
											DPE6434-120I	Dense-Pac	
											DPE6434-120M	† Dense-Pac	
	150	CMOS	CMOS/TTL	10K	24	180		5	60		DPE6434-150C	Dense-Pac	30
											DPE6434-150I	Dense-Pac	
											DPE6434-150M	† Dense-Pac	
	170	CMOS	CMOS/TTL	10K	24	180		5	60		DPE6434-170C	Dense-Pac	
											DPE6434-170I	Dense-Pac	
											DPE6434-170M	† Dense-Pac	35
	200	CMOS	CMOS/TTL	10K	24	180		5	60		DPE6434-200C	Dense-Pac	
											DPE6434-200I	Dense-Pac	
											DPE6434-200M	† Dense-Pac	
	250	CMOS	CMOS/TTL	10K	24	180		5	60		DPE6434-250C	Dense-Pac	
											DPE6434-250I	Dense-Pac	40
											DPE6434-250M	† Dense-Pac	
128Kx32	120	CMOS	TTL	10K				5	68		**WE128K32-XG4X**	**† White Tech (3852)**	
									66		**WF128K32-XHX**	**† White Tech (3853)**	
					10			5	68		**WF128K32-XG4X**	**† White Tech (3853)**	
	150	CMOS	TTL	10K				5	68		**WE128K32-XG4X**	**White Tech (3852)**	45
									66		**WF128K32-XHX**	**† White Tech (3853)**	
					10			5	68		**WF128K32-XG4X**	**† White Tech (3853)**	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–E^2 PROMs (Cont'd)

Electrically Erasable–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
		NMOS		10K	12	200		5	66		PUMA2E4000X-15	Mosaic Semi	
											PUMA2E4000XI-15	Mosaic Semi	
											PUMA2E4000XM-15	† Mosaic Semi	
				100K	12	200		5	68		PUMA67E4000X-15	Mosaic Semi	
											PUMA67E4000XM-15	† Mosaic Semi	5
	200	CMOS	TTL	10K				5	66		**WF128K32-XHX**	† **White Tech (3853)**	
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**	
		NMOS		10K	12	200		5	66		PUMA2E4000X-20	Mosaic Semi	
											PUMA2E4000XI-20	Mosaic Semi	
											PUMA2E4000XM-20	† Mosaic Semi	10
				100K	12	200		5	68		PUMA67E4000X-20	Mosaic Semi	
											PUMA67E4000XM-20	† Mosaic Semi	
	250	NMOS		10K	12	200		5	66		PUMA2E4000X-25	Mosaic Semi	
											PUMA2E4000XI-25	Mosaic Semi	
											PUMA2E4000XM-25	† Mosaic Semi	15
				100K	12	200		5	68		PUMA67E4000X-25	Mosaic Semi	
											PUMA67E4000XM-25	† Mosaic Semi	
128Kx8	70	CMOS		10K	100	155		5	66		PUMA2E1000-70	Mosaic Semi	
											PUMA2E1000I-70	Mosaic Semi	
											PUMA2E1000M-70	† Mosaic Semi	20
											PUMA2E1000MB-70	† Mosaic Semi	
			CMOS/TTL	10K	12	95		5	66		DPE3232-70C	Dense-Pac	
											DPE3232-70I	Dense-Pac	
											DPE3232-70M	† Dense-Pac	
	90	CMOS		100K	12	155		5	66		PUMA2E1000-90	Mosaic Semi	25
											PUMA2E1000I-90	Mosaic Semi	
											PUMA2E1000M-90	† Mosaic Semi	
											PUMA2E1000MB-90	† Mosaic Semi	
			CMOS/TTL	10K	12	95		5	66		DPE3232-90C	Dense-Pac	
											DPE3232-90I	Dense-Pac	30
											DPE3232-90M	† Dense-Pac	
						90		5	32		DPE41288-90C	Dense-Pac	
											DPE41288-90I	Dense-Pac	
											DPE41288-90M	† Dense-Pac	
											DPE51288-90C	Dense-Pac	35
											DPE51288-90I	Dense-Pac	
											DPE51288-90M	† Dense-Pac	
									40		DPE8M624-90C	Dense-Pac	
											DPE8M624-90I	Dense-Pac	
											DPE8M624-90M	† Dense-Pac	40
	100							5	32		DPE51288-100	Dense-Pac	
		CMOS						5	32		ME8128SC-10	Mosaic Semi	
											ME8128SCX-10	Mosaic Semi	
	120	CMOS						5	32		ME8128SC-12	Mosaic Semi	
											ME8128SCX-12	Mosaic Semi	45
				100K	12	155		5	66		PUMA2E1000-120	Mosaic Semi	
											PUMA2E1000I-12	Mosaic Semi	
											PUMA2E1000M-12	† Mosaic Semi	
											PUMA2E1000MB-12	† Mosaic Semi	
			CMOS/TTL	10K	12	95		5	66		DPE3232-120C	Dense-Pac	50
											DPE3232-120I	Dense-Pac	
											DPE3232-120M	† Dense-Pac	
						90		5	32		DPE41288-120C	Dense-Pac	
											DPE41288-120I	Dense-Pac	
											DPE41288-120M	† Dense-Pac	55
											DPE51288-120C	Dense-Pac	
											DPE51288-120I	Dense-Pac	
											DPE51288-120M	† Dense-Pac	
									40		DPE8M624-120C	Dense-Pac	
											DPE8M624-120I	Dense-Pac	60
											DPE8M624-120M	† Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	No. Erase/ Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8												(Cont'd)	
	150	CMOS						5	32		ME8128SC-15	Mosaic Semi	
											ME8128SCX-15	Mosaic Semi	
				100K	12	89		5	66		2E1000-15	Mosaic Semi	
			CMOS/TTL	10K	12	95		5	66		DPE3232-150C	Dense-Pac	
											DPE3232-150I	Dense-Pac	5
											DPE3232-150M	† Dense-Pac	
						90		5	32		DPE41288-150C	Dense-Pac	
											DPE41288-150I	Dense-Pac	
											DPE41288-150M	Dense-Pac	
											DPE51288-150C	Dense-Pac	10
											DPE51288-150I	Dense-Pac	
											DPE51288-150M	† Dense-Pac	
									40		DPE8M624-150C	Dense-Pac	
											DPE8M624-150I	Dense-Pac	
											DPE8M624-150M	† Dense-Pac	15
	170	CMOS	CMOS/TTL	10K	12	90		5	32		DPE41288-170C	Dense-Pac	
											DPE41288-170I	Dense-Pac	
											DPE41288-170M	† Dense-Pac	
											DPE51288-170C	Dense-Pac	
											DPE51288-170I	Dense-Pac	20
											DPE51288-170M	† Dense-Pac	
									40		DPE8M624-170C	Dense-Pac	
											DPE8M624-170I	Dense-Pac	
											DPE8M624-170M	† Dense-Pac	
	200	CMOS						5	32		ME8128SC-20	Mosaic Semi	25
				100K	12	89		5	66		2E1000-20	Mosaic Semi	
			CMOS/TTL	10K	12	95		5	66		DPE3232-200C	Dense-Pac	
											DPE3232-200I	Dense-Pac	
											DPE3232-200M	† Dense-Pac	
						90		5	32		DPE41288-200C	Dense-Pac	30
											DPE41288-200I	Dense-Pac	
											DPE41288-200M	† Dense-Pac	
											DPE51288-200C	Dense-Pac	
											DPE51288-200I	Dense-Pac	
											DPE51288-200M	† Dense-Pac	35
									40		DPE8M624-200C	Dense-Pac	
											DPE8M624-200I	Dense-Pac	
											DPE8M624-200M	† Dense-Pac	
	250	CMOS		100K	12	89		5	66		2E1000-25	Mosaic Semi	
			CMOS/TTL	10K	12	95		5	66		DPE3232-250C	Dense-Pac	40
											DPE3232-250I	Dense-Pac	
											DPE3232-250M	† Dense-Pac	
						90		5	32		DPE41288-250C	Dense-Pac	
											DPE41288-250I	Dense-Pac	
											DPE41288-250M	† Dense-Pac	45
											DPE51288-250C	Dense-Pac	
											DPE51288-250I	Dense-Pac	
											DPE51288-250M	† Dense-Pac	
									40		DPE8M624-250C	Dense-Pac	
											DPE8M624-250I	Dense-Pac	50
											DPE8M624-250M	† Dense-Pac	
	260	CMOS						5	32		ME8128SCX-26	Mosaic Semi	
	300	CMOS						5	32		DPE51288-30C	Dense-Pac	
											ME8128SC-30	Mosaic Semi	
											ME8128SCX-30	Mosaic Semi	55
	350	CMOS						5	32		DPE51288-35C	Dense-Pac	
											ME8128SCX-35	Mosaic Semi	
256Kx8	150	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC020-15MB	† ATMEL	
	200	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC020-20MB	† ATMEL	
	250	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC020-25MB	† ATMEL	60

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16	120	NMOS	TTL	100K	2	106		5	66		PUMA3E4000X-12	† Mosaic Semi	
	150	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-15	† Dense-Pac	
		NMOS	TTL	100K	2	106		5	66		PUMA3E4000X-15	† Mosaic Semi	
	170	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-17	† Dense-Pac	
	200	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-20	† Dense-Pac	5
		NMOS	TTL	100K	2	106		5	66		PUMA3E4000X-20	† Mosaic Semi	
	250	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-25	† Dense-Pac	
	300	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-30	† Dense-Pac	
256Kx16	120	CMOS	TTL	10K				5	68		**WE128K32-XG4X**	† **White Tech (3852)**	
									66		**WF128K32-XHX**	† **White Tech (3853)**	10
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**	
	150	CMOS			2	100		5	40		XM28C4096	Xicor	
			TTL	10K				5	68		**WE128K32-XG4X**	† **White Tech (3852)**	
									66		**WF128K32-XHX**	† **White Tech (3853)**	
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**	15
		NMOS		10K	12	106		5	66		PUMA2E4000X-15	Mosaic Semi	
											PUMA2E4000XI-15	Mosaic Semi	
											PUMA2E4000XM-15	† Mosaic Semi	
				100K	12	106		5	68		PUMA67E4000X-15	Mosaic Semi	
											PUMA67E4000XM-15	† Mosaic Semi	20
	200	CMOS	TTL	10K				5	66		**WF128K32-XHX**	† **White Tech (3853)**	
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**	
		NMOS		10K	12	106		5	66		PUMA2E4000X-20	Mosaic Semi	
											PUMA2E4000XI-20	Mosaic Semi	
											PUMA2E4000XM-20	† Mosaic Semi	25
				100K	12	106		5	68		PUMA67E4000X-20	Mosaic Semi	
											PUMA67E4000XM-20	† Mosaic Semi	
	250	NMOS		10K	12	200		5	66		PUMA2E4000X-25	Mosaic Semi	
											PUMA2E4000XI-25	Mosaic Semi	
											PUMA2E4000XM-25	† Mosaic Semi	30
				100K	12	106		5	68		PUMA67E4000X-25	Mosaic Semi	
											PUMA67E4000XM-25	† Mosaic Semi	
256Kx8	70							5	42		DPE256Q8-70	Dense-Pac	
		CMOS	CMOS/TTL	10K	24	100		5	42		DPE256Q8-70C	Dense-Pac	
											DPE256Q8-70I	Dense-Pac	35
											DPE256Q8-70M	† Dense-Pac	
	90							5	42		DPE256Q8-90	Dense-Pac	
		CMOS	CMOS/TTL	10K	24	100		5	42		DPE256Q8-90C	Dense-Pac	
											DPE256Q8-90I	Dense-Pac	
											DPE256Q8-90M	† Dense-Pac	40
									60		DPE6434-90C	Dense-Pac	
											DPE6434-90I	Dense-Pac	
											DPE6434-90M	† Dense-Pac	
	120	CMOS	CMOS/TTL	10K	24	100		5	42		DPE256Q8-120C	Dense-Pac	
											DPE256Q8-120I	Dense-Pac	45
											DPE256Q8-120M	† Dense-Pac	
									60		DPE6434-120C	Dense-Pac	
											DPE6434-120I	Dense-Pac	
											DPE6434-120M	† Dense-Pac	
	135	CMOS	TTL	10K	4	85		5	32		DPE256S8-13C	Dense-Pac	50
											DPE256S8-13I	Dense-Pac	
											DPE256S8-13M	† Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   *Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx8												(Cont'd)	
	150	CMOS						5	32		DPE256S8N-15C	Dense-Pac	
											ME8256SC-15	Mosaic Semi	
			CMOS/TTL	10K	8	80		5	32		AT28MC020-15C	ATMEL	
											AT28MC020-15I	ATMEL	
											AT28MC020-15M	† ATMEL	5
					10	90		5	32		**WE256K8-XCX**	† **White Tech (3852)**	
					24	100		5	42		DPE256Q8-150C	Dense-Pac	
											DPE256Q8-150I	Dense-Pac	
											DPE256Q8-150M	† Dense-Pac	
									60		DPE6434-150C	Dense-Pac	10
											DPE6434-150I	Dense-Pac	
											DPE6434-150M	† Dense-Pac	
	170	CMOS						5	32		ME8256SC-17	Mosaic Semi	
			CMOS/TTL	10K	24	100		5	60		DPE6434-170C	Dense-Pac	
											DPE6434-170I	Dense-Pac	15
											DPE6434-170M	† Dense-Pac	
			TTL	10K	4	85		5	32		DPE256S8-17C	Dense-Pac	
											DPE256S8-17I	Dense-Pac	
											DPE256S8-17M	† Dense-Pac	
	200	CMOS						5	32		DPE256S8N-20C	Dense-Pac	20
											ME8256SC-20	Mosaic Semi	
											XM28C020	Xicor	
			CMOS/TTL	10K	8	80		5	32		AT28MC020-20C	ATMEL	
											AT28MC020-20I	ATMEL	
											AT28MC020-20M	† ATMEL	25
					24	100		5	42		DPE256Q8-200C	Dense-Pac	
											DPE256Q8-200I	Dense-Pac	
											DPE256Q8-200M	† Dense-Pac	
									60		DPE6434-200C	Dense-Pac	
											DPE6434-200I	Dense-Pac	30
											DPE6434-200M	† Dense-Pac	
	250	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC020-25C	ATMEL	
											AT28MC020-25I	ATMEL	
											AT28MC020-25M	† ATMEL	
					24	100		5	42		DPE256Q8-250C	Dense-Pac	35
											DPE256Q8-250I	Dense-Pac	
											DPE256Q8-250M	† Dense-Pac	
									60		DPE6434-250C	Dense-Pac	
											DPE6434-250I	Dense-Pac	
											DPE6434-250M	† Dense-Pac	40
			TTL	10K	4	85		5	32		DPE256S8-25C	Dense-Pac	
											DPE256S8-25I	Dense-Pac	
											DPE256S8-25M	† Dense-Pac	
	300							5	42		DPE256Q8-300	Dense-Pac	
		CMOS	TTL	10K	4	85		5	32		DPE256S8-30C	Dense-Pac	45
											DPE256S8-30I	Dense-Pac	
											DPE256S8-30M	† Dense-Pac	
512Kx8	120	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-12	† Dense-Pac	
		NMOS	TTL	100K	2	59		5	66		PUMA3E4000X-12	† Mosaic Semi	
	150	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC040-15MB	† ATMEL	50
			TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-15	† Dense-Pac	
		NMOS	TTL	100K	2	59		5	66		PUMA3E4000X-15	† Mosaic Semi	
	170	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-17	† Dense-Pac	
	200	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC040-20MB	† ATMEL	
			TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-20	† Dense-Pac	55
		NMOS	TTL	100K	2	59		5	66		PUMA3E4000X-20	† Mosaic Semi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
	250	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC040-25MB	† ATMEL
			TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-25	† Dense-Pac
	300	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-30	† Dense-Pac
512Kx16	120	CMOS	TTL/CMOS	10K			5	5	66	PGA	DPE128X32V-12	† Dense-Pac
512Kx8	100	CMOS	TTL	10K	8	175		5	48		DPE45128-100C	Dense-Pac
											DPE45128-100I	Dense-Pac
											DPE45128-100M	† Dense-Pac
	120	CMOS						5	32		ME8512SC-12	Mosaic Semi
			TTL	10K				5	68		**WE128K32-XG4X**	† **White Tech (3852)**
									66		**WF128K32-XHX**	† **White Tech (3853)**
					8	175		5	48		DPE45128-120C	Dense-Pac
											DPE45128-120I	Dense-Pac
											DPE45128-120M	† Dense-Pac
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**
	135	CMOS	TTL	10K	8	90		5	32		DPE512S8-13C	Dense-Pac
											DPE512S8-13I	Dense-Pac
											DPE512S8-13M	† Dense-Pac
	150	CMOS						5	32		DPE512S8-15C	Dense-Pac
											ME8512SC-15	Mosaic Semi
			CMOS/TTL	10K	8	80		5	32		AT28MC040-15C	ATMEL
											AT28MC040-15I	ATMEL
											AT28MC040-15M	† ATMEL
			TTL	10K				5	68		**WE128K32-XG4X**	† **White Tech (3852)**
									66		**WF128K32-XHX**	† **White Tech (3853)**
					8	175		5	48		DPE45128-150C	Dense-Pac
											DPE45128-150I	Dense-Pac
											DPE45128-150M	† Dense-Pac
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**
		NMOS		10K	12	59		5	66		PUMA2E4000X-15	Mosaic Semi
											PUMA2E4000XI-15	Mosaic Semi
											PUMA2E4000XM-15	† Mosaic Semi
				100K	12	59		5	68		PUMA67E4000XM-15	† Mosaic Semi
			TTL	100K	12	59		5	68		PUMA67E4000X-15	Mosaic Semi
	150–250	CMOS						5	66	User-configurable as x8,x16,x32	**WE128K32-XHX**	† **White Tech (3852)**
	170	CMOS	TTL	10K	8	90		5	32		DPE512S8-17C	Dense-Pac
											DPE512S8-17I	Dense-Pac
											DPE512S8-17M	† Dense-Pac
	200	CMOS						5	32		DPE512S8-20C	Dense-Pac
											ME8512SC-200	Mosaic Semi
											XM28C040	Xicor
			CMOS/TTL	10K	8	80		5	32		AT28MC040-20C	ATMEL
											AT28MC040-20I	ATMEL
											AT28MC040-20M	† ATMEL
			TTL	10K				5	66		**WF128K32-XHX**	† **White Tech (3853)**
					8	175		5	48		DPE45128-200C	Dense-Pac
											DPE45128-200I	Dense-Pac
											DPE45128-200M	† Dense-Pac
					10			5	68		**WF128K32-XG4X**	† **White Tech (3853)**

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—E^2 PROMs (Cont'd)

Electrically Erasable—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	No. Erase/Write Cycles	Max Standby Current (mA)	Max Active Current (mA)	Prog. Voltage (V)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	200	NMOS		10K	12	59		5	66		(Cont'd) PUMA2E4000X-20	Mosaic Semi	
											PUMA2E4000XI-20	Mosaic Semi	
											PUMA2E4000XM-20 †	Mosaic Semi	
				100K	12	59		5	68		PUMA67E4000X-20	Mosaic Semi	
											PUMA67E4000XM-20 †	Mosaic Semi	5
	250	CMOS	CMOS/TTL	10K	8	80		5	32		AT28MC040-25C	ATMEL	
											AT28MC040-25I	ATMEL	
											AT28MC040-25M †	ATMEL	
			TTL	10K	8	175		5	48		DPE45128-250C	Dense-Pac	
											DPE45128-250I	Dense-Pac	10
											DPE45128-250M †	Dense-Pac	
						90		5	32		DPE512S8-25C	Dense-Pac	
											DPE512S8-25I	Dense-Pac	
											DPE512S8-25M †	Dense-Pac	
		NMOS		10K	12	59		5	66		PUMA2E4000X-25	Mosaic Semi	15
											PUMA2E4000XI-25	Mosaic Semi	
											PUMA2E4000XM-25 †	Mosaic Semi	
				100K	12	59		5	68		PUMA67E4000X-25	Mosaic Semi	
											PUMA67E4000XM-25 †	Mosaic Semi	
	300	CMOS		10K	8	90		5	32		DPE512S8N-20I	Dense-Pac	20
			TTL	10K	8	175		5	48		DPE45128-300C	Dense-Pac	
											DPE45128-300I	Dense-Pac	
											DPE45128-300M †	Dense-Pac	
						90		5	32		DPE512S8-30C	Dense-Pac	
											DPE512S8-30I	Dense-Pac	25
											DPE512S8-30M †	Dense-Pac	
	350	CMOS	TTL	10K	8	175		5	48		DPE45128-350C	Dense-Pac	
											DPE45128-350I	Dense-Pac	
											DPE45128-350M †	Dense-Pac	
1Mx8	180	CMOS			4	60		5	36		XM28C080S	Xicor	30
4Mx1	120	CMOS						5	66		3E4000X-12	Mosaic Semi	
	150	CMOS						5	66		3E4000X-15	Mosaic Semi	
64Kx8	90	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-90I	Dense-Pac	
											DPE4648-90M †	Dense-Pac	
	120	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-120I	Dense-Pac	35
											DPE4648-120M †	Dense-Pac	
	150	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-150I	Dense-Pac	
											DPE4648-150M †	Dense-Pac	
	170	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-170I	Dense-Pac	
											DPE4648-170M †	Dense-Pac	40
	200	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-200I	Dense-Pac	
											DPE4648-200M †	Dense-Pac	
	250	CMOS	CMOS/TTL	10K	6	85		5	32		DPE4648-250I	Dense-Pac	
											DPE4648-250M †	Dense-Pac	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose												
										M5M44409-12	Mitsubishi	
16Mx1	60	CMOS		Fast Page	2	90	5	24		MB116100-60	Fujitsu	
			TTL		1.1	99	5	28		TC5116101-60	Toshiba	
				Fast Page	1	90	5	24		HM5116100-6	Hitachi	
	70	CMOS	TTL	Fast Page	1	80	5	24		HM5116100-7	Hitachi	5
					1.1	88	5	28		TC5116100-70	Toshiba	
					2	80	5	24		HM5116100L-7	Hitachi	
				Nibble	1.1	88	5	28		TC5116101-70	Toshiba	
				Static Column	1.1	88	5	28		TC5116102-70	Toshiba	
	80	CMOS	TTL	Fast Page	1	70	5	24		HM5116100-8	Hitachi	10
					1.1	77	5	28		TC5116100-80	Toshiba	
					2	70	5	24		HM5116100L-8	Hitachi	
				Nibble	1.1	77	5	28		TC5116101-80	Toshiba	
				Static Column	1.1	77	5	28		TC5116102-80	Toshiba	
	100	CMOS	TTL	Fast Page	1	60	5	24		HM5116100-10	Hitachi	15
					2	60	5	24		HM5116100L-10	Hitachi	
16Mx8	60	CMOS	TTL/CMOS	Fast Page	16	720	5	30		HYM581600-60	Hyundai	
	70	CMOS	TTL/CMOS	Fast Page	16	720	5	30		HYM581600-70	Hyundai	
16Mx9	60	CMOS	TTL/CMOS	Fast Page	18	810	5	30		HYM591600-60	Hyundai	
	70	CMOS	TTL/CMOS	Fast Page	18	810	5	30		HYM591600-70	Hyundai	20
16Mx1	60	CMOS		Fast Page		90	5	24		MCM56102-60	Motorola	
							5	24		M5M416100A-6	Mitsubishi	
									Self Refresh	M5M416100A-6S	Mitsubishi	
										M5M416100B-6	Mitsubishi	
									Self Refresh	M5M416100B-6S	Mitsubishi	25
				Nibble		90	5	24		MCM516101-60	Motorola	
			TTL	Fast Page	1	60	3	28		MT4LC16M1A1-6	ℓ MicronSemi	
					2	90	5	28		MT4C16M1A1-6	MicronSemi	
										MCM516100-60	Motorola	
										μPD4216100-60	NEC	30
						110	5	28		μPD4217100-60	NEC	
						90	5	24		KM41C16000-6	Samsung	
										KM41C16000L-6	Samsung	
						110	5	24		KM41C16100-6	Samsung	
										KM41C16100L-6	Samsung	35
				Nibble			5	28		μPD4216101-60	NEC	
										μPD4217101-60	NEC	
				Static Column			5	28		μPD4216102-60	NEC	
										μPD4217102-60	NEC	
	70	CMOS					5	24		MDM116000-70	Mosaic Semi	40
										MDM116000X-70	Mosaic Semi	
						80	5	24		MCM56102-70	Motorola	
				Fast Page			5	24		M5M416100A-7	Mitsubishi	
									Self Refresh	M5M416100A-7S	Mitsubishi	
										M5M416100B-7	Mitsubishi	45
									Self Refresh	M5M416100B-7S	Mitsubishi	
				Nibble		80	5	24		MCM516101-70	Motorola	
			TTL	Fast Page	1	55	3	28		MT4LC16M1A1-7	ℓ MicronSemi	
					2	80	5	28		MT4C16M1A1-7	MicronSemi	
										MCM516100-70	Motorola	50
										μPD4216100-70	NEC	
						100	5	28		μPD4217100-70	NEC	
						80	5	24		KM41C16000-7	Samsung	
										KM41C16000L-7	Samsung	
						100	5	24		KM41C16100-7	Samsung	55
										KM41C16100L-7	Samsung	
				Nibble			5	28		μPD4216101-70	NEC	
										μPD4217101-70	NEC	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
16Mx1	70	CMOS	TTL	Static Column			5	28		µPD4216102-70	NEC	
										µPD4217102-70	NEC	
	80	CMOS					5	24		MDM116000-80	Mosaic Semi	
										MDM116000X-80	Mosaic Semi	
						70	5	24		MCM56102-80	Motorola	5
				Fast Page		70	5	24		MCM516100-80	Motorola	
				Nibble		70	5	24		MCM516101-80	Motorola	
			TTL	Fast Page	2	70	5	28		µPD4216100-80	NEC	
						90	5	28		µPD4217100-80	NEC	
						70	5	24		KM41C16000-8	Samsung	10
										KM41C16000L-8	Samsung	
						90	5	24		KM41C16100-8	Samsung	
										KM41C16100L-8	Samsung	
				Nibble			5	28		µPD4216101-80	NEC	
										µPD4217101-80	NEC	15
				Static Column			5	28		µPD4216102-80	NEC	
										µPD4217102-80	NEC	
	100	CMOS					5	24		MDM116000-10	Mosaic Semi	
										MDM116000X-10	Mosaic Semi	
			TTL	Fast Page	2	60	5	28		µPD4216100-10	NEC	20
						80	5	28		µPD4217100-10	NEC	
				Nibble			5	28		µPD4216101-10	NEC	
										µPD4217101-10	NEC	
				Static Column			5	28		µPD4216102-10	NEC	
										µPD4217102-10	NEC	25
128x8		CMOS			2.5	6	5	8		DS1200	Dallas	
256x48	45	CMOS	TTL		10	160	5	28	Single Cycle Reset	AM99C10A-70	AMD	
	65	CMOS	TTL		10	130	5	28	Single Cycle Reset	AM99C10A-10	AMD	
261Kx4	30	CMOS					5	28	FSAM	M5M4C900-3	Mitsubishi	
	50	CMOS					5	28	FSAM	M5M4C900-5	Mitsubishi	30
265Kx4	100	CMOS		Fast Page	2	40	5	20		MDM4256-10	Mosaic Semi	
	120	CMOS		Fast Page	2	40	5	20		MDM4256-12	Mosaic Semi	
	150	CMOS		Fast Page	2	40	5	20		MDM4256-15	Mosaic Semi	
512x512x4	100	CMOS					5	28		MSM514221-10	OKI	
	120	CMOS					5	28		MSM514221-12	OKI	35
910x263x4	40	CMOS					5	28		µPD42270	NEC	
1Kx4	60	CMOS					5	26		TMS44400-60	° TI	
										TMS44410-60	TI	
	70	CMOS					5	26		TMS44400-70	° TI	
										TMS44410-70	TI	40
	80	CMOS					5	26		TMS44410-80	TI	
	100	CMOS					5	26		TMS44410-10	TI	
	120	CMOS	TTL	Common	0.025	7	5	18		HM6514S/883	† Harris	
2Kx4	70	CMOS	TTL	Fast Page	2	75	5	20		MS514256-70	Mosel-Vitelic	
	80	CMOS	TTL	Fast Page	2	70	5	20		MS514256-80	Mosel-Vitelic	45
	100	CMOS	TTL	Fast Page	2	60	5	20		MS514256-10	Mosel-Vitelic	
	120	CMOS	TTL	Fast Page	2	50	5	20		MS514256-12	Mosel-Vitelic	
4Kx1	60	CMOS					5	26		TMS44100-60	° TI	
										TMS44101-60	TI	
	70	CMOS					5	26		TMS44100-70	° TI	50
										TMS44101-70	TI	
	80	CMOS					5	26		TMS44101-80	TI	
	100	CMOS					5	26		TMS44101-10	TI	
4Kx4	60	CMOS					5	28		TMS416400-60	TI	
	70	CMOS					5	28		TMS416400-70	TI	55
	80	CMOS					5	28		TMS416400-80	TI	
	100	CMOS					5	28		TMS416400-10	TI	
16Kx1	60	CMOS					5	28		TMS416100-60	TI	
	70	CMOS					5	28		TMS416100-70	TI	
	80	CMOS					5	28		TMS416100-80	TI	60
	100	CMOS					5	28		TMS416100-10	TI	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
16Kx4	120	NMOS					5	18		SMJ4416-12	† TI
	150	NMOS					5	18		MN4264-15	Panasonic
										SMJ4416-15	† TI
	200	NMOS					5	18		SMJ4416-20	† TI
16Kx8	120	CMOS					5	28		SMJ27C128-12	•† TI
	150	CMOS					5	28		SMJ27C128-15	•† TI
	170	CMOS					5	28		SMJ27C128-17	•† TI
	250	CMOS					5	28		SMJ27C128-25	•† TI
16Kx1	120	NMOS					±5,12	16	Refurbished	**4116-12**	**Krueger (3663)**
	150	NMOS					±5,12	16	Refurbished	**4116-15**	**Krueger (3663)**
	200	NMOS					±5,12	16	Refurbished	**4116-20**	**Krueger (3663)**
	300	CMOS			2	60	5	32		HC7116SC	Honeywell
32Kx8	150	CMOS					5	28		SMJ27C256-15	•† TI
	170	CMOS					5	28		SMJ27C256-17	•† TI
	250	CMOS					5	28		SMJ27C256-25	•† TI
32Kx8x4	20	CMOS					5	40		TC521000	Toshiba
32Kx8	85						5	28		GM76C256-85	GoldStar
64Kx1	100	NMOS					5	16		KM4164B-10	Samsung
	120	NMOS					5	16		NMC4164-12	National
										MSM3764A-12	OKI
										MN4164-12A	Panasonic
										KM4164B-12	Samsung
										MKB45H64-81	† SGS-Thomson
										SMJ4164-12	•† TI
	150	NMOS					5	16		NMC4164-15	National
										MSM3764A-15	OKI
										MN4164-15A	Panasonic
										KM4164B-15	Samsung
										MKB45H64-82	† SGS-Thomson
										TS4164-15	SGS-Thomson
								20		SMJ4161-15	† TI
								16		SMJ4164-15	•† TI
	200	NMOS					5	16		NMC4164-20	National
										MKB45H64-83	† SGS-Thomson
										TS4164-20	SGS-Thomson
								20		SMJ4161-20	† TI
								16		SMJ4164-20	•† TI
64Kx4	60	CMOS			1	90	5	20		HM514258A-6	Hitachi
				Fast Page	1	90	5	20		HM514256A-6	Hitachi
										HM514256AL-6	Hitachi
										HM514266-6	Hitachi
			TTL	Page	2	75	5	16		21464-06	Intel
	70	CMOS					5	18		V53C464-70L	Mosel-Vitelic
										V53C466-70L	Mosel-Vitelic
					1	80	5	20		HM514258A-7	Hitachi
				Fast Page	1	80	5	20		HM514256A-7	Hitachi
										HM514256AL-7	Hitachi
										HM514266-7	Hitachi
					3	80	5	18		GM71C464A-70	GoldStar
			TTL	Fast Page	3	65	5	18		MSM51C464A-70	OKI
				Page	2	70	5	16		21464-07	Intel
	80		TTL	Page	2	65	5	18		21464-08	Intel
		CMOS					5	18		GM71C464-80	GoldStar
								24		HY53C464L-80	Hyundai
								18		V53C464-80L	Mosel-Vitelic
										V53C466-80L	Mosel-Vitelic
					1	75	5	20		HM514258A-8	Hitachi
				Fast Page	1	66	5	20		HM514256A-8	Hitachi
										HM514256AL-8	Hitachi
										HM514266-8	Hitachi
					3	80	5	18		GM71C464A-80	GoldStar
			TTL	Fast Page	3	55	5	18		MSM51C464A-80	OKI

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4											(Cont'd)	
	100	CMOS					5	18		GM71C464-10	GoldStar	
								24		HY53C464L-10	Hyundai	
								18		V53C464-10L	Mosel-Vitelic	
										V53C466-10L	Mosel-Vitelic	
					1	65	5	20		HM514258A-10	Hitachi	5
				Fast Page	1	70	5	18		GM71C464A-10	GoldStar	
						55	5	20		HM514256A-10	Hitachi	
										HM514256AL-10	Hitachi	
										HM514266-10	Hitachi	
			TTL	Fast Page	3	45	5	18		MSM51C464A-10	OKI	10
				Page	2	55	5	16		21464-10	Intel	
		NMOS					5	18		MSM41464-10	OKI	
	120			Fast Page			5	18		MB81464-12	Fujitsu	
		CMOS					5	18		SMJ4464-12	°† TI	
					1	55	5	20		HM514258A-12	Hitachi	15
				Fast Page	1	47	5	20		HM514256A-12	Hitachi	
										HM514256AL-12	Hitachi	
										HM514266-12	Hitachi	
			TTL	Fast Page	6	50	5	18		HM44C64-12	Hualon Micro	
		NMOS					5	18		HM50464-12	° Hitachi	20
										MSM41464-12	OKI	
				Page			5	18		KM41464A-12	Samsung	
	150	CMOS					5	18		SMJ4464-15	°† TI	
			TTL	Fast Page	6	40	5	18		HM44C64-15	Hualon Micro	
		NMOS		Page			5	18		KM41464A-15	Samsung	25
			TTL	Page	5	60	5	18		MSM41464-15	OKI	
	200	CMOS					5	18		SMJ4464-20	°† TI	
64Kx8	120	CMOS					5	24		V53C864-12	Mosel-Vitelic	
										V53C866-120	Mosel-Vitelic	
64Kx16	60	CMOS	TTL	Fast Page	2	120	5	40		M5M411664-6	Mitsubishi	30
									Extended Refresh Cycle	M5M411664-6S	Mitsubishi	
	80	CMOS					5	40		TC511664-80	Toshiba	
										TC511664B-80	Toshiba	
										TC511665-80	Toshiba	
										TC511665B-80	Toshiba	35
										TC51665-80	Toshiba	
				Fast Page	0.2		5	40		V53C664L-80L	Mosel-Vitelic	
					1	115	5	40		HM511665-8	Hitachi	
				Page	1	115	5	40		HM511664-8	Hitachi	
				Static	1	115	5	40		HM511666-8	Hitachi	40
			TTL	Fast Page	1	115	5	40		HM511665L-8	Hitachi	
					2	115	5	40	Refurbished	511664-80	Krueger	
						105	5	40		M5M411664-8	Mitsubishi	
									Extended Refresh Cycle	M5M411664-8S	Mitsubishi	
						115	5	20		MSM511664-80	OKI	45
										MSM511665-80	OKI	
								40		TC511664BL-80	Toshiba	
										TC511664L-80	Toshiba	
										TC511665BL-80	Toshiba	
				Page	1	115	5	40		HM511664L-8	Hitachi	50
	100	CMOS					5	40		TC511664-10	Toshiba	
										TC511665-10	Toshiba	
				Fast Page	0.2		5	40		V53C664L-10L	Mosel-Vitelic	
					1	90	5	40		HM511665-10	Hitachi	
				Page	1	90	5	40		HM511664-10	Hitachi	55
				Static	1	90	5	40		HM511666-10	Hitachi	
			TTL	Fast Page	1	90	5	40		HM511665L-10	Hitachi	
					2	90	5	40	Refurbished	511664-100	Krueger	
								20		MSM511664-10	OKI	
										MSM511665-10	OKI	60
						115	5	40		TC511664BL-10	Toshiba	
						90	5	40		TC511664L-10	Toshiba	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
64Kx16	100	CMOS	TTL	Fast Page	2	90	5	40			(Cont'd)
										TC511665BL-10	Toshiba
										TC511665L-10	Toshiba
				Page	1	90	5	40		HM511664L-10	Hitachi
64Kx18	80	CMOS	TTL	Fast Page	2	105	5	42	Extended Refresh Cycle	MSM411860-8S	Mitsubishi
64Kx1	120	NMOS					5	16	Refurbished	**4164-120**	**Krueger (3663)**
	150	NMOS					5	16	Refurbished	**4164-150**	**Krueger (3663)**
	200	NMOS					5	16	Refurbished	**4164-200**	**Krueger (3663)**
	250	CMOS			2	100	5	36		HC7464/1SHNC	Honeywell
64Kx16	60	CMOS		Fast Page			5	40		M5M41164-6	Mitsubishi
									Self Refresh	M5M41164-6S	Mitsubishi
	80	CMOS		Fast Page			5	40		M5M41164-8	Mitsubishi
									Self Refresh	M5M41164-8S	Mitsubishi
								42	Self Refresh	M5M411860-8S	Mitsubishi
					1		5	40		**V53C664-80**	**Mosel-Vitelic (3696)**
										V53C664-80L	**Mosel-Vitelic (3696)**
			TTL	Fast Page	2	115	5	40		TC511665L-80	Toshiba
	100	CMOS					5	40		TC511664B-10	Toshiba
										TC511665B-10	Toshiba
				Fast Page	1	90	5	40		**V53C664-10**	**Mosel-Vitelic (3696)**
										V53C664-10L	**Mosel-Vitelic (3696)**
64Kx18	60	CMOS	TTL	Fast Page	2	120	5	42		M5M411860-6	Mitsubishi
									Extended Refresh Cycle	M5M411860-6S	Mitsubishi
	80	CMOS	TTL	Fast Page	2	105	5	42		M5M411860-8	Mitsubishi
64Kx4	70	CMOS					5	18		V53C464-70	Mosel-Vitelic
										V53C466-70	Mosel-Vitelic
					0.2	65	5	18		**V53C464A-70**	**Mosel-Vitelic (3696)**
			TTL	Fast Page	2	65	5	20		KM41C464-7	Samsung
				Static Column	2	65	5	20		KM41C466-7	Samsung
	80	CMOS					5	18		V53C464-80	Mosel-Vitelic
										V53C466-80	Mosel-Vitelic
					0.2	65	5	18		**V53C464A-80**	**Mosel-Vitelic (3696)**
			TTL	Fast Page	2	55	5	20		KM41C464-8	Samsung
				Static Column	2	55	5	20		KM41C466-8	Samsung
		NMOS	TTL		5	85	5	18		µPD41464-80	NEC
	100	CMOS					5	18		V53C464-10	Mosel-Vitelic
										V53C466-10	Mosel-Vitelic
					0.2	65	5	18		**V53C464A-10**	**Mosel-Vitelic (3696)**
			TTL	Fast Page	2	45	5	20		KM41C464-10	Samsung
					6	60	5	18		HM44C64-10	Hualon Micro
				Static Column	2	45	5	16		KM41C466-10	Samsung
		NMOS					5	18	Refurbished	**41464-100**	**Krueger (3663)**
			TTL		5	80	5	18		µPD41464-10	NEC
	120	NMOS					5	18	Refurbished	**41464-120**	**Krueger (3663)**
			TTL		5	75	5	18		µPD41464-12	NEC
	150	NMOS					5	18		HM50464-15	• Hitachi
									Refurbished	**41464-150**	**Krueger (3663)**

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8	70	CMOS					5	24		**V53C864-70**	**Mosel-Vitelic (3696)**	
										V53C864-70L	**Mosel-Vitelic (3696)**	
										V53C866-70	Mosel-Vitelic	
	80	CMOS					5	24		**V53C864-80**	**Mosel-Vitelic (3696)**	
										V53C864-80L	**Mosel-Vitelic (3696)**	5
										V53C866-80	Mosel-Vitelic	
	100	CMOS					5	24		**V53C864-10**	**Mosel-Vitelic (3696)**	
										V53C864-10L	**Mosel-Vitelic (3696)**	
										V53C866-100	Mosel-Vitelic	
	120	CMOS					5	24		V53C864-12L	Mosel-Vitelic	10
128Kx8	70	CMOS			2	80	5	26		TMS48C128-70	TI	
						75	5	26		TMS48C138-70	TI	
	80	CMOS			2	75	5	26		TMS48C128-80	TI	
										TMS48C138-80	TI	
	100	CMOS			2	65	5	26		TMS48C128-100	TI	15
										TMS48C138-100	TI	
256Kx1	60	CMOS	TTL	Page	2	75	5	16		21256-06	Intel	
	70	CMOS					5	16		V53C256-70L	Mosel-Vitelic	
										V53C258-70L	Mosel-Vitelic	
								20		TC514258A-70	• Toshiba	20
				Fast Page	3	70	5	16		GM71C256A-70	GoldStar	
			TTL	Fast Page	3	45	5	16		MSM51C256A-70	OKI	
				Page	2	70	5	16		21256-07	Intel	
	80		TTL	Page	2	60	5	16		21256-08	Intel	
		CMOS					5	16		GM71C256-80	GoldStar	25
										HY53C256L-80	Hyundai	
										V53C256-80L	Mosel-Vitelic	
										V53C258-80L	Mosel-Vitelic	
				Fast Page	3	80	5	18		GM71C256A-80	GoldStar	
			TTL	Fast Page	3.5	60	5	16		MSM51C256-80	OKI	30
	100	CMOS					5	16		HY53C256L-10	Hyundai	
										V53C256-10L	Mosel-Vitelic	
										V53C258-10L	Mosel-Vitelic	
				Fast Page	3	70	5	16		GM71C256-10	GoldStar	
						50	5	16		GM71C256A-10	GoldStar	35
			TTL	Fast Page	3.5	50	5	16		MSM51C256-10	OKI	
					6	60	5	16		HM41C256-10	Hualon Micro	
				Page	2	55	5	16		21256-10	Intel	
		NMOS					5	16		MSM41256A-10	OKI	
										MSM41257A-10	OKI	40
										MKB45F56-80	† SGS-Thomson	
										HYB41256-10	Siemens	
				Fast Page			5	16		MB81256-10	Fujitsu	
	120	CMOS					5	16		GM71C256-12	GoldStar	
										HM51258-12	Hitachi	45
										V53C256-12	Mosel-Vitelic	
				Fast Page			5	16		MB81256-12	Fujitsu	
			TTL	Fast Page	6	50	5	16		HM41C256-12	Hualon Micro	
		NMOS					5	16		HM50256-12	• Hitachi	
										μPD41256-12	NEC	50
										μPD41257-12	NEC	
										MSM41256A-12	OKI	
										MSM41257A-12	OKI	
										MKB45F56-81	† SGS-Thomson	
										MK45H56-12	SGS-Thomson	55
				Page			5	16		KM41256A-12	Samsung	
		TTL					5	16		HYB41256-12	Siemens	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx1											(Cont'd)	
	150	CMOS					5	16		HM51258-15	Hitachi	
			TTL	Fast Page	6	40	5	16		HM41C256-15	Hualon Micro	
		NMOS					5	16		HM50256-15	• Hitachi	
										µPD41257-15	NEC	
										MSM41256A-15	OKI	5
										MSM41257A-15	OKI	
										MKB45F56-82	† SGS-Thomson	
										MK45H56-15	SGS-Thomson	
										SMJ4256-15	•† TI	
				Page			5	16		KM41256A-15	Samsung	10
		TTL					5	16		HYB41256-15	Siemens	
	200	NMOS					5	16		HM50256-20	• Hitachi	
										SMJ4256-20	•† TI	
256Kx4	25	CMOS					5	16	Pseudo-Static	TMS4C1050-3	• TI	
	35	BiCMOS	TTL		5		5	28		HM574256-35R	Hitachi	15
	40	BiCMOS	TTL		5		5	28		HM574256-40	Hitachi	
	45	BiCMOS	TTL		5		5	28		HM574256-45	Hitachi	
		CMOS	TTL	Fast Page	0.15		5	20		V53C104HL-45L	Mosel-Vitelic	
					1		5	20		V53C104H-45L	Mosel-Vitelic	
	50	CMOS					5	16	Pseudo-Static	TMS4C1050-6	• TI	20
			TTL	Fast Page	0.15		5	20		V53C104HL-50L	Mosel-Vitelic	
					1		5	20		V53C104H-50L	Mosel-Vitelic	
	55	CMOS	TTL	Fast Page	0.15		5	20		V53C104HL-55L	Mosel-Vitelic	
	60	CMOS					5	20		MN41C4256A-06	Panasonic	
										TMS44C256-60	• TI	25
				Fast Page	0.2	90	5	20	Low Power	GM71C4256AL-60	GoldStar	
					1	90	5	20		GM71C4256A-60	GoldStar	
			TTL		1.1	99	5	26		TC514258B-60	• Toshiba	
				Fast Page	0.15		5	20		V53C104HL-60L	Mosel-Vitelic	
					0.2		5	20		V53C104BL-60L	Mosel-Vitelic	30
						90	5	20		MSM514256BL-60	OKI	
					1		5	20		V53C104B-60L	Mosel-Vitelic	
						85	5	20		V53C104H-60L	Mosel-Vitelic	
					2	90	5	20		21014-06	Intel	
										µPD424266-60	NEC	35
										MSM514256B-60	OKI	
										MSM514266B-60	OKI	
										TC514256BL-60	Toshiba	
				Static Column	2	90	5	20		µPD424258-60	NEC	
										µPD424268-60	NEC	40
		TTL					5			TMS44C260-60	TI	
	70		TTL/CMOS	Fast Page	2	80	5	20		21014-07	Intel	
		CMOS					5	20		EDI44256C70B	EDI	
								20		M5M44268-7	Mitsubishi	
										MN41C4256A-07	Panasonic	45
										TMS44C256-70	• TI	
				Fast Page	0.2	80	5	20	Low Power	GM71C4256AL-70	GoldStar	
					1	80	5	20		GM71C4256A-70	GoldStar	
			TTL		1.1	88	5	20		TC514256A-70	• Toshiba	
								26		TC514258B-70	• Toshiba	50
										TC514266B-70	Toshiba	
								20		TC514268A-70	Toshiba	
				Fast Page	0.2		5	20		V53C104BL-70L	Mosel-Vitelic	
						80	5	20		MSM514256BL-70	OKI	
					1		5	20		V53C104B-70L	Mosel-Vitelic	55
					2	80	5	20		µPD424266-70	NEC	
						85	5	20		MSM514256-70	OKI	
										MSM514256A-70	OKI	
						80	5	20		MSM514256B-70	OKI	
										MSM514266B-70	OKI	60
										KM44C256B-7	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	70	CMOS	TTL	Fast Page	2	80	5	20			(Cont'd)	
										KM44C256BL-7	Samsung	
										KM44C266B-7	Samsung	
										TC514256AL-70	Toshiba	
										TC514266A-70	Toshiba	
				Static Column	2	80	5	20		M5M44268B-7	Mitsubishi	5
										µPD424258-70	NEC	
										µPD424268-70	NEC	
						85	5	20		MSM514258A-70	OKI	
						80	5	20		KM44C258B-7	Samsung	
										KM44C268B-7	Samsung	10
		TTL					5			TMS44C260-70	TI	
	80		TTL/CMOS	Fast Page	2	70	5	20		21014-08	Intel	
		CMOS					5	20		M5M44268-8	Mitsubishi	
										MN41C4256-08	Panasonic	
										MN41C4256A-08	Panasonic	15
								18		TMS44C256-80	° TI	
				Fast Page	0.2	70	5	20	Low Power	GM71C4256AL-80	GoldStar	
					1	70	5	20		GM71C4256A-80	GoldStar	
					2	70	5	20		MDM4256-80	Mosaic Semi	
				Page			5	20		KM44C256A-08	Samsung	20
			TTL		1.1	77	5	20		TC514256A-80	° Toshiba	
								26		TC514256B-80	° Toshiba	
								18		TC514258A-80	° Toshiba	
								26		TC514258B-80	° Toshiba	
										TC514266B-80	Toshiba	25
				Fast Page	0.15	45	3.3	26		TC51V4256B-80	ℓ Toshiba	
					0.2		5	20		V53C104BL-80L	Mosel-Vitelic	
						70	5	20		MSM514256BL-80	OKI	
					1	70	5	20		V53C104B-80L	Mosel-Vitelic	
					2	70	5	20		µPD424266-80	NEC	30
						75	5	20		MSM514256A-8A	OKI	
										MSM514256A-80	OKI	
						70	5	20		MSM514256B-80	OKI	
										MSM514266B-80	OKI	
										KM44C256B-8	Samsung	35
										KM44C256BL-8	Samsung	
										KM44C266B-8	Samsung	
										TC514256AL-80	Toshiba	
										TC514266A-80	Toshiba	
				Static Column	2	70	5	20		M5M44268B-8	Mitsubishi	40
										µPD424258-80	NEC	
										µPD424268-80	NEC	
						75	5	20		MSM514258A-8A	OKI	
										MSM514258A-80	OKI	
						70	5	20		KM44C258B-8	Samsung	45
										KM44C268B-8	Samsung	
		CMOS, Static Column					5	20		KM44C258A-08	Samsung	
										TC514268A-80	Toshiba	
		TTL					5			TMS44C260-80	TI	
	85	CMOS					5	20		GM71C4256-85	GoldStar	50
										V53C104-85	Mosel-Vitelic	
										V53C104-85L	Mosel-Vitelic	
										MCM514256A-85	Motorola	
										MCM514258A-85	° Motorola	
	100	CMOS					5	20		GM71C4256-10	GoldStar	55
										M5M44266-10	Mitsubishi	
										M5M44268-10	Mitsubishi	
										V53C104-10	Mosel-Vitelic	
										V53C104-10L	Mosel-Vitelic	
								28		MSM514251-10	OKI	60
								20		MSM514256-10	OKI	
										MSM514258-10	OKI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	100	CMOS					5	20		SMJ44C256-10	°† TI	
										TMS44C256-10	° TI	
				Fast Page	0.2	60	5	20	Low Power	GM71C4256AL-10	GoldStar	
					1	60	5	20		GM71C4256A-10	GoldStar	
				Page			5	20		KM44C256A-10	Samsung	5
				Static Column			5	20		KM44C258A-10	Samsung	
			TTL	Fast Page	0.15	40	3.3	26		TC51V4256B-10	ℓ Toshiba	
					0.2	60	5	20		MCM51L4256A-10	Motorola	
										MSM514256BL-10	OKI	
					0.4	65	5	20		MCM51L4256A-C10	Motorola	10
										MCM514256A-C10	Motorola	
					1	60	5	20		MCM514256A-10	Motorola	
					2	60	5	20		21014-10	Intel	
										µPD424266-10	NEC	
						65	5	20		MSM514256A-1A	OKI	15
										MSM514256A-10	OKI	
						60	5	20		MSM514256B-10	OKI	
										MSM514266B-10	OKI	
										KM44C256B-10	Samsung	
										KM44C256BL-10	Samsung	20
										KM44C266B-10	Samsung	
										TC514256A-10	Toshiba	
										TC514256AL-10	Toshiba	
				Static Column	2	60	5	20		M5M44268B-10	Mitsubishi	
										µPD424258-10	NEC	25
										µPD424268-10	NEC	
						65	5	20		MSM514258A-1A	OKI	
										MSM514258A-10	OKI	
						60	5	20		KM44C258B-10	Samsung	
										KM44C268B-10	Samsung	30
		TTL					5			TMS44C260-10	TI	
	120	CMOS					5	20		GM71C4256-12	GoldStar	
										GM71C4256A-12	GoldStar	
										V53C104-12	Mosel-Vitelic	
										V53C104-12L	Mosel-Vitelic	35
										MCM514256A-12	Motorola	
										MCM514258A-12	° Motorola	
										µPD424256-12	NEC	
										µPD424258-12	NEC	
								28		MSM514251-12	OKI	40
								20		MSM514256-12	OKI	
										MSM514258-12	OKI	
										SMJ44C256-12	°† TI	
										TMS44C256-12	° TI	
	150	CMOS					5	20		EDI44256C150B	EDI	45
										SMJ44C256-15	°† TI	
256Kx8	100	CMOS					5	30		MCM8L4256-10	Motorola	
										MCM84256-10	Motorola	
		NMOS					5	30		MSC2304-10	OKI	
	120	NMOS					5	30		MSC2304-12	OKI	50
256Kx9	70	CMOS					5	30		MCM9L4256-70	Motorola	
										MCM94256-70	Motorola	
	80	CMOS					5	30		MCM9L4256-80	Motorola	
										MCM94256-80	Motorola	
			TTL	Fast Page	9	205	5	30		2D2569-08	Intel	55
	100	CMOS					5	30		MCM9L4256-10	Motorola	
										MCM94256-10	Motorola	
			TTL	Fast Page	9	175	5	30		2D2569-10	Intel	
256Kx16	60	CMOS	TTL	Fast Page	2	140	5	40		M5MM44170A-6	Mitsubishi	
										M5M44170A-6	Mitsubishi	60
			TTL/CMOS	Fast Page	2	170	5	40		HY514160-60	Hyundai	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16											(Cont'd)	
	70	CMOS		Fast Page	0.2	170	5		Low Power	GM71C4260L-70	GoldStar	
					1	170	5			GM71C4260-70	GoldStar	
			TTL		1.1	82.6	5	40		TC514170B-70	Toshiba	
						110	5	40		TC514260B-70	Toshiba	
				Fast Page			5	28		µPD42S4170-70	NEC	5
								40		µPD42S4260-70	NEC	
							3.3	40		µPD42170L-70	ℓ NEC	
								28		µPD424170L-70	ℓ NEC	
								40		µPD424260L-70	ℓ NEC	
							5	40	Write-per-bit	µPD424263-70	NEC	10
					0.3	120	5	40		µPD424170-70	NEC	
						160	5	40		µPD424260-70	NEC	
					1	140	5	40		HM514170-7	Hitachi	
						170	5	28		HM514260-7	Hitachi	
						70	5	40		TC514273B-70	Toshiba	15
					2	120	5	40		M5M44170A-7	Mitsubishi	
				Static Column			5	28		µPD424172-70	NEC	
								40		µPD424262-70	NEC	
									Write-per-bit	µPD424265-70	NEC	
			TTL/CMOS	Fast Page	2	170	5	40		HY514160-70	Hyundai	20
	80	CMOS		Fast Page	0.2	150	5		Low Power	GM71C4260L-80	GoldStar	
					1	150	5			GM71C4260-80	GoldStar	
			TTL		1.1	71.6	5	40		TC514170B-80	Toshiba	
						93.6	5	40		TC514260B-80	Toshiba	
				Fast Page			5	28		µPD42S4170-80	NEC	25
								40		µPD42S4260-80	NEC	
							3.3	28		µPD424170L-80	ℓ NEC	
								40		µPD424260L-80	ℓ NEC	
							5	40	Write-per-bit	µPD424263-80	NEC	
							3.3	28		UPD424170L-80	NEC	30
					0.3	105	5	40		µPD424170-80	ℓ NEC	
					1	120	5	40		HM514170-8	Hitachi	
						150	5	28		HM514260-8	Hitachi	
						60	5	40		TC514273B-80	Toshiba	
					2	105	5	40		M5M44170-8	Mitsubishi	35
										M5M44170A-8	Mitsubishi	
						140	5	40		M5M44260A-8	Mitsubishi	
					3	145	5	40		µPD424260-80	NEC	
				Static Column			5	28		µPD424172-80	NEC	
								40		µPD424262-80	NEC	40
									Write-per-bit	µPD424265-80	NEC	
			TTL/CMOS	Fast Page	2	170	5	40		HY514160-80	Hyundai	
	100	CMOS		Fast Page	0.2	130	5		Low Power	GM71C4260L-10	GoldStar	
					1	130	5			GM71C4260-10	GoldStar	
			TTL	Fast Page			5	28		µPD42S4170-10	NEC	45
								40		µPD42S4260-10	NEC	
							3.3	28		µPD424170L-10	ℓ NEC	
								40		µPD424260L-10	ℓ NEC	
							5	40	Write-per-bit	µPD424263-10	NEC	
					0.3	120	5	40		µPD424170-10	NEC	50
						160	5	40		µPD424260-10	NEC	
					1	100	5	40		HM514170-10	Hitachi	
						130	5	28		HM514260-10	Hitachi	
					2	90	5	40		M5M44170A-10	Mitsubishi	
						120	5	40		M5M44260A-10	Mitsubishi	55
				Static Column			5	28		µPD424172-10	NEC	
								40		µPD424262-10	NEC	
									Write-per-bit	µPD424265-10	NEC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx18	60	CMOS	TTL	Fast Page	2	150	5	40		M5M44190A-6	Mitsubishi	
			TTL/CMOS	Fast Page	2	170	5	40		HY514180-60	Hyundai	
	70	CMOS	TTL		1.1	82.6	5	40		TC514190B-70	Toshiba	
						121	5	40		TC514280B-70	Toshiba	
				Fast Page			5	40		µPD42S4190-70	NEC	5
										µPD42S4280-70	NEC	
							3.3	40		µPD424190L-70	ℓ NEC	
										µPD424280L-70	ℓ NEC	
					0.3	145	5	40		µPD424190-70	NEC	
										µPD424280-70	NEC	10
					1	140	5	40		HM514190-7	Hitachi	
						170	5	40		HM514280-7	Hitachi	
					2	130	5	40		M5M44190A-7	Mitsubishi	
				Static Column			5	40		µPD424192-70	NEC	
										µPD424282-70	NEC	15
			TTL/CMOS	Fast Page	2	170	5	40		HY514180-70	Hyundai	
	80	CMOS	TTL		1.1	71.6	5	40		TC514190B-80	Toshiba	
										256Kx18	Toshiba	
				Fast Page			5	40		µPD42S4190-80	NEC	
										µPD42S4280-80	NEC	20
							3.3	40		µPD424190L-80	ℓ NEC	
										µPD424280L-80	ℓ NEC	
					0.3	145	5	40		µPD424190-80	NEC	
										µPD424280-80	NEC	
					1	120	5	40		HM514190-8	Hitachi	25
						150	5	40		HM514280-8	Hitachi	
					2	115	5	40		M5M44190A-8	Mitsubishi	
						150	5	40		M5M44280A-8	Mitsubishi	
				Static Column			5	40		µPD424192-80	NEC	
										µPD424282-80	NEC	30
			TTL/CMOS	Fast Page	2	170	5	40		HY514180-80	Hyundai	
	100	CMOS	TTL	Fast Page			5	40		µPD42S4190-10	NEC	
										µPD42S4280-10	NEC	
							3.3	40		µPD424190L-10	ℓ NEC	
										µPD424280L-10	ℓ NEC	35
					0.3	145	5	40		µPD424190-10	NEC	
										µPD424280-10	NEC	
					1	100	5	40		HM514190-10	Hitachi	
						130	5	40		HM514280-10	Hitachi	
					2	100	5	40		M5M44190A-10	Mitsubishi	40
						130	5	40		M5M44280A-10	Mitsubishi	
				Static Column			5	40		µPD424192-10	NEC	
										µPD424282-10	NEC	
256Kx36	80	CMOS	TTL	Fast Page	9	820	5	72		225636-08	Intel	
	100	CMOS	TTL	Fast Page	9	700	5	72		225636-10	Intel	45
256Kx1	70	CMOS					5	16		V53C256-70	Mosel-Vitelic	
										V53C258-70	Mosel-Vitelic	
					1.2	60	5	16		**V53C256A-70**	**Mosel-Vitelic (3696)**	
			TTL	Fast Page	2	65	5	16		KM41C256-7	Samsung	
				Nibble	2	65	5	16		KM41C257-7	Samsung	50
				Static Column	2	65	5	16		KM41C258-7	Samsung	
	80	CMOS					5	16		V53C256-80	Mosel-Vitelic	
										V53C258-80	Mosel-Vitelic	
					1.2	60	5	16		**V53C256A-80**	**Mosel-Vitelic (3696)**	
			TTL	Fast Page	2	55	5	16		KM41C256-8	Samsung	55
				Nibble	2	55	5	16		KM41C257-8	Samsung	
				Static Column	2	55	5	16		KM41C258-8	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx1	80										(Cont'd)	
		NMOS	TTL	Page	5	90	5	16		µPD41256-80	NEC	
	85	NMOS	TTL	Page	5	90	5	16		µPD41256-85	NEC	
	100	CMOS					5	16		V53C256-10	Mosel-Vitelic	
										V53C258-10	Mosel-Vitelic	
					1.2	60	5	16		**V53C256A-10**	**Mosel-Vitelic (3696)**	5
			TTL	Fast Page	2	45	5	16		KM41C256-10	Samsung	
				Nibble	2	45	5	16		KM41C257-10	Samsung	
				Static Column	2	45	5	16		KM41C258-10	Samsung	
		NMOS	TTL	Page	4.5	70	5	16		GM71256-10	GoldStar	
					5	80	5	16		µPD41256-10	NEC	10
	120	CMOS					5	16		V53C256-12L	Mosel-Vitelic	
		NMOS	TTL	Page	4.5	65	5	16		GM71256-12	GoldStar	
	150	NMOS	TTL	Page	4.5	60	5	16		GM71256-15	GoldStar	
256Kx16	60	CMOS		Fast Page		140	5	28		MCM34170A-60	Motorola	
			TTL	Fast Page	0.2	190	5	40		MT4C16256-6L	MicronSemi	15
										MT4C16257-6L	MicronSemi	
										MT4C16258-6L	MicronSemi	
										MT4C16259-6L	MicronSemi	
					0.5	140	5	40		µPD42S4263A-60	NEC	
						130	3.3	40		µPD42S4263L-A60 ℓ	NEC	20
						140	5	40		µPD424263A-60	NEC	
						130	3.3	40		µPD424263L-A60 ℓ	NEC	
					2	190	5	40		MT4C16256-6	MicronSemi	
										MT4C16257-6	MicronSemi	
										MT4C16258-6	MicronSemi	25
										MT4C16259-6	MicronSemi	
						110	5	40		µPD42S4170A-60	NEC	
						100	3.3	40		µPD42S4170L-A60 ℓ	NEC	
						140	5	40		µPD42S4260A-60	NEC	
						130	3.3	40		µPD42S4260L-A60 ℓ	NEC	30
						100	3.3	40		µPD42417L-A60 ℓ	NEC	
						110	5	40		µPD424170A-60	NEC	
						140	5	40		µPD424260A-60	NEC	
						130	3.3	40		µPD424260L-A60 ℓ	NEC	
	70	CMOS		Fast Page		120	5	28		MCM34170A-70	Motorola	35
						100	5	28		MCM54270B-70	Motorola	
				Hyper Page			5			µPD481440LE-70	NEC	
			TTL	Fast Page	0.5	130	5	40		µPD42S4263A-70	NEC	
						120	3.3	40		µPD42S4263L-A70 ℓ	NEC	
						130	5	40		µPD424263A-70	NEC	40
						120	3.3	40		µPD424263L-A70 ℓ	NEC	
					1	120	5	40	Dual WE	MT4C16256-7	MicronSemi	
									Dual CAS	MT4C16257-7	MicronSemi	
					2	170	5	40		**MB814260A-70**	**Fujitsu (3614)**	
						160	5	40		MT4C16256-7L	MicronSemi	45
						170	5	40		MT4C16256-7S	MicronSemi	
						160	5	40		MT4C16257-7L	MicronSemi	
						170	5	40		MT4C16257-7S	MicronSemi	
						140	5	40	Extended Refresh, 2WE, Asym	MT4C16260-7	MicronSemi	
						170	5	40		MT4C16270-7	MicronSemi	50
										MT4C16271-7	MicronSemi	
						75	5	44		MCM5L4170B-70	Motorola	
						100	5	44		MCM5L4260B-70	Motorola	
						75	5	44		MCM5V4170B-70	Motorola	
						100	5	44		MCM5V4260B-70	Motorola	55
						75	5	44		MCM54170B-70	Motorola	
										MCM54190B-70	Motorola	
						100	5	44		MCM54260B-70	Motorola	
								40		µPD42S4170A-70	NEC	
						90	3.3	40		µPD42S4170L-A70 ℓ	NEC	60
						130	5	40		µPD42S4260A-70	NEC	
						120	3.3	40		µPD42S4260L-A70 ℓ	NEC	
						90	3.3	40		µPD42417L-A70 ℓ	NEC	
						100	5	40		µPD424170A-70	NEC	
						130	5	40		µPD424260A-70	NEC	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
256Kx16	70	CMOS	TTL	Fast Page	2	120	3.3	40		μPD424260L-A70 ℓ	NEC	
						145	5	40		KM416C256-7	Samsung	
										KM416C256L-7	Samsung	
										KM416C256LL-7	Samsung	
										KM416C256SL-7	Samsung	5
	80	CMOS					5	40		MT4C16256-8	MicronSemi	
										MT4C16257-8	MicronSemi	
				Fast Page		105	5	28		MCM34170A-80	Motorola	
						140	5	28		MCM34260A-80	Motorola	
						85	5	28		MCM54270B-80	Motorola	10
				Hyper Page			5			μPD481440LE-80	NEC	
			TTL	Fast Page	0.5	120	5	40		μPD42S4263A-80	NEC	
						110	3.3	40		μPD42S4263L-A80 ℓ	NEC	
						120	5	40		μPD424263A-80	NEC	
						110	3.3	40		μPD424263L-A80 ℓ	NEC	15
					2	154	5	40		**MB814260A-80**	**Fujitsu (3614)**	
						140	5	40		MT4C16256-8L	MicronSemi	
										MT4C16257-8L	MicronSemi	
						130	5	40	Extended Refresh, 2WE, Asym	MT4C16260-8	MicronSemi	
						150	5	40		MT4C16270-8	MicronSemi	20
										MT4C16271-8	MicronSemi	
						65	5	44		MCM5L4170B-80	Motorola	
						85	5	44		MCM5L4260B-80	Motorola	
						65	5	44		MCM5V4170B-80	Motorola	
						85	5	44		MCM5V4260B-80	Motorola	25
						65	5	44		MCM54170B-80	Motorola	
										MCM54190B-80	Motorola	
						85	5	44		MCM54260B-80	Motorola	
						90	5	40		μPD42S4170A-80	NEC	
						80	3.3	40		μPD42S4170L-A80 ℓ	NEC	30
						120	5	40		μPD42S4260A-80	NEC	
						110	3.3	40		μPD42S4260L-A80 ℓ	NEC	
						80	3.3	40		μPD42417L-A80 ℓ	NEC	
						90	5	40		μPD424170A-80	NEC	
						120	5	40		μPD424260A-80	NEC	35
						110	3.3	40		μPD424260L-A80 ℓ	NEC	
						125	5	40		KM416C256-8	Samsung	
										KM416C256L-8	Samsung	
										KM416C256LL-8	Samsung	
										KM416C256SL-8	Samsung	40
	100	CMOS		Fast Page		120	5	28		MCM34260A-100	Motorola	
						60	5	28		MCM54170B-100	Motorola	
						75	5	28		MCM54260B-100	Motorola	
										MCM54270B-100	Motorola	
			TTL		1.1	66	5	40		TC514170B-10	Toshiba	45
						82.6	5	40		TC514260B-10	Toshiba	
				Fast Page	2	126	5	40		**MB814260A-10**	**Fujitsu (3614)**	
						60	5	44		MCM5L4170B-10	Motorola	
						75	5	44		MCM5L4260B-10	Motorola	
						60	5	44		MCM5V4170B-10	Motorola	50
						75	5	44		MCM5V4260B-10	Motorola	
						60	5	44		MCM54170B-10	Motorola	
										MCM54190B-10	Motorola	
						75	5	44		MCM54260B-10	Motorola	
						80	3.3	40		μPD42S4170-A10	NEC	55
						110	3.3	40		μPD42S4260L-A10	NEC	
						105	5	40		KM416C256-10	Samsung	
										KM416C256L-10	Samsung	
										KM416C256LL-10	Samsung	
										KM416C256SL-10	Samsung	60
256Kx18	60	CMOS		Fast Page		140	5	28		MCM34190A-60	Motorola	
			TTL	Fast Page	2	130	5	40		μPD42S4190A-60	NEC	
						120	3.3	40		μPD42S4190L-A60 ℓ	NEC	
						160	5	40		μPD42S4280A-60	NEC	
						150	3.3	40		μPD42S4280L-A60 ℓ	NEC	65
						130	5	40		μPD424190A-60	NEC	
						120	3.3	40		μPD424190L-A60 ℓ	NEC	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose											**(Cont'd)**	
256Kx18	60	CMOS	TTL	Fast Page	2						(Cont'd)	
						160	5	40		µPD424280A-60	NEC	
						150	3.3	40		µPD424280L-A60 ℓ	NEC	
	70	CMOS		Fast Page		120	5	28		MCM34190A-70	Motorola	
						110	5	28		MCM54290B-70	Motorola	
			TTL	Fast Page	2	75	5	44		MCM5L4190B-70	Motorola	5
						100	5	44		MCM5L4280B-70	Motorola	
						75	5	44		MCM5V4190B-70	Motorola	
						100	5	44		MCM5V4280B-70	Motorola	
										MCM54280B-70	Motorola	
						120	5	40		µPD42S4190A-70	NEC	10
						110	3.3	40		µPD42S4190L-A70 ℓ	NEC	
						150	5	40		µPD42S4280A-70	NEC	
						140	3.3	40		µPD42S4280L-A70 ℓ	NEC	
						120	5	40		µPD424190A-70	NEC	
						110	3.3	40		µPD424190L-A70 ℓ	NEC	15
						150	5	40		µPD424280A-70	NEC	
						140	3.3	40		µPD424280L-A70 ℓ	NEC	
						150	5	40		KM418C256-7	Samsung	
										KM418C256L-7	Samsung	
										KM418C256LL-7	Samsung	20
										KM418C256SL-7	Samsung	
	80	CMOS		Fast Page		105	5	28		MCM34190A-80	Motorola	
						140	5	28		MCM34280A-80	Motorola	
						95	5	28		MCM54290B-80	Motorola	
			TTL		1.1	104.6	5	40		TC514280B-80	Toshiba	25
				Fast Page	2	65	5	44		MCM5L4190B-80	Motorola	
						95	5	44		MCM5L4280B-80	Motorola	
						65	5	44		MCM5V4190B-80	Motorola	
						95	5	44		MCM5V4280B-80	Motorola	
										MCM54280B-80	Motorola	30
						110	5	40		µPD42S4190A-80	NEC	
						100	3.3	40		µPD42S4190L-A80 ℓ	NEC	
						140	5	40		µPD42S4280A-80	NEC	
						130	3.3	40		µPD42S4280L-A80 ℓ	NEC	
						110	5	40		µPD424190A-80	NEC	35
						100	3.3	40		µPD424190L-A80 ℓ	NEC	
						140	5	40		µPD424280A-80	NEC	
						130	3.3	40		µPD424280L-A80 ℓ	NEC	
							5	40		KM418C256-8	Samsung	
										KM418C256L-8	Samsung	40
										KM418C256LL-8	Samsung	
										KM418C256SL-8	Samsung	
	100	CMOS		Fast Page		120	5	28		MCM34280A-100	Motorola	
						85	5	28		MCM54280B-100	Motorola	
										MCM54290B-100	Motorola	45
			TTL	Fast Page	2	60	5	44		MCM5L4190B-10	Motorola	
						85	5	44		MCM5L4280B-10	Motorola	
						60	5	44		MCM5V4190B-10	Motorola	
						85	5	44		MCM5V4280B-10	Motorola	
						60	5	44		MCM54190B-100	Motorola	50
						85	5	44		MCM54280B-10	Motorola	
						110	5	40		KM418C256-10	Samsung	
										KM418C256L-10	Samsung	
										KM418C256LL-10	Samsung	
										KM418C256SL-10	Samsung	55
256Kx4	45	CMOS		Enhanced Page	1	60	5	18		AAA1M304-45	NMB	
			TTL	Fast Page	1		5	20		**V53C104H-45**	**Mosel-Vitelic (3696)**	
	50	CMOS		Enhanced Page	1	80	5	18		AAA1M304-05	NMB	
			TTL	Fast Page	1		5	20		**V53C104H-50**	**Mosel-Vitelic (3696)**	
	55	CMOS	TTL	Fast Page	1		5	20		V53C104H-55	Mosel-Vitelic	60
										V53C104H-55L	**Mosel-Vitelic (3696)**	
	60	CMOS					5	18		**MB81C4256A-60L**	**Fujitsu (3611)**	
					2	75	5			**V53C104F-60**	**Mosel-Vitelic (3696)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	60	CMOS									(Cont'd)	
				Enhanced Page	1	80	5	18		AAA1M304-06	NMB	
				Fast Page	0.05	93	5	26		MN42C4256A-06	Panasonic	
			TTL		1.1	99	5	26		TC514256B-60	• Toshiba	
										TC514266B-60	Toshiba	
				Fast Page	0.2	90	5	20		µPD424256-60L	NEC	5
					1		5	20		V53C104B-60	Mosel-Vitelic	
						85	5	20		**V53C104H-60**	**Mosel-Vitelic (3696)**	
					1.0	45	3.3	20		**V53C104N-60**	ℓ **Mosel-Vitelic (3696)**	
					2	81	5	20		**MB81C4256A-60**	**Fujitsu (3611)**	
						90	5	20		HY534256-60	Hyundai	10
										HY534256A-60	Hyundai	
										HY534256AL-60	Hyundai	
						60	5	20		MT4C4256-6	MicronSemi	
						90	5	26		MCM51L4256B-60	Motorola	
										MCM514256B-60	Motorola	15
								20		µPD424256-60	NEC	
						70	5	20		KM44C256C-6	Samsung	
										KM44C256CL-6	Samsung	
										KM44C256CSL-6	Samsung	
										KM44C266C-6	Samsung	20
						90	5	26		HYB514256B-60	Siemens	
										HYB514256BL-60	Siemens	
				Static Column	2	70	5	20		KM44C258C-6	Samsung	
										KM44C268C-6	Samsung	
	70	CMOS					5	20		**MB81C4256A-70L**	**Fujitsu (3611)**	25
										M5M44266-7	Mitsubishi	
					2	75	5			**V53C104F-70**	**Mosel-Vitelic (3696)**	
				Enhanced Page	1	70	5	18		AAA1M304-07	NMB	
				Fast Page	0.05	88	5	26		MN42C4256A-07	Panasonic	
			TTL		1.1	88	5	26		TC514256B-70	• Toshiba	30
					2	80	5	20		M5M44258BL-7	Mitsubishi	
				Fast Page	0.2	80	5	20		µPD424256-70L	NEC	
					1		5	20		V53C104B-70	Mosel-Vitelic	
					1.0	40	3.3	20		**V53C104N-70**	ℓ **Mosel-Vitelic (3696)**	
					2	75	5	20		**MB81C4256A-70**	**Fujitsu (3611)**	35
						80	5	20		HY534256-70	Hyundai	
										HY534256A-70	Hyundai	
										HY534256AL-70	Hyundai	
						60	5	20		MT4C4256-7	MicronSemi	
						75	5	20		MT4C4256-7L	MicronSemi	40
						80	5	20		M5M44256B-7	Mitsubishi	
										M5M44256B-7L	Mitsubishi	
										M5M44266B-7	Mitsubishi	
								26		MCM41L4256-70	Motorola	
										MCM414256-70	Motorola	45
										MCM51L4256A-70	Motorola	
										MCM514256A-70	Motorola	
								20		µPD424256-70	NEC	
						65	5	20		KM44C256C-7	Samsung	
										KM44C256CL-7	Samsung	50
										KM44C256CSL-7	Samsung	
										KM44C266C-7	Samsung	
						80	5	26		HYB514256B-70	Siemens	
										HYB514256BL-70	Siemens	
					3	85	5	26		MCM51L4256A-C70	Motorola	55
										MCM514256A-C70	Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	70	CMOS	TTL								(Cont'd)	
				Static Column	1	80	5	20		MT4C4258-7	MicronSemi	
					2	80	5	20		M5M44258B-7	Mitsubishi	
								26		MCM514258A-70	Motorola	
						65	5	20		KM44C258C-7	Samsung	
										KM44C268C-7	Samsung	5
	80	CMOS					5	20		M5M44266-8	Mitsubishi	
					2	70	5			**V53C104F-80**	**Mosel-Vitelic (3696)**	
				Fast Page	0.05	83	5	26		MN42C4256A-08	Panasonic	
			TTL		2	70	5	20		M5M44258BL-8	Mitsubishi	
				Fast Page			3.3	28		LH6V4256	ℓ Sharp	10
					0.2	50	5	26		MCM51L4256B-80	Motorola	
						70	5	20		μPD424256-80L	NEC	
					1	70	5	20		V53C104B-80	Mosel-Vitelic	
						50	5	26		MCM514256B-80	Motorola	
					1.0	35	3.3	20		**V53C104N-80**	ℓ **Mosel-Vitelic (3696)**	15
					2	68	5	20		**MB81C4256A-80**	**Fujitsu (3611)**	
						70	5	20		HY534256-80	Hyundai	
										HY534256A-80	Hyundai	
										HY534256AL-80	Hyundai	
						60	5	20		MT4C4256-8	MicronSemi	20
						65	5	20		MT4C4256-8L	MicronSemi	
						70	5	20		M5M44256B-8	Mitsubishi	
										M5M44256B-8L	Mitsubishi	
										M5M44266B-8	Mitsubishi	
								26		MCM41L4256-80	Motorola	25
										MCM414256-80	Motorola	
										MCM51L4256A-80	Motorola	
										MCM514256A-80	Motorola	
								20		μPD424256-80	NEC	
						60	5	20		KM44C256C-8	Samsung	30
										KM44C256CL-8	Samsung	
										KM44C256CSL-8	Samsung	
										KM44C266C-8	Samsung	
						70	5	26		HYB514256B-80	Siemens	
					3	75	5	26		MCM51L4256A-C80	Motorola	35
										MCM514256A-C80	Motorola	
				Static Column	1	70	5	20		MT4C4258-8	MicronSemi	
					2	70	5	20		M5M44258B-8	Mitsubishi	
								26		MCM514258A-80	Motorola	
						60	5	20		KM44C258C-8	Samsung	40
										KM44C268C-8	Samsung	
	100	CMOS					5	20	Refurbished	**514256-10**	**Krueger (3663)**	
			TTL		1.1	66	5	26		TC514256B-10	° Toshiba	
										TC514258B-10	° Toshiba	
										TC514266B-10	Toshiba	45
					2	60	5	20		M5M44258BL-10	Mitsubishi	
				Fast Page	0.2	60	5	20		μPD424256-10L	NEC	
					2	59	5	20		**MB81C4256A-10**	**Fujitsu (3611)**	
						60	5	20		M5M44256B-10	Mitsubishi	
										M5M44256B-10L	Mitsubishi	50
										M5M44266B-10	Mitsubishi	
										μPD424256-10	NEC	
				Static Column	2	60	5	20		M5M44258B-10	Mitsubishi	
								26		MCM514258A-10	Motorola	
		NMOS					5	20	Refurbished	**41256-100**	**Krueger (3663)**	55
	120	CMOS					5	20	Refurbished	**514256-12**	**Krueger (3663)**	
		NMOS					5	20	Refurbished	**41256-120**	**Krueger (3663)**	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
256Kx4											(Cont'd)
	150	NMOS					5	20	Refurbished	**41256-150**	**Krueger (3663)**
256Kx8	25	CMOS	TTL		5	50	5	28	SRAM: 256x8	MSM518221	OKI
	45	CMOS	TTL	Fast Page	1	160	5	20		**V53C8256H-45**	**Mosel-Vitelic (3696)**
	50	CMOS	TTL	Fast Page	1	150	5	20		**V53C8256H-50**	**Mosel-Vitelic (3696)**
	55	CMOS	TTL	Fast Page	1	145	5	20		**V53C8256H-55**	**Mosel-Vitelic (3696)**
	60	CMOS	TTL	Fast Page	1	135	5	20		**V53C8256H-60**	**Mosel-Vitelic (3696)**
						65	3.3	20		**V53C8256N-60**	ℓ **Mosel-Vitelic (3696)**
	70	CMOS	TTL	Fast Page	1	60	3.3	20		**V53C8256N-70**	ℓ **Mosel-Vitelic (3696)**
					4	160	5	30		MCM8L4256-70	Motorola
										MCM84256-70	Motorola
	80	CMOS	TTL	Fast Page	1	55	3.3	20		**V53C8256N-80**	ℓ **Mosel-Vitelic (3696)**
					4	140	5	30		MCM8L4256-80	Motorola
										MCM84256-80	Motorola
512Kx8	60	CMOS	TTL	Fast Page	2	120	5	28		M5M44800A-6	Mitsubishi
	70	CMOS					5	28		TC514800A-70	Toshiba
				Fast Page	0.2	110	5		Low Power	GM71C4800L-70	GoldStar
					1	110	5			GM71C4800-70	GoldStar
					2	135	5	20		HY524800-70	Hyundai
			TTL	Fast Page			5	28	Self-refresh	µPD42S4800-70	NEC
							3.3	28		µPD424800L-70	ℓ NEC
							5	28	Write-per-bit	µPD424810-70	NEC
					1	110	5	28		HM514800-7	Hitachi
					2	110	5	28		HM514800L-7	Hitachi
						105	5	28		M5M44800A-7	Mitsubishi
						120	5	28		µPD424800-70	NEC
				Static Column			5	28		µPD424802-70	NEC
									Write-per-bit	µPD424812-70	NEC
	80	CMOS					5	28		TC514800A-80	Toshiba
				Fast Page	0.2	100	5		Low Power	GM71C4800L-80	GoldStar
					1	100	5			GM71C4800-80	GoldStar
					2	115	5	20		HY524800-80	Hyundai
			TTL	Fast Page			5	28	Self-refresh	µPD42S4800-80	NEC
							3.3	28		µPD424800L-80	ℓ NEC
							5	28	Write-per-bit	µPD424810-80	NEC
					1	100	5	28		HM514800-8	Hitachi
					2	100	5	28		HM514800L-8	Hitachi
						90	5	28		M5M44800A-8	Mitsubishi
						110	5	28		µPD424800-80	NEC
				Static Column			5	28		µPD424802-80	NEC
									Write-per-bit	µPD424812-80	NEC
			TTL/CMOS	Fast Page	2	120	5	28		HY514800-80	Hyundai
	100	CMOS		Fast Page	0.2	90	5		Low Power	GM71C4800L-10	GoldStar
					1	90	5			GM71C4800-10	GoldStar
			TTL	Fast Page			5	28	Self-refresh	µPD42S4800-10	NEC
							3.3	28		µPD424800L-10	ℓ NEC
							5	28	Write-per-bit	µPD424810-10	NEC
					1	90	5	28		HM514800-10	Hitachi
					2	90	5	28		HM514800L-10	Hitachi
						75	5	28		M5M44800A-10	Mitsubishi
						100	5	28		µPD424800-10	NEC
				Static Column			5	28		µPD424802-10	NEC
									Write-per-bit	µPD424812-10	NEC
512Kx9	60	CMOS	TTL	Fast Page	2	130	5	28		M5M44900A-6	Mitsubishi
	70	CMOS					5	28		TC514900A-70	Toshiba
			TTL	Fast Page			5	28	Self-refresh	µPD42S4900-70	NEC
							3.3	28		µPD424900L-70	ℓ NEC

(Continued)

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　•Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx9	70	CMOS	TTL	Fast Page							(Cont'd)	
					0.3	100	5	28		µPD424900-70	NEC	
					1	110	5	28		HM514900-7	Hitachi	
					2	115	5	28		M5M44900A-7	Mitsubishi	
	80	CMOS					5	28		TC514900A-80	Toshiba	
			TTL	Fast Page			5	28	Self-refresh	µPD42S4900-80	NEC	5
							3.3	28		µPD424900L-80 ℓ	NEC	
					0.3	100	5	28		µPD424900-80	NEC	
					1	100	5	28		HM514900-8	Hitachi	
					2	100	5	28		M5M44900A-8	Mitsubishi	
	100	CMOS	TTL	Fast Page			5	28	Self-refresh	µPD42S4900-10	NEC	10
							3.3	28		µPD424900L-10 ℓ	NEC	
					0.3	100	5	28		µPD424900-10	NEC	
					1	90	5	28		HM514900-10	Hitachi	
					2	85	5	28		M5M44900A-10	Mitsubishi	
512Kx36	80	CMOS					5	72		MCM36512-80	Motorola	15
			TTL	Fast Page	9	820	5	72		251236-08	Intel	
	100	CMOS					5	72		MCM36512-10	Motorola	
			TTL	Fast Page	9	755	5	72		251236-10	Intel	
512Kx36	70	CMOS					5	72		MCM36512-70	Motorola	
512Kx8	50	CMOS	TTL	Fast Page	1	120	5	20		**V53C8512-50**	**Mosel-Vitelic (3696)**	20
	60	CMOS	TTL	Fast Page	0.2	120	5	28		MT4C8512-6L	MicronSemi	
					1	110	5	20		**V53C8512-60**	**Mosel-Vitelic (3696)**	
					2	120	5	28		MT4C8512-6	MicronSemi	
						100	5	28		µPD42S4800A-60	NEC	
							3.3	28		µPD42S4800L-A60 ℓ	NEC	25
							5	28		µPD42S4810A-60	NEC	
							3.3	28		µPD42S4810L-A60 ℓ	NEC	
							5	28		µPD424800A-60	NEC	
							3.3	28		µPD424800L-A60 ℓ	NEC	
							5	28		µPD424810A-60	NEC	30
							3.3	28		µPD424810L-A60 ℓ	NEC	
			TTL/CMOS	Fast Page	2	120	5	28		HY514800-60	Hyundai	
	70	CMOS				105	5	28		MCM34L800A-70	Motorola	
				Fast Page		105	5	28		MCM34800A-70	Motorola	
			TTL	Fast Page	1	110	5	28		MT4C8512-7	MicronSemi	35
						105	5	20		**V53C8512-70**	**Mosel-Vitelic (3696)**	
					2	110	5	28		MT4C8512-7L	MicronSemi	
						105	5	28		MCM5L4800A-70	Motorola	
										MCM5V4800A-70	Motorola	
										MCM54800A-70	Motorola	40
						90	5	28		µPD42S4800A-70	NEC	
						80	3.3	28		µPD42S4800L-A70 ℓ	NEC	
						90	5	28		µPD42S4810A-70	NEC	
						80	3.3	28		µPD42S4810L-A70 ℓ	NEC	
						90	5	28		µPD424800A-70	NEC	45
						70	3.3	28		µPD424800L-A70 ℓ	NEC	
						90	5	28		µPD424810A-70	NEC	
						80	3.3	28		µPD424810L-A70 ℓ	NEC	
						105	5	28		KM48C512-7	Samsung	
										KM48C512L-7	Samsung	50
										KM48C512LL-7	Samsung	
										KM48C512SL-7	Samsung	
			TTL/CMOS	Fast Page	2	120	5	28		HY514800-70	Hyundai	
	80	CMOS					5	28		MT4C8512-8	MicronSemi	
						90	5	28		MCM34L800A-80	Motorola	55
				Fast Page		90	5	28		MCM34800A-80	Motorola	
			TTL	Fast Page	2	100	5	28		MT4C8512-8L	MicronSemi	
						90	5	28		MCM5L4800A-80	Motorola	
										MCM5V4800A-80	Motorola	
										MCM54800A-80	Motorola	60
						80	5	28		µPD42S4800A-80	NEC	
						70	3.3	28		µPD42S4800L-A80 ℓ	NEC	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	80	CMOS	TTL	Fast Page	2						(Cont'd)	
						80	5	28		µPD42S4810A-80	NEC	
						70	3.3	28		µPD42S4810L-A80 ℓ	NEC	
						80	5	28		µPD424800A-80	NEC	
						70	3.3	28		µPD424800L-A80 ℓ	NEC	
						80	5	28		µPD424810A-80	NEC	5
						70	3.3	28		µPD424810L-A80 ℓ	NEC	
						90	5	28		KM48C512-8	Samsung	
										KM48C512L-8	Samsung	
										KM48C512LL-8	Samsung	
										KM48C512SL-8	Samsung	10
	100	CMOS					5	28		TC514800A-10	Toshiba	
			TTL	Fast Page	2	80	5	28		MCM5L4800A-10	Motorola	
										MCM5V4800A-10	Motorola	
										MCM54800A-10	Motorola	
							3.3	28		µPD42S4800L-A10 ℓ	NEC	15
						75	5	28		KM48C512-10	Samsung	
										KM48C512L-10	Samsung	
										KM48C512LL-10	Samsung	
										KM48C512SL-10	Samsung	
512Kx9	50	CMOS				35	5	32		TC59R0409	Toshiba	20
			TTL	Fast Page	1	105	5	20		**V53C9512-50**	**Mosel-Vitelic (3696)**	
	60			Fast Page	1	115	5			HY514900-60	Hyundai	
		CMOS	TTL	Fast Page	1	90	5	20		**V53C9512-60**	**Mosel-Vitelic (3696)**	
					2	120	5	28		µPD42S4900A-60	NEC	
						110	3.3	28		µPD42S4900L-A60 ℓ	NEC	25
						120	5	28		µPD424900A-60	NEC	
						110	3.3	28		µPD424900L-A60 ℓ	NEC	
	70			Fast Page	1	135	5			HY514900-70	Hyundai	
		CMOS				105	5	28		MCM3L4900A-70	Motorola	
						115	5	28		MCM5L4900A-70	Motorola	30
				Fast Page		105	5	28		MCM34900A-70	Motorola	
						115	5	28		MCM5V4900A-70	Motorola	
						105	5	28		MCM54900A-70	Motorola	
			TTL	Fast Page	1	75	5	20		**V53C9512-70**	**Mosel-Vitelic (3696)**	
					2	110	5	28		µPD42S4900A-70	NEC	35
						100	3.3	28		µPD42S4900L-A70 ℓ	NEC	
						110	5	28		µPD424900A-70	NEC	
						100	3.3	28		µPD424900L-A70 ℓ	NEC	
						110	5	28		KM49C512-7	Samsung	
										KM49C512L-7	Samsung	40
										KM49C512LL-7	Samsung	
										KM49C512SL-7	Samsung	
	80	CMOS				90	5	28		MCM3L4900A-80	Motorola	
						110	5	28		MCM5L4900A-80	Motorola	
				Fast Page		90	5	28		MCM34900A-80	Motorola	45
						100	5	28		MCM5V4900A-80	Motorola	
						90	5	28		MCM54900A-80	Motorola	
			TTL	Fast Page	2	100	5	28		µPD42S4900A-80	NEC	
						90	3.3	28		µPD42S4900L-A80 ℓ	NEC	
						100	5	28		µPD424900A-80	NEC	50
						90	3.3	28		µPD424900L-A80 ℓ	NEC	
						95	5	28		KM49C512-8	Samsung	
										KM49C512L-8	Samsung	
										KM49C512LL-8	Samsung	
										KM49C512SL-8	Samsung	55
	100	CMOS					5	28		TC514900A-10	Toshiba	
			TTL	Fast Page	2	90	3.3	28		µPD42S4900L-A10	NEC	
						80	5	28		KM49C512-10	Samsung	
										KM49C512L-10	Samsung	
										KM49C512LL-10	Samsung	60
										KM49C512SL-10	Samsung	
1Mx1	35	BiCMOS	TTL		5		5	28		HM571000-35R	Hitachi	
	40	BiCMOS	TTL		5		5	28		HM571000-40	Hitachi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx1											(Cont'd)	
	45	BiCMOS	TTL		5		5	28		HM571000-45	Hitachi	
		CMOS	TTL	Fast Page	0.15		5	18		V53C100HL-45L	Mosel-Vitelic	
	50	CMOS	TTL	Fast Page	0.15		5	18		V53C100HL-50L	Mosel-Vitelic	
					1		5	18		V53C1004-50L	Mosel-Vitelic	
	55	CMOS	TTL	Fast Page	0.15		5	18		V53C100HL-55L	Mosel-Vitelic	5
	60	CMOS					5	20		MN41C1000L-06	Panasonic	
								18		MN41C1002A-06	Panasonic	
								20		MN41C1002AL-06	Panasonic	
								18		HYB511000A-60	Siemens	
										TMS4C1024-60	° TI	10
				Fast Page	0.2	90	5	18	Low Power	GM71C1000L-60	GoldStar	
					1	90	5	18		GM71C1000-60	GoldStar	
				Nibble			5	20		MB81C1001A-60	Fujitsu	
			TTL		1	90	5	20		HM511002A-6	Hitachi	
					1.1	99	5	26		TC511001B-60	° Toshiba	15
										TC511002B-60	° Toshiba	
				Fast Page	0.15		5	18		V53C100HL-60L	Mosel-Vitelic	
					0.2		5	18		V53C100BL-60L	Mosel-Vitelic	
						90	5	18		MSM511000BL-60	OKI	
					1	90	5	20		HM511000A-6	Hitachi	20
										HM511000AL-6	Hitachi	
								18		V53C100B-60L	Mosel-Vitelic	
					2	90	5	20		MT4C1024-6	MicronSemi	
								18		MSM511000B-60	OKI	
								20		KM41C1000B-6	Samsung	25
										KM41C1000BL-6	Samsung	
					10	70	5	20		21010-06	Intel	
				Nibble	1	90	5	20		HM511001A-6	Hitachi	
					2	90	5	18		µPD421001-60	NEC	
										MSM511001B-60	OKI	30
						95	5	20		KM41C1001B-6	Samsung	
				Static Column	2	90	5	18		MSM511002B-60	OKI	
								20		KM41C1002B-6	Samsung	
					3	90	5	18		µPD421002-60	NEC	
	70		TTL/CMOS	Fast Page	2	80	5	18		21010-07	Intel	35
		CMOS					5	20		EDI411024C70B	EDI	
										MN41C1000L-07	Panasonic	
								18		MN41C1002A-07	Panasonic	
								20		MN41C1002AL-07	Panasonic	
								18		HYB511000A-70	Siemens	40
										TMS4C1024-70	° TI	
				Fast Page	0.2	70	5	18	Low Power	GM71C1000L-70	GoldStar	
					1	80	5	18		GM71C1000-70	GoldStar	
				Nibble			5	20		MB81C1001A-70	Fujitsu	
								18		KM41C1001A-07	Samsung	45
				Page			5	18		KM41C1000A-07	Samsung	
				Static Column			5	18		KM41C1002A-07	Samsung	
			TTL		1	80	5	20		HM511002A-7	Hitachi	
					1.1	88	5	18		TC511000A-70	° Toshiba	
										TC511001A-70	° Toshiba	50
								26		TC511001B-70	° Toshiba	
								18		TC511002A-70	° Toshiba	
								26		TC511002B-70	° Toshiba	
				Fast Page	0.2		5	18		V53C100BL-70L	Mosel-Vitelic	
						80	5	18		MSM511000BL-70	OKI	55
					1	80	5	20		HM511000A-7	Hitachi	
										HM511000AL-7	Hitachi	
								18		V53C100-70L	Mosel-Vitelic	
					2	80	5	20		MT4C1024-7	MicronSemi	
						85	5	18		MSM511000A-70	OKI	60
						80	5	18		MSM511000B-70	OKI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
											(Cont'd)
1Mx1	70	CMOS	TTL	Fast Page	2	80	5	20		KM41C1000B-7	Samsung
										KM41C1000BL-7	Samsung
								18		TC511000AL-70	Toshiba
				Nibble	1	80	5	20		HM511001A-7	Hitachi
					2	80	5	18		µPD421001-70	NEC
						85	5	18		MSM511001A-70	OKI
						80	5	18		MSM511001B-70	OKI
						85	5	20		KM41C1001B-7	Samsung
				Static Column	1	80	5	18		MCM511002-70	Motorola
					2	85	5	18		MSM511002A-70	OKI
						80	5	18		MSM511002B-70	OKI
								20		KM41C1002B-7	Samsung
					3	80	5	18		µPD421002-70	NEC
	80		TTL/CMOS	Fast Page	2	70	5	18		21010-08	Intel
		CMOS					5	18		MT4C1024-8	°† MicronSemi
										MN41C1000-08	Panasonic
								20		MN41C1000L-08	Panasonic
								18		MN41C1002-08	Panasonic
										MN41C1002A-08	Panasonic
								20		MN41C1002AL-08	Panasonic
										MN41C1002L-08	Panasonic
								18		HYB511000A-80	Siemens
										TMS4C1024-80	■ TI
										TMS4C1025-80	ℓ° TI
										TMS4C1027-80	° TI
				Fast Page	0.2	80	5	18	Low Power	GM71C1000L-80	GoldStar
				Nibble			5	18		KM41C1001A-08	Samsung
				Page			5	18		KM41C1000A-08	Samsung
				Static Column			5	18		KM41C1002A-08	Samsung
			TTL		1	70	5	20		HM511002A-8	Hitachi
					1.1	77	5	26		TC51000B-80	Toshiba
										TC511000B-80	° Toshiba
										TC511001B-80	• Toshiba
										TC511002B-80	° Toshiba
				Fast Page	0.2		5	18		V53C100BL-80L	Mosel-Vitelic
						50	5	26		MCM51L1000B-80	Motorola
						70	5	18		MSM511000BL-80	OKI
					1	70	5	20		HM511000A-8	Hitachi
										HM511000AL-8	Hitachi
								18		V53C100B-80L	Mosel-Vitelic
					2	75	5	18		MSM511000A-8A	OKI
										MSM511000A-80	OKI
						70	5	18		MSM511000B-80	OKI
								20		KM41C1000B-8	Samsung
										KM41C1000BL-8	Samsung
								18		TC511000AL-80	Toshiba
				Nibble	1	70	5	20		HM511001A-8	Hitachi
					2	70	5	18		µPD421001-80	NEC
						75	5	18		MSM511001A-8A	OKI
										MSM511001A-80	OKI
						70	5	18		MSM511001B-80	OKI
						75	5	20		KM41C1001B-8	Samsung
				Static Column	1	70	5	18		MCM511002-80	Motorola
					2	75	5	18		MSM511002A-8A	OKI
										MSM511002A-80	OKI
						70	5	18		MSM511002B-80	OKI
								20		KM41C1002B-8	Samsung
					3	70	5	18		µPD421002-80	NEC
	85	CMOS					5	18		MCM511001A-85	Motorola
										MCM511002A-85	Motorola
	100	CMOS					5	18		µPD42601	NEC
										MSM511000-10	OKI

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx1	100	CMOS					5	18		(Cont'd)		
										MSM511001-10	OKI	
										MSM511002-10	OKI	
										SMJ4C1024-10 °†	TI	
										TMS4C1024-10 °	TI	
										TMS4C1025-10 °	TI	5
										TMS4C1027-10 °	TI	
				Fast Page	0.2	60	5	18	Low Power	GM71C1000L-10	GoldStar	
					1	60	5	18		GM71C1000-10	GoldStar	
				Nibble			5	18		KM41C1001A-10	Samsung	
				Page			5	18		KM41C1000A-10	Samsung	10
				Static Column			5	18		KM41C1002A-10	Samsung	
			TTL		1	60	5	20		HM511002A-10	Hitachi	
				Fast Page	0.2	60	5	18		MCM51L1000A-10	Motorola	
						65	5	18		MCM511000A-C10	Motorola	
						60	5	18		MSM511000BL-10	OKI	15
					0.4	65	5	18		MCM51L1000A-C10	Motorola	
					1	60	5	20		HM511000A-10	Hitachi	
										HM511000AL-10	Hitachi	
								18		TC511000A-10	Toshiba	
					2	65	5	18		MSM511000A-1A	OKI	20
										MSM511000A-10	OKI	
						60	5	18		MSM511000B-10	OKI	
								20		KM41C1000B-10	Samsung	
										KM41C1000BL-10	Samsung	
								18		TC511000AL-10	Toshiba	25
					10	90	5	20		21010-10	Intel	
				Nibble	1	60	5	20		HM511001A-10	Hitachi	
					2	60	5	18		μPD421001-10	NEC	
						65	5	18		MSM511001A-1A	OKI	
										MSM511001A-10	OKI	30
						60	5	18		MSM511001B-10	OKI	
						65	5	20		KM41C1001B-10	Samsung	
						60	5	18		TC511001A-10	Toshiba	
				Static Column	1	60	5	18		MCM511002-10	Motorola	
					2	65	5	18		MSM511002A-1A	OKI	35
										MSM511002A-10	OKI	
						60	5	18		MSM511002B-10	OKI	
								20		KM41C1002B-10	Samsung	
					3	60	5	18		μPD421002-10	NEC	
	120	CMOS					5	18		GM71C1000-12	GoldStar	40
										MCM511000A-12	Motorola	
										MCM511001A-12	Motorola	
										MCM511002A-12	Motorola	
										μPD421000-12	NEC	
										μPD421001-12	NEC	45
										μPD421002-12	NEC	
										MSM511000-12	OKI	
										MSM511001-12	OKI	
										MSM511002-12	OKI	
										SMJ4C1024-12 °†	TI	50
										TMS4C1024-12 °	TI	
										TMS4C1025-12 °	TI	
										TMS4C1027-12 °	TI	
			TTL		1	50	5	20		HM511002A-12	Hitachi	
				Fast Page	1	50	5	20		HM511000A-12	Hitachi	55
										HM511000AL-12	Hitachi	
				Nibble	1	50	5	20		HM511001A-12	Hitachi	
	150	CMOS					5	20		EDI411024C150B	EDI	
								18		SMJ4C1024-15 °†	TI	
1Mx4	10	CMOS		Cached			5	44	1Mx4 DRAM; 4Kx4 SRAM	M5M44409-10	Mitsubishi	60
	15	CMOS	Common	Fast Page	1	80		28	Static Column, Write Per Bit	DM2212J-15	Ramtron	
	35	BiCMOS	TTL		5		5	32		HM574400-35	Hitachi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose											**(Cont'd)**	
1Mx4											(Cont'd)	
	40	BiCMOS	TTL		5		5	32		HM574400-40	Hitachi	
	45	BiCMOS	TTL		5		5	32		HM574400-45	Hitachi	
	60	CMOS		Fast Page	0.1	110	5	20	Low Power	GM71C4400ASL-60	GoldStar	
					0.2	110	5	20	Low Power	GM71C4400AL-60	GoldStar	
					1	110	5	20		GM71C4400A-60	GoldStar	5
			TTL		1.1	132	5	26		TC514400A-60	Toshiba	
										TC514402A-60 •	Toshiba	
										TC514410A-60	Toshiba	
				Fast Page	1	110	5	20		HM514400A-6	Hitachi	
										HM514400ASL-6	Hitachi	10
										HM514410A-6	Hitachi	
					2	110	5	20		HY514410A-60	Hyundai	
										HY514410AL-60	Hyundai	
						120	5	20		TC514400L-60	Toshiba	
				Static Column	2	100	5	26		M544402A-6	Mitsubishi	15
			TTL/CMOS	Fast Page	2	100	5	20		HY514400-60	Hyundai	
	70		TTL/CMOS	Fast Page	2	105	5	26		21044-07	Intel	
		CMOS					5	26		MN414400ASJ-07	Panasonic	
								32		MN414400AT-07	Panasonic	
										MN414400ATT-07	Panasonic	20
								20		MN424400AL-07	Panasonic	
								26		MN424400ASJ-07	Panasonic	
								32		MN424400AT-07	Panasonic	
										MN424400ATT-07	Panasonic	
								26		MN424400AWJ-07	Panasonic	25
				Fast Page	0.1	100	5	20	Low Power	GM71C4400ASL-70	GoldStar	
					0.2	100	5	20	Low Power	GM71C4400AL-70	GoldStar	
					1	100	5	20		GM71C4400A-70	GoldStar	
			TTL		1.1	110	5	26		TC514400A-70	Toshiba	
										TC514402A-70 •	Toshiba	30
										TC514410A-70	Toshiba	
				Fast Page	0.2	90	5	26		MSM514400AL-70	OKI	
										MSM514410AL-70	OKI	
					0.4		5	26		V53C404L-70L	Mosel-Vitelic	
					1	100	5	20		HM514400A-7	Hitachi	35
										HM514400AL-7	Hitachi	
										HM514400ASL-7	Hitachi	
										HM514410A-7	Hitachi	
								26		V53C404-70L	Mosel-Vitelic	
						100	5	26		MCM54410A-70	Motorola	40
					2	100	5	20		HY514410A-70	Hyundai	
										HY514410AL-70	Hyundai	
										MSM514400-70	OKI	
						90	5	26		MSM514400A-70	OKI	
										MSM514410A-70	OKI	45
						100	5	20		TC514400AL-70	Toshiba	
				Static Column	0.2	90	5	26		MSM514402AL-70	OKI	
										MSM514412AL-70	OKI	
					2	100	5	20		MSM514402-70	OKI	
						90	5	26		MSM514402A-70	OKI	50
										MSM514412A-70	OKI	
	80		TTL/CMOS	Fast Page	2	95	5	26		21044-08	Intel	
		CMOS					5	18		MCM51L4400-80	Motorola	
										MCM514400-80	Motorola	
										MCM514410-80	Motorola	55
								26		MN414400ASJ-08	Panasonic	
								32		MN414400AT-08	Panasonic	
										MN414400ATT-08	Panasonic	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx4	80	CMOS					5				(Cont'd)	
								20		MN424400AL-08	Panasonic	
								26		MN424400ASJ-08	Panasonic	
								32		MN424400AT-08	Panasonic	
										MN424400ATT-08	Panasonic	
								26		MN424400AWJ-08	Panasonic	5
								20		KM44C1000-08	Samsung	
										KM44C1002-08	Samsung	
								26		TMS44400-80	° TI	
				Fast Page	0.1	90	5	20	Low Power	GM71C4400ASL-80	GoldStar	
					0.2	90	5	20	Low Power	GM71C4400AL-80	GoldStar	10
					1	90	5	20		GM71C4400A-80	GoldStar	
			TTL		1.1	94	5	26		TC514400A-80	Toshiba	
										TC514402A-80	° Toshiba	
										TC514410A-80	Toshiba	
				Fast Page	0.15	60	3.3	26		TC51V4400A-80	ℓ Toshiba	15
					0.2	80	5	26		MSM514400AL-80	OKI	
										MSM514410AL-80	OKI	
					0.4		5	26		V53C404L-80L	Mosel-Vitelic	
					1	90	5	20		HM514400-8	Hitachi	
										HM514400A-8	Hitachi	20
										HM514400AL-8	Hitachi	
										HM514400ASL-8	Hitachi	
										HM514410-8	Hitachi	
										HM514410A-8	Hitachi	
								26		V53C404-80L	Mosel-Vitelic	25
						85	5	26		MCM54410A-80	Motorola	
					1.1	94	5	20		TC514400-80	Toshiba	
										TC514410-80	Toshiba	
					2	90	5	20		HM514400L-8	Hitachi	
										HY514400A-80	Hyundai	30
										HY514400AL-80	Hyundai	
										HY514410A-80	Hyundai	
										HY514410AL-80	Hyundai	
										MSM514400-8	OKI	
										MSM514400-8A	OKI	35
										MSM514400-80	OKI	
						80	5	26		MSM514400A-80	OKI	
										MSM514410A-80	OKI	
						85	5	20		TC514400AL-80	Toshiba	
				Nibble	1.1	94	5	20		TC514402-80	° Toshiba	40
				Static Column	0.2	80	5	26		MSM514402AL-80	OKI	
										MSM514412AL-80	OKI	
					2	90	5	20		MSM514402-8	OKI	
										MSM514402-8A	OKI	
										MSM514402-80	OKI	45
						80	5	26		MSM514402A-80	OKI	
										MSM514412A-80	OKI	
	100	CMOS					5	26		MCM41000-10	Motorola	
								18		MCM51L4400-10	Motorola	
										MCM514400-10	Motorola	50
										MCM514410-10	Motorola	
								26		TMS44400-10	° TI	
			TTL	Fast Page	0.15	55	3.3	26		TC51V4400A-10	ℓ Toshiba	
					0.2	70	5	26		MSM514400AL-10	OKI	
										MSM514410AL-10	OKI	55
					0.4		5	26		V53C404L-10L	Mosel-Vitelic	
					1	80	5	20		HM514400-10	Hitachi	
										HM514400A-10	Hitachi	
										HM514400AL-10	Hitachi	
										HM514400ASL-10	Hitachi	60
										HM514410-10	Hitachi	
										HM514410A-10	Hitachi	
						70	5	26		V53C404-10	Mosel-Vitelic	
										V53C404-10L	Mosel-Vitelic	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose											**(Cont'd)**	
1Mx4	100	CMOS	TTL	Fast Page							(Cont'd)	
					1.1	83	5	20		TC514410-10	Toshiba	
					2	80	5	20		HM514400L-10	Hitachi	
								26		µPD424400-10	NEC	
								20		MSM514400-10	OKI	
						70	5	26		MSM514400A-10	OKI	5
										MSM514410A-10	OKI	
						75	5	20		TC514400AL-10	Toshiba	
				Nibble	1.1	83	5	20		TC514402-10	° Toshiba	
				Static Column	0.2	70	5	26		MSM514402AL-10	OKI	
										MSM514412AL-10	OKI	10
					2	65	5	26		M5M44412A-10	Mitsubishi	
						80	5	20		MSM514402-10	OKI	
						70	5	26		MSM514402A-10	OKI	
										MSM514412A-10	OKI	
	120	CMOS	TTL	Fast Page	1	70	5	20		HM514400-12	Hitachi	15
										HM514410-12	Hitachi	
					2	70	5	20		HM514400L-12	Hitachi	
1Mx8	70	CMOS					5	30		MCM81001-70	Motorola	
										MCM81002-70	Motorola	
	80	CMOS					5	30		MCM81001-80	Motorola	20
										MCM81002-80	Motorola	
	100	CMOS					5	30		MCM8L1000-10	Motorola	
										MCM81000-10	Motorola	
										MCM81001-10	Motorola	
										MCM81002-10	Motorola	25
			TTL	Fast Page	8	520	5	30		MSC2313-10	OKI	
	120	CMOS	TTL	Fast Page	8	520	5	30		MSC2313-12	OKI	
1Mx9	60	CMOS	TTL	Common	9	810	5	30		21019-06	Intel	
	70	CMOS					5	30		MCM9L1000-70	Motorola	
										MCM91000-70	Motorola	30
										MCM91001-70	Motorola	
										MCM91002-70	Motorola	
			TTL	Common	9	720	5	30		21019-07	Intel	
				Fast Page	18	720	5	30		THM91000AL-70	Toshiba	
	80	CMOS					5	30		MCM9L1000-80	Motorola	35
										MCM91000-80	Motorola	
										MCM91001-80	Motorola	
										MCM91002-80	Motorola	
			TTL	Common	9	675	5	30		21019-08	Intel	
				Fast Page	18	630	5	30		THM91000AL-80	Toshiba	40
	100	CMOS					5	30		MCM9L1000-10	Motorola	
										MCM91000-10	Motorola	
										MCM91001-10	Motorola	
										MCM91002-10	Motorola	
			TTL	Common	9	540	5	30		21019-10	Intel	45
				Fast Page	9	585	5	30		MSC2312-10	OKI	
					18	540	5	30		THM91000AL-10	Toshiba	
	120	CMOS	TTL	Fast Page	9	585	5	30		MSC2312-12	OKI	
1Mx32	80	CMOS					5	48		MD321000-80	Mosaic Semi	
	100	CMOS					5	48		MD321000-10	Mosaic Semi	50
	120	CMOS					5	48		MD321000-12	Mosaic Semi	
1Mx1	45	CMOS		Enhanced Page	1	60	5	18		AAA1M300-45	NMB	
			TTL	Fast Page	1		5	18		**V53C100H-45**	**Mosel-Vitelic (3696)**	
										V53C100H-45L	**Mosel-Vitelic (3696)**	
	50	CMOS		Enhanced Page	1	80	5	18		AAA1M300-05	NMB	55
			TTL	Fast Page	1		5	18		**V53C100H-50**	**Mosel-Vitelic (3696)**	
										V53C100H-50L	**Mosel-Vitelic (3696)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx1											(Cont'd)	
	55	CMOS	TTL	Fast Page	1		5	18		**V53C100H-55**	**Mosel-Vitelic (3696)**	
										V53C100H-55L	**Mosel-Vitelic (3696)**	
	60	CMOS					5	18		**MB81C1000A-60L**	**Fujitsu (3610)**	
										MB81C1001A-60L	Fujitsu	
					2	75	5			**V53C100F-60**	**Mosel-Vitelic (3696)**	5
				Enhanced Page	1	80	5	18		AAA1M300-06	NMB	
				Fast Page	0.05	93	5	18		MN41C1000A-06	Panasonic	
					0.05	93	5	26		MN42C1000A-06	Panasonic	
			TTL		1.1	99	5	26		TC511000B-60	° Toshiba	
				Fast Page	0.2	90	5	18		µPD421000-60L	NEC	10
					1		5	18		V53C100B-60	Mosel-Vitelic	
						85	5	18		**V53C100H-60**	**Mosel-Vitelic (3696)**	
										V53C100H-60L	**Mosel-Vitelic (3696)**	
					1.0	45	3.3	18		**V53C100N-60**	ℓ **Mosel-Vitelic (3696)**	
					2	80	5	18		**MB81C1000A-60**	**Fujitsu (3610)**	15
						85	5	18		HY531000A-60	Hyundai	
										HY531000AL-60	Hyundai	
						90	5	26		MCM51L1000B-60	Motorola	
										MCM511000B-60	Motorola	
								18		µPD421000-60	NEC	20
						70	5	20		KM41C1000C-6	Samsung	
										KM41C1000CL-6	Samsung	
										KM41C1000CSL-6	Samsung	
						90	5	26		HYB511000B-60	Siemens	
										HYB511000BL-60	Siemens	25
								18		TC511000BL-60	Toshiba	
				Nibble	2	70	5	20		KM41C1001C-6	Samsung	
				Static Column	2	70	5	20		KM41C1002C-6	Samsung	
			TTL/CMOS	Fast Page	2	85	5	18		HY531000-60	Hyundai	
	70	CMOS					5	18		**MB81C1000A-70L**	**Fujitsu (3610)**	30
										MB81C1001A-70L	Fujitsu	
										MT4C1026-7	MicronSemi	
					2	75	5			**V53C100F-70**	**Mosel-Vitelic (3696)**	
				Enhanced Page	1	70	5	18		AAA1M300-07	NMB	
				Fast Page		80	5	20		MCM41000-70	Motorola	35
					0.05	88	5	18		MN41C1000A-07	Panasonic	
								26		MN42C1000A-07	Panasonic	
			TTL		1.1	88	5	26		TC511000B-70	‡ Toshiba	
					2	80	5	20		M5M41001BL-7	Mitsubishi	
										M5M41002BL-7	Mitsubishi	40
				Fast Page	0.2	75	5	20	Low Power	MT4C1024-7L	MicronSemi	
						80	5	18		µPD421000-70L	NEC	
					1		5	18		V53C100B-70	Mosel-Vitelic	
					1.0	40	3.3	18		**V53C100N-70**	ℓ **Mosel-Vitelic (3696)**	
					2	80	5	18		**MB81C1000A-70**	**Fujitsu (3610)**	45
						75	5	18		HY531000A-70	Hyundai	
										HY531000AL-70	Hyundai	
						80	5	20		M5M41000B-7	° Mitsubishi	
										M5M41000B-7L	Mitsubishi	
						75	5	18		MS511000-70	Mosel-Vitelic	50
						80	5	26		MCM41L1000-70	Motorola	
										MCM411000-70	Motorola	
										MCM51L1000A-70	Motorola	
										MCM511000A-70	Motorola	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose											**(Cont'd)**	
1Mx1	70	CMOS	TTL	Fast Page	2	80	5				(Cont'd)	
								18		µPD421000-70	NEC	
						65	5	20		KM41C1000C-7	Samsung	
										KM41C1000CL-7	Samsung	
										KM41C1000CSL-7	Samsung	
						80	5	26		HYB511000B-70	Siemens	5
										HYB511000BL-70	Siemens	
					3	85	5	26		MCM51L1000A-C70	Motorola	
										MCM511000A-C70	Motorola	
				Nibble	2	80	5	20		M5M41001B-7	Mitsubishi	
								26		MCM511001A-70	Motorola	10
						65	5	20		KM41C1001C-7	Samsung	
				Static Column								
					2	80	5	20		M5M41002B-7	Mitsubishi	
								18		MCM511002A-70	Motorola	
						65	5	20		KM41C1002C-7	Samsung	
			TTL/CMOS									
				Fast Page	2	85	5	18		HY531000-70	Hyundai	15
	80	CMOS					5	18		**MB81C1000A-80L**	**Fujitsu (3610)**	
										MT4C1026-8	MicronSemi	
					2	70	5			**V53C100F-80**	**Mosel-Vitelic (3696)**	
				Fast Page	0.05	83	5	20		MN41C1000A-08	Panasonic	
								26		MN42C1000A-08	Panasonic	20
					1	70	5	18		GM71C1000-80	GoldStar	
				Nibble	2	70	5	24		MDM11001-80	Mosaic Semi	
										MDM11001I-80	Mosaic Semi	
										MDM11001M-80 †	Mosaic Semi	
										MDM11001MB-80 †	Mosaic Semi	25
				Page			5	18		MDM11000-80	Mosaic Semi	
			TTL		1.1	77	5	18		TC511000A-80 °	Toshiba	
										TC511001A-80 °	Toshiba	
										TC511002A-80 °	Toshiba	
					2	70	5	20		M5M41001BL-8	Mitsubishi	30
										M5M41002BL-8	Mitsubishi	
				Fast Page	0.2	65	5	20	Low Power	MT4C1024-8L	MicronSemi	
						70	5	18		µPD421000-80L	NEC	
					1	70	5	18		V53C100B-80	Mosel-Vitelic	
								26		MCM511000B-80	Motorola	35
					1.0	35	3.3	18		**V53C100N-80** ℓ	**Mosel-Vitelic (3696)**	
					2	68	5	18		**MB81C1000A-80**	**Fujitsu (3610)**	
						65	5	18		HY531000A-80	Hyundai	
										HY531000AL-80	Hyundai	
						70	5	20		M5M41000B-8 °	Mitsubishi	40
										M5M41000B-8L	Mitsubishi	
								18		MS511000-80	Mosel-Vitelic	
								26		MCM41L1000-80	Motorola	
										MCM411000-80	Motorola	
										MCM51L1000A-80	Motorola	45
						80	5	26		MCM511000A-80	Motorola	
						70	5	18		µPD421000-80	NEC	
						60	5	20		KM41C1000C-8	Samsung	
										KM41C1000CL-8	Samsung	
										KM41C1000CSL-8	Samsung	50
						70	5	26		HYB511000B-80	Siemens	
					3	75	5	26		MCM51L1000A-C80	Motorola	
										MCM511000A-C80	Motorola	
				Nibble	2	70	5	20		M5M41001B-8	Mitsubishi	
								26		MCM511001A-80	Motorola	55
						60	5	20		KM41C1001C-8	Samsung	
				Static Column								
					2	70	5	20		M5M41002B-8	Mitsubishi	
								26		MCM511002A-80	Motorola	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance °Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx1	80	CMOS	TTL	Static Column	2	60	5	20		KM41C1002C-8	(Cont'd) Samsung	
			TTL/CMOS	Fast Page	2	85	5	18		HY531000-80	Hyundai	
	85	CMOS					5	18		MCM511000A-85	Motorola	
	100	CMOS					5	18		**MB81C1000A-10L**	**Fujitsu (3610)**	
									Refurbished	**511000-10**	**Krueger (3663)**	5
				Nibble	2	60	5	24		MDM11001-10	Mosaic Semi	
										MDM11001I-10	Mosaic Semi	
										MDM11001M-10	† Mosaic Semi	
										MDM11001MB-10	† Mosaic Semi	
				Page			5	18		MDM11000-10	Mosaic Semi	10
			TTL		1.1	66	5	26		TC511000B-10	° Toshiba	
										TC511001B-10	° Toshiba	
					2	60	5	20		M5M41001BL-10	Mitsubishi	
										M5M41002BL-10	Mitsubishi	
				Fast Page	0.2	60	5	18		µPD421000-10L	NEC	15
					1	60	5	18		MCM511000A-10	Motorola	
					2	60	5	18		**MB81C1000A-10**	**Fujitsu (3610)**	
								20		M5M41000B-10	° Mitsubishi	
										M5M41000B-10L	Mitsubishi	
								18		MS511000-10	Mosel-Vitelic	20
										µPD421000-10	NEC	
				Nibble	2	60	5	20		M5M41001B-10	Mitsubishi	
								26		MCM511001A-10	Motorola	
				Static Column	2	60	5	20		M5M41002B-10	Mitsubishi	
								26		MCM511002A-10	Motorola	25
								18		TC511002A-10	Toshiba	
				1.1	66		5	26		TC511002B-10	° Toshiba	
	120	CMOS					5	18	Refurbished	**511000-12**	**Krueger (3663)**	
				Nibble	2	50	5	24		MDM11001-12	Mosaic Semi	
										MDM11001I-12	Mosaic Semi	30
										MDM11001M-12	† Mosaic Semi	
										MDM11001MB-12	† Mosaic Semi	
				Page			5	18		MDM11000-12	Mosaic Semi	
			TTL	Fast Page	2	50	5	18		MS511000-12	Mosel-Vitelic	
	150	CMOS		Page			5	18		MDM11000-15	Mosaic Semi	35
	600	CMOS					5	18		µPD42601-60	NEC	
1Mx16	50	CMOS	TTL	Fast Page	2	110	5	42		µPD42S16160-50	NEC	
						130	5	42		µPD42S17160-50	NEC	
						170	5	42		µPD42S18160-50	NEC	
						110	5	42		µPD4216160-50	NEC	40
						130	5	42		µPD4217160-50	NEC	
										µPD421760-50	NEC	
						170	5	42		µPD4218160-50	NEC	
	60	CMOS		Fast Page			5	40		M5M4V416160-6	ℓ Mitsubishi	
										M5M416160-6	Mitsubishi	45
			TTL		1.1	105	5	42		**TC5116160A-60**	**Toshiba (3811)**	
				Fast Page	1	130	3	44	2 CAS	MT4LC1M16C3-6	ℓ MicronSemi	
									2 CAS, Self Refresh	MT4LC1M16C3-6S	ℓ MicronSemi	
					2	170	5	42	2 CAS	MT4C1M16C3-6	MicronSemi	
									2 CAS, Self Refresh	MT4C1M16C3-6S	MicronSemi	50
						100	5	42		µPD42S16160-60	NEC	
						90	3.3	42		µPD42S16160L-A60	ℓ NEC	
						120	5	42		µPD42S17160-60	NEC	
						110	33	42		µPD42S17160L-A60	NEC	
						160	5	42		µPD42S18160-60	NEC	55
						150	3.3	42		µPD42S18160L-A60	ℓ NEC	
						100	5	42		µPD4216160-60	NEC	
						90	3.3	42		µPD4216160L-A60	ℓ NEC	
						120	5	42		µPD4217160-60	NEC	
						110	3.3	42		µPD4217160L-A60	ℓ NEC	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
1Mx16	60	CMOS	TTL	Fast Page	2						(Cont'd)
						120	5	42		μPD421760-60	NEC
						110	3.3	42		μPD421760L-A60	ℓ NEC
						160	5	42		μPD4218160-60	NEC
						150	3.3	42		μPD4218160L-A60	ℓ NEC
	70	CMOS		Fast Page			5	40		M5M4V416160-7	ℓ Mitsubishi
										M5M416160-7	Mitsubishi
			TTL				3.3	42		M5M4V16170A-7	ℓ Mitsubishi
										M5M4V16170A-7S	ℓ Mitsubishi
										M5M4V18160A-7	ℓ Mitsubishi
										M5M4V18160A-7S	ℓ Mitsubishi
							5	42		M5M416170A-7	Mitsubishi
										M5M418160A-7	Mitsubishi
										M5M418160A-7S	Mitsubishi
					1.1	88	5	42		**TC5116160A-70**	**Toshiba** **(3811)**
						154	5	42		**TC5118160A-70**	**Toshiba** **(3812)**
				Fast Page	1	120	3	44	2 CAS	MT4LC1M16C3-7	ℓ MicronSemi
									2 CAS, Self Refresh	MT4LC1M16C3-7S	ℓ MicronSemi
					2	160	5	42	2 CAS	MT4C1M16C3-7	MicronSemi
									2 CAS, Self Refresh	MT4C1M16C3-7S	MicronSemi
						90	5	42		μPD42S16160-70	ℓ NEC
						80	3.3	42		μPD42S16160L-A70	ℓ NEC
						110	5	42		μPD42S17160-70	NEC
						100	33	42		μPD42S17160L-A70	ℓ NEC
						150	5	42		μPD42S18160-70	NEC
						140	3.3	42		μPD42S18160L-A70	ℓ NEC
						90	5	42		μPD4216160-70	NEC
						80	3.3	42		μPD4216160L-A70	ℓ NEC
						110	5	42		μPD4217160-70	NEC
						100	3.3	42		μPD4217160L-A70	ℓ NEC
						110	5	42		μPD421760-70	NEC
						100	3.3	42		μPD421760L-A70	ℓ NEC
						150	5	42		μPD4218160-70	NEC
						140	3.3	42		μPD4218160L-A70	ℓ NEC
						100	5	42		KM416C1000-7	Samsung
						160	5	42		KM416C1200-7	Samsung
	80	CMOS		Fast Page			5	40		M5M4V416160-8	ℓ Mitsubishi
										M5M416160-8	Mitsubishi
			TTL		1.1	132	5	42		**TC5118160A-80**	**Toshiba** **(3812)**
				Fast Page	1	100	3	44	2 CAS	MT4LC1M16C3-8	ℓ MicronSemi
									2 CAS, Self Refresh	MT4LC1M16C3-8S	ℓ MicronSemi
					2	140	5	42	2 CAS	MT4C1M16C3-8	MicronSemi
									2 CAS, Self Refresh	MT4C1M16C3-8S	MicronSemi
						80	5	42		μPD42S16160-80	NEC
						70	3.3	42		μPD42S16160L-A80	ℓ NEC
						100	5	42		μPD42S17160-80	NEC
						90	33	42		μPD42S17160L-A80	ℓ NEC
						140	5	42		μPD42S18160-80	NEC
						130	3.3	42		μPD42S18160L-A80	ℓ NEC
						80	5	42		μPD4216160-80	NEC
						70	3.3	42		μPD4216160L-A80	ℓ NEC
						100	5	42		μPD4217160-80	NEC
						90	3.3	42		μPD4217160L-A80	ℓ NEC
						100	5	42		μPD421760-80	NEC
						90	3.3	42		μPD421760L-A80	ℓ NEC
						140	5	42		μPD4218160-80	NEC
						130	3.3	42		μPD4218160L-A80	ℓ NEC
						90	5	42		KM416C1000-8	Samsung
						140	5	42		KM416C1200-8	Samsung
	100	CMOS	TTL		16	80	3.3	50	Synchronous	μPD42116162-10	ℓ NEC
				Fast Page	2	80	5	42		KM416C1000-10	Samsung
						120	5	42		KM416C1200-10	Samsung
	150	CMOS	TTL		16	70	3.3	50	Synchronous	μPD42116162-15	ℓ NEC
	200	CMOS	TTL		16	60	3.3	50	Synchronous	μPD42116162-20	ℓ NEC
1Mx18	50	CMOS	TTL	Fast Page	2	120	5	42		μPD42S16180-50	NEC
						140	5	42		μPD42S17180-50	NEC

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx18	50	CMOS	TTL	Fast Page	2						(Cont'd)	
						190	5	42		μPD42S18180-50	NEC	
						120	5	42		μPD4216180-50	NEC	
						140	5	42		μPD4217180-50	NEC	
						190	5	42		μPD4218180-50	NEC	
	60	CMOS	TTL	Fast Page	2	110	5	42		μPD42S16180-60	NEC	5
						100	3.3	42		μPD42S16180L-A60 ℓ	NEC	
						130	5	42		μPD42S17180-60	NEC	
						120	3.3	42		μPD42S17180L-A60 ℓ	NEC	
						180	5	42		μPD42S18180-60	NEC	
						170	3.3	42		μPD42S18180L-A60 ℓ	NEC	10
						110	5	42		μPD4216180-60	NEC	
						100	3.3	42		μPD4216180L-A60 ℓ	NEC	
						130	5	42		μPD4217180-60	NEC	
						120	3.3	42		μPD4217180L-A60 ℓ	NEC	
						180	5	42		μPD4218180-60	NEC	15
						170	3.3	42		μPD4218180L-A60 ℓ	NEC	
	70	CMOS	TTL	Fast Page	2	100	5	42		μPD42S16180-70	NEC	
						90	3.3	42		μPD42S16180L-A70 ℓ	NEC	
						120	5	42		μPD42S17180-70	NEC	
						110	3.3	42		μPD42S17180L-A70 ℓ	NEC	20
						170	5	42		μPD42S18180-70	NEC	
						160	3.3	42		μPD42S18180L-A70 ℓ	NEC	
						100	5	42		μPD4216180-70	NEC	
						90	3.3	42		μPD4216180L-A70 ℓ	NEC	
						120	5	42		μPD4217180-70	NEC	25
						110	3.3	42		μPD4217180L-A70 ℓ	NEC	
						170	5	42		μPD4218180-70	NEC	
						160	3.3	42		μPD4218180L-A70 ℓ	NEC	
	80	CMOS	TTL	Fast Page	2	90	5	42		μPD42S16180-80	NEC	
						80	3.3	42		μPD42S16180L-A80 ℓ	NEC	30
						110	5	42		μPD42S17180-80	NEC	
						100	3.3	42		μPD42S17180L-A80 ℓ	NEC	
						160	5	42		μPD42S18180-80	NEC	
						150	3.3	42		μPD42S18180L-A80 ℓ	NEC	
						90	5	42		μPD4216180-80	NEC	35
						80	3.3	42		μPD4216180L-A80 ℓ	NEC	
						110	5	42		μPD4217180-80	NEC	
						100	3.3	42		μPD4217180L-A80 ℓ	NEC	
						160	5	42		μPD4218180-80	NEC	
						150	3.3	42		μPD4218180L-A80 ℓ	NEC	40
	100	CMOS	TTL		16	80	3.3	50	Synchronous	μPD42116182-10 ℓ	NEC	
	150	CMOS	TTL		16	70	3.3	50	Synchronous	μPD42116182-15 ℓ	NEC	
	200	CMOS	TTL		16	60	3.3	50	Synchronous	μPD42116182-20 ℓ	NEC	
1Mx36	15	CMOS		Fast Page	45	720		72	Static Column	DM1M36SJ-15	Ramtron	
	20	CMOS		Fast Page	45	720		72	Static Column	DM1M36SJ-20	Ramtron	45
1Mx4	15	CMOS		Cached			5	44	1Mx4 DRAM; 4Kx4 SRAM	M5M44409-15	Mitsubishi	
			Common	Fast Page	1	80		28	Static Column	DM2202J-15	Ramtron	
	20	CMOS		Cached			5	44	1Mx4 DRAM; 4Kx4 SRAM	M5M44409-20	Mitsubishi	
			Common	Fast Page	1	80		28	Static Column	DM2202J-20	Ramtron	
									Static Column, Write Per Bit	DM2212J-20	Ramtron	50
	40	CMOS		Enhanced Page	1	130	5	20		AAA4M204-04	NMB	
										AAA4M204-04L	NMB	
	45	CMOS		Enhanced Page	1	130	5	20		AAA4M204-45	NMB	
										AAA4M204-45L	NMB	
	50	CMOS		Enhanced Page	1	120	5	20		AAA4M204-05	NMB	55
										AAA4M204-05L	NMB	
			TTL	Fast Page	2	100	5	26		μPD42S4400A-50	NEC	
										μPD424400A-50	NEC	
	60	CMOS					5	26	Self Refresh	M5M44402B-6S	Mitsubishi	
				Enhanced Page	1	110	5	20		AAA4M204-06	NMB	60
										AAA4M204-06L	NMB	
				Fast Page			5	26	Self Refresh	M5M44400B-6S	Mitsubishi	
										M5M44410B-6S	Mitsubishi	
										M5M44410BL-6S	Mitsubishi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx4	60	CMOS		Fast Page							(Cont'd)	
						120	5	26		MCM34400A-60	Motorola	
				Static			5	26	Self Refresh	M5M44412A-6S	Mitsubishi	
			CMOS/TTL	Fast Page	1	70	3.3	26		MT4LC4001J-6S	MicronSemi	
			TTL		2	100	5	26		M5M44402B-6	Mitsubishi	
										M5M44402BL-6	Mitsubishi	5
										M5M44402BL-6S	Mitsubishi	
				Fast Page	1	110	5	20		HM514400AL-6	Hitachi	
										MT4C4001J-6	MicronSemi	
						120	5	26		MCM54410A-60	Motorola	
					2	121	5	26		**MB814400A-60**	**Fujitsu (3613)**	10
						110	5	20		HY514400A-60	Hyundai	
										HY514400AL-60	Hyundai	
						90	5	28		MT4C4M4A1-6	MicronSemi	
						110	5	20		MT4C4001J-6L	MicronSemi	
						100	5	26		M5M44400B-6	Mitsubishi	15
										M5M44400BL-6	Mitsubishi	
										M5M44400BL-6S	Mitsubishi	
										M5M44410B-6	Mitsubishi	
										M5M44410BL-6	Mitsubishi	
						110	5	26		MCM4L4400-60	Motorola	20
										MCM44400-60	Motorola	
						120	5	26		MCM5L4400A-60	Motorola	
										MCM54400A-60	Motorola	
										μPD42S4400A-60	NEC	
						90	5	26		μPD42S4440-60	NEC	25
						80	3.3	26		μPD42S4440L-A60 ℓ	NEC	
						120	5	26		μPD424400-60	NEC	
										μPD424400-60L	NEC	
										μPD424400A-60	NEC	
										μPD424410-60	NEC	30
										μPD424410-60L	NEC	
						90	5	26		μPD424440-60	NEC	
						80	3.3	26		μPD424440L-60 ℓ	NEC	
						90	5	20		KM44C1000B-6	Samsung	
						110	5	26		HYB514400B-60	Siemens	35
										HYB514400BL-60	Siemens	
				Static Column	2	100	5	26		M5M44412A-6	Mitsubishi	
						120	5	26		μPD424402-60 ℓ	NEC	
										μPD424402-60L	NEC	
										μPD424412-60	NEC	40
										μPD424412-60L	NEC	
			TTL/CMOS	Fast Page	2	100	5	20		**514400-60**	**Krueger (3663)**	
	70	CMOS					5	26	Self Refresh	M5M44402B-7S	Mitsubishi	
				Fast Page			5	26	Self Refresh	M5M44400B-7S	Mitsubishi	
										M5M44410B-7S	Mitsubishi	45
										M5M44410BL-7S	Mitsubishi	
						100	5	26		MCM34400A-70	Motorola	
					2	95	5	20		HY514400-70	Hyundai	
										514400-70	**Krueger (3663)**	
				Static			5	26	Self Refresh	M5M44412A-7S	Mitsubishi	50
			CMOS/TTL	Fast Page	1	60	3.3	26		MT4LC4001J-7S	MicronSemi	
			TTL		2	85	5	26		M5M44402B-7	Mitsubishi	
										M5M44402BL-7	Mitsubishi	
										M5M44402BL-7S	Mitsubishi	
				Fast Page			5	20	Write-per-bit	KM44C1010A-7	Samsung	55
										KM44C1012A-7	Samsung	
					1	100	5	20		MT4C4001J-7	MicronSemi	
								26		V53C404-70	Mosel-Vitelic	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx4	70	CMOS	TTL	Fast Page							(Cont'd)	
					2	110	5	26		**MB814400A-70**	**Fujitsu (3613)**	
						100	5	20		HY514400A-70	Hyundai	
										HY514400AL-70	Hyundai	
						80	5	28		MT4C4M4A1-7	MicronSemi	
						100	5	20		MT4C4001J-7L	MicronSemi	5
						85	5	26		M5M44400B-7	Mitsubishi	
										M5M44400BL-7	Mitsubishi	
										M5M44400BL-7S	Mitsubishi	
										M5M44410B-7	Mitsubishi	
										M5M44410BL-7	Mitsubishi	10
						100	5	26		MCM4L4400-70	Motorola	
										MCM4440-70	Motorola	
										MCM44400-70	Motorola	
										MCM5L4400A-70	Motorola	
										MCM54400A-C70	Motorola	15
										MCM54400A-70	Motorola	
										µPD42S4400A-70	NEC	
						70	3.3	26		µPD42S4400L-A70 ℓ	NEC	
						80	5	26		µPD42S4440-70	NEC	
						70	3.3	26		µPD42S4440L-A70 ℓ	NEC	20
						100	5	26		µPD424400-70	NEC	
										µPD424400-70L	NEC	
										µPD424400A-70	NEC	
						70	3.3	26		µPD424400L-A70 ℓ	NEC	
						100	5	26		µPD424410-70	NEC	25
										µPD424410-70L	NEC	
						80	5	26		µPD424440-70	NEC	
						70	3.3	26		µPD424440L-70 ℓ	NEC	
						105	5	20		KM44C1000A-7	Samsung	
										KM44C1000AL-7	Samsung	30
										KM44C1000ASL-7	Samsung	
						80	5	20		KM44C1000B-7	Samsung	
						100	5	26		HYB514400B-70	Siemens	
										HYB514400BL-70	Siemens	
					2.5	100	5	26	Quad CAS Parity	MT4C4004J-7	MicronSemi	35
				Static Column	1	100	5	20		MT4C4003J-7	MicronSemi	
					2	85	5	26		M5M44412A-7	Mitsubishi	
						100	5	26		µPD424402-70	NEC	
										µPD424402-70L	NEC	
										µPD424412-70	NEC	40
										µPD424412-70L	NEC	
						105	5	20		KM44C1002A-7	Samsung	
	80	CMOS					5	26	Self Refresh	M5M44402B-8S	Mitsubishi	
								18		µPD42644-80	NEC	
				Enhanced Page	1	90	5	20		AAA4M204-08	NMB	45
										AAA4M204-08L	NMB	
				Fast Page			5	26	Self Refresh	M5M44400B-8S	Mitsubishi	
										M5M44410B-8S	Mitsubishi	
										M5M44410BL-8S	Mitsubishi	
						85	5	26		MCM34400A-80	Motorola	50
					2	85	5	20		HY514400-80	Hyundai	
										514400-80	**Krueger (3663)**	
				Static			5	26	Self Refresh	M5M44412A-8S	Mitsubishi	
			CMOS/TTL	Fast Page	1	50	3.3	26		MT4LC4001J-8S	MicronSemi	
			TTL		2	75	5	26		M5M44402B-8	Mitsubishi	55
										M5M44402BL-8	Mitsubishi	
										M5M44402BL-8S	Mitsubishi	
				Fast Page			5	20	Write-per-bit	KM44C1010A-8	Samsung	
										KM44C1012A-8	Samsung	
					0.5	60	3.3	26		µPD42S4400L-A80 ℓ	NEC	60
					1	90	5	20		MT4C4001J-8	MicronSemi	
								26		V53C404-80	Mosel-Vitelic	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
1Mx4	80	CMOS	TTL	Fast Page							(Cont'd)
					2	99	5	26		**MB814400A-80**	**Fujitsu (3613)**
						90	5	20		MT4C4001J-8L	MicronSemi
						75	5	26		M5M44400B-8	Mitsubishi
										M5M44400BL-8	Mitsubishi
										M5M44400BL-8S	Mitsubishi
										M5M44410B-8	Mitsubishi
										M5M44410BL-8	Mitsubishi
						90	5	24		MDM41000I-80	Mosaic Semi
										MDM41000M-80	† Mosaic Semi
										MDM41000MB-80	† Mosaic Semi
										MDM41000MC-80	† Mosaic Semi
								26		MCM4L4400-80	Motorola
										MCM4440-80	Motorola
										MCM44400-80	Motorola
						85	5	26		MCM5L4400A-80	Motorola
										MCM54400A-C80	Motorola
										MCM54400A-80	Motorola
						90	5	26		µPD42S4400A-80	NEC
						70	5	26		µPD42S4440-80	NEC
						60	3.3	26		µPD42S4440L-A80	ℓ NEC
						90	5	26		µPD424400-80	NEC
										µPD424400-80L	NEC
										µPD424400A-80	NEC
						60	3.3	26		µPD424400L-A80	ℓ NEC
						90	5	26		µPD424410-80	NEC
										µPD424410-80L	NEC
						70	5	26		µPD424440-80	NEC
						60	3.3	26		µPD424440L-80	ℓ NEC
						100	5	20		KM44C1000-8	Samsung
						95	5	20		KM44C1000A-8	Samsung
										KM44C1000AL-8	Samsung
										KM44C1000ASL-8	Samsung
						70	5	20		KM44C1000B-8	Samsung
						100	5	20		KM44C1000L-8	Samsung
						85	5	26		HYB514400B-80	Siemens
										HYB514400BL-80	Siemens
					2.5	90	5	26	Quad CAS Parity	MT4C4004J-8	MicronSemi
					3	90	5	20		MDM41000-80	Mosaic Semi
				Static Column							
					1	90	5	20		MT4C4003J-8	MicronSemi
					2	75	5	26		M5M44412A-8	Mitsubishi
						90	5	26		µPD424402-80	NEC
										µPD424402-80L	NEC
										µPD424412-80	NEC
										µPD424412-80L	NEC
						100	5	20		KM44C1002-8	Samsung
						95	5	20		KM44C1002A-8	Samsung
	100	CMOS	TTL		1.1	83	5	26		TC514400A-10	Toshiba
										TC514402A-10	° Toshiba
										TC514410A-10	Toshiba
				Fast Page			5	20	Write-per-bit	KM44C1010A-10	Samsung
										KM44C1012A-10	Samsung
					1.1	83	5	20		TC514400-10	Toshiba
					2	90	5	24		MDM41000-10	Mosaic Semi
						80	5	24		MDM41000I-10	Mosaic Semi
										MDM41000M-10	† Mosaic Semi
										MDM41000MB-10	† Mosaic Semi
										MDM41000MC-10	† Mosaic Semi
								26		µPD424410-10	NEC
										µPD424410-10L	NEC
						85	5	20		KM44C1000-10	Samsung
										KM44C1000A-10	Samsung
										KM44C1000AL-10	Samsung
										KM44C1000ASL-10	Samsung
										KM44C1000L-10	Samsung

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx4	100	CMOS	TTL	Static Column	2	80	5	26		(Cont'd) μPD424402-10	NEC	
										μPD424402-10L	NEC	
										μPD424412-10	NEC	
										μPD424412-10L	NEC	
						85	5	20		KM44C1002-10	Samsung	5
										KM44C1002A-10	Samsung	
	120	CMOS	TTL	Fast Page	2	90	5	24		MDM41000-12	Mosaic Semi	
						70	5	24		MDM41000I-12	Mosaic Semi	
										MDM41000M-12	† Mosaic Semi	
										MDM41000MB-12	† Mosaic Semi	10
										MDM41000MC-12	† Mosaic Semi	
1Mx8	70	CMOS	TTL	Fast Page	16	640	5	30		MCM8L1000-70	Motorola	
										MCM81000-70	Motorola	
	80	CMOS	TTL	Fast Page	16	560	5	30		MCM8L1000-80	Motorola	
										MCM81000-80	Motorola	15
14Mx4	100	CMOS	TTL	Fast Page			5	28		μPD4216410-10	NEC	
16Mx1	60	CMOS					3.3	24		M5M4V16100B-6	ℓ Mitsubishi	
								26		M5M4V16100B-6S	ℓ Mitsubishi	
				Fast Page			5	24		M5M4V416100A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V416100A-6S	ℓ Mitsubishi	20
										M5M4V417100A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V417100A-6S	ℓ Mitsubishi	
										M5M4V418100A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V418100A-6S	ℓ Mitsubishi	
										M5M417100-6	Mitsubishi	25
									Self Refresh	M5M417100-6S	Mitsubishi	
										M5M418100-6	Mitsubishi	
									Self Refresh	M5M418100-6S	Mitsubishi	
					2	90	5	24		MB8116101-60	Fujitsu	
				Nibble			5	24		M5M4V41601A-6	ℓ Mitsubishi	30
									Self Refresh	M5M4V41601A-6S	ℓ Mitsubishi	
										M5M4V41710A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V41710A-6S	ℓ Mitsubishi	
										M5M4V41810A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V41810A-6S	ℓ Mitsubishi	35
										M5M416201-6	Mitsubishi	
									Self Refresh	M5M416201-6S	Mitsubishi	
										M5M417201-6	Mitsubishi	
									Self Refresh	M5M417201-6S	Mitsubishi	
										M5M418201-6	Mitsubishi	40
									Self Refresh	M5M418201-6S	Mitsubishi	
				Static Column			5	24		M5M4V416102A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V416102A-6S	ℓ Mitsubishi	
										M5M4V417102A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V417102A-6S	ℓ Mitsubishi	45
										M5M4V418102A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V418102A-6S	ℓ Mitsubishi	
										M5M416102-6	Mitsubishi	
									Self Refresh	M5M416102-6S	Mitsubishi	
										M5M417102-6	Mitsubishi	50
									Self Refresh	M5M417102-6S	Mitsubishi	
										M5M418102-6	Mitsubishi	
									Self Refresh	M5M418102-6S	Mitsubishi	
			TTL	Fast Page	1.1	99	5	28		TC5116101	Toshiba	
					1.1	99	5	28		TC5116100-60	Toshiba	55
					2	110	5	28		**MB8116100-60**	**Fujitsu (3615)**	
				Static Column	1.1	99	5	28		TC5116102-60	Toshiba	
			TTL/CMOS	Fast Page	2	90	5	28		HY511610-60	Hyundai	
	70	CMOS					3.3	24		M5M4V16100B-7	ℓ Mitsubishi	
								26		M5M4V16100B-7S	ℓ Mitsubishi	60

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Mx1	70	CMOS									(Cont'd)	
				Fast Page			5	24		M5M4V416100A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V416100A-7S ℓ	Mitsubishi	
										M5M4V417100A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V417100A-7S †	Mitsubishi	
										M5M4V418100A-7 ℓ	Mitsubishi	5
									Self Refresh	M5M4V418100A-7S ℓ	Mitsubishi	
										M5M417100-7	Mitsubishi	
									Self Refresh	M5M417100-7S	Mitsubishi	
										M5M418100-7	Mitsubishi	
									Self Refresh	M5M418100-7S	Mitsubishi	10
					2	90	5	24		MB8116101-70	Fujitsu	
				Nibble			5	24		M5M4V41601A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V41601A-7S ℓ	Mitsubishi	
										M5M4V41710A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V41710A-7S ℓ	Mitsubishi	15
										M5M4V41810A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V41810A-7S ℓ	Mitsubishi	
										M5M416201-7	Mitsubishi	
									Self Refresh	M5M416201-7S	Mitsubishi	
										M5M417201-7	Mitsubishi	20
									Self Refresh	M5M417201-7S	Mitsubishi	
										M5M418201-7	Mitsubishi	
									Self Refresh	M5M418201-7S	Mitsubishi	
				Static Column			5	24		M5M4V416102A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V416102A-7S ℓ	Mitsubishi	25
										M5M4V417102A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V417102A-7S ℓ	Mitsubishi	
										M5M4V418102A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V418102A-7S ℓ	Mitsubishi	
										M5M416102-7	Mitsubishi	30
									Self Refresh	M5M416102-7S	Mitsubishi	
										M5M417102-7	Mitsubishi	
									Self Refresh	M5M417102-7S	Mitsubishi	
										M5M418102-7	Mitsubishi	
									Self Refresh	M5M418102-7S	Mitsubishi	35
			TTL	Fast Page	2	99	5	28		**MB8116100-70**	**Fujitsu (3615)**	
			TTL/CMOS	Fast Page	2	90	5	28		HY511610-70	Hyundai	
	80	CMOS		Fast Page			5	24		M5M4V416100A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V416100A-8S ℓ	Mitsubishi	
										M5M4V417100A-8 ℓ	Mitsubishi	40
									Self Refresh	M5M4V417100A-8S ℓ	Mitsubishi	
										M5M4V418100A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V418100A-8S ℓ	Mitsubishi	
										M5M417100-8	Mitsubishi	
									Self Refresh	M5M417100-8S	Mitsubishi	45
										M5M418100-8	Mitsubishi	
									Self Refresh	M5M418100-8S	Mitsubishi	
				Nibble			5	24		M5M4V41601A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V41601A-8S ℓ	Mitsubishi	
										M5M4V41710A-8 ℓ	Mitsubishi	50
									Self Refresh	M5M4V41710A-8S ℓ	Mitsubishi	
										M5M4V41810A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V41810A-8S ℓ	Mitsubishi	
										M5M416201-8	Mitsubishi	
									Self Refresh	M5M416201-8S	Mitsubishi	55
										M5M417201-8	Mitsubishi	
									Self Refresh	M5M417201-8S	Mitsubishi	
										M5M418201-8	Mitsubishi	
									Self Refresh	M5M418201-8S	Mitsubishi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Mx1	80	CMOS									(Cont'd)	
				Static Column			5	24		M5M4V416102A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V416102A-8S ℓ	Mitsubishi	
										M5M4V417102A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417102A-8S ℓ	Mitsubishi	
										M5M4V418102A-8 ℓ	Mitsubishi	5
									Self Refresh	M5M4V418102A-8S ℓ	Mitsubishi	
										M5M416102-8	Mitsubishi	
									Self Refresh	M5M416102-8S	Mitsubishi	
										M5M417102-8	Mitsubishi	
									Self Refresh	M5M417102-8S	Mitsubishi	10
										M5M418102-8	Mitsubishi	
									Self Refresh	M5M418102-8S	Mitsubishi	
			TTL	Fast Page	2	88	5	28		**MB8116100-80**	**Fujitsu (3615)**	
			TTL/CMOS	Fast Page	2	90	5	28		HY511610-80	Hyundai	
2Mx8	8	CMOS		Static Column			5	24	Self Refresh	M5M4V418802A-8S ℓ	Mitsubishi	15
	10	CMOS	TTL				3.3	44		MT48LC2M8S1-10	MicronSemi	
										M5M4V16807A-10 ℓ	Mitsubishi	
	12	CMOS	TTL				3.3	44		MT48LC2M8S1-12	MicronSemi	
										M5M4V16807A-12 ℓ	Mitsubishi	
	13	CMOS	TTL				3.3	44		MT48LC2M8S1-13	MicronSemi	20
	15	CMOS	TTL				3.3	44		5M4V16807A-15 ℓ	Mitsubishi	
	50	CMOS	TTL	Fast Page	2	100	5	28		μPD42S16800-50	NEC	
						120	5	28		μPD42S17800-50	NEC	
						100	5	28		μPD4216800-50	NEC	
						120	5	28		μPD4217800-50	NEC	25
	60		LVTTL		7	140	3.3	44		TC59S1604-10 ℓ	Toshiba	
										TC59S1608-10	Toshiba	
		CMOS		Fast Page			5	24		M5M4V416800A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V416800A-6S ℓ	Mitsubishi	
										M5M4V417800A-6 ℓ	Mitsubishi	30
									Self Refresh	M5M4V417800A-6S ℓ	Mitsubishi	
										M5M4V418800A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V418800A-6S ℓ	Mitsubishi	
										M5M416800-6	Mitsubishi	
									Self Refresh	M5M416800-6S	Mitsubishi	35
										M5M417800A-6	Mitsubishi	
									Self Refresh	M5M417800A-6S	Mitsubishi	
										M5M418800-6	Mitsubishi	
									Self Refresh	M5M418800-6S	Mitsubishi	
				Nibble			5	24		M5M4V416801A-6 ℓ	Mitsubishi	40
									Self Refresh	M5M4V416801A-6S ℓ	Mitsubishi	
										M5M4V417801A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V417801A-6S ℓ	Mitsubishi	
										M5M4V418801A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V418801A-6S ℓ	Mitsubishi	45
										M5M416801-6	Mitsubishi	
									Self Refresh	M5M416801-6S	Mitsubishi	
										M5M417801-6	Mitsubishi	
									Self Refresh	M5M417801-6S	Mitsubishi	
										M5M418801-6	Mitsubishi	50
									Self Refresh	M5M418801-6S	Mitsubishi	
				Static Column			5	24		M5M4V41680A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V41680A-6S ℓ	Mitsubishi	
										M5M4V417802A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V417802A-6S ℓ	Mitsubishi	55
										M5M4V418802A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V418802A-6S ℓ	Mitsubishi	
										M5M416802-6	Mitsubishi	
									Self Refresh	M5M416802-6S	Mitsubishi	
										M5M417802-6	Mitsubishi	60
									Self Refresh	M5M417802-6S	Mitsubishi	
										M5M418802-6	Mitsubishi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx8	60	CMOS		Static Column			5	24	Self Refresh	M5M418802-6S	(Cont'd) Mitsubishi	
			TTL		1.1	126	5	28		**TC5117800A-60**	**Toshiba (3813)**	
				Fast Page	1	80	3	32	4K Refresh	MT4LC2M8A1-6	ℓ MicronSemi	
							3.3	32		MT4LC2M8A1-6S	ℓ MicronSemi	
						100	3	32	2K Refresh	MT4LC2M8B1-6	ℓ MicronSemi	5
						90	3.3	32		MT4LC2M8B1-6S	ℓ MicronSemi	
					2	140	5	28	2K Refresh	MT4C2M8B1-6	MicronSemi	
								32		MT4C2M8B1-6S	MicronSemi	
						90	5	28		µPD42S16800-60	NEC	
						80	3.3	28		µPD42S16800L-A60	ℓ NEC	10
						110	5	28		µPD42S17800-60	NEC	
						100	3.3	28		µPD42S17800L-A60	ℓ NEC	
						90	5	28		µPD4216800-60	NEC	
						80	3.3	28		µPD4216800L-A60	ℓ NEC	
						110	5	28		µPD4217800-60	NEC	15
						100	3.3	28		µPD4217800L-A60	ℓ NEC	
							5	28		KM48C2000-6	Samsung	
						120	5	28		KM48C2100-6	Samsung	
				Static Column			5	28	4K Refersh	µPD4216802-60	NEC	
	70	CMOS		Fast Page			5	24		M5M4V416800A-7	ℓ Mitsubishi	20
									Self Refresh	M5M4V416800A-7S	ℓ Mitsubishi	
										M5M4V417800A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V417800A-7S	ℓ Mitsubishi	
										M5M4V418800A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V418800A-7S	ℓ Mitsubishi	25
										M5M416800-7	Mitsubishi	
									Self Refresh	M5M416800-7S	Mitsubishi	
										M5M417800A-7	Mitsubishi	
									Self Refresh	M5M417800A-7S	Mitsubishi	
										M5M418800-7	Mitsubishi	30
									Self Refresh	M5M418800-7S	Mitsubishi	
				Nibble			5	24		M5M4V416801A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V416801A-7S	ℓ Mitsubishi	
										M5M4V417801A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V417801A-7S	ℓ Mitsubishi	35
										M5M4V418801A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V418801A-7S	ℓ Mitsubishi	
										M5M416801-7	Mitsubishi	
									Self Refresh	M5M416801-7S	Mitsubishi	
										M5M417801-7	Mitsubishi	40
									Self Refresh	M5M417801-7S	Mitsubishi	
										M5M418801-7	Mitsubishi	
									Self Refresh	M5M418801-7S	Mitsubishi	
				Static Column			5	24		M5M4V41680A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V41680A-7S	ℓ Mitsubishi	45
										M5M4V417802A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V417802A-7S	ℓ Mitsubishi	
										M5M4V418802A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V418802A-7S	ℓ Mitsubishi	
										M5M416802-7	Mitsubishi	50
									Self Refresh	M5M416802-7S	Mitsubishi	
										M5M417802-7	Mitsubishi	
									Self Refresh	M5M417802-7S	Mitsubishi	
										M5M418802-7	Mitsubishi	
									Self Refresh	M5M418802-7S	Mitsubishi	55
			TTL		1.1	104	5	28		**TC5117800A-70**	**Toshiba (3813)**	
				Fast Page	1	70	3.3	32		MT4LC2M8A1-7S	ℓ MicronSemi	
						90	3	32	2K Refresh	MT4LC2M8B1-7	ℓ MicronSemi	
							3.3	32		MT4LC2M8B1-7S	ℓ MicronSemi	
					2	130	5	28	2K Refresh	MT4C2M8B1-7	MicronSemi	60
								32		MT4C2M8B1-7S	MicronSemi (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx8	70	CMOS	TTL	Fast Page	2						(Cont'd)	
						80	5	28		µPD42S16800-70	NEC	
						70	3.3	28		µPD42S16800L-A70 ℓ	NEC	
						100	5	28		µPD42S17800-70	NEC	
						90	3.3	28		µPD42S17800L-A70 ℓ	NEC	
						80	5	28		µPD4216800-70	NEC	5
						70	3.3	28		µPD4216800L-A70 ℓ	NEC	
						100	5	28		µPD4217800-70	NEC	
						90	3.3	28		µPD4217800L-A70 ℓ	NEC	
							5	28		KM48C2000-7	Samsung	
						110	5	28		KM48C2100-7	Samsung	10
				Static Column			5	28	4K Refresh	µPD4216802-70	NEC	
	72		LVTTL		7	130	3.3	44		TC59S1604-12	Toshiba	
										TC59S1608-12	Toshiba	
	80	CMOS		Fast Page			5	24		M5M4V416800A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V416800A-8S ℓ	Mitsubishi	15
										M5M4V417800A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417800A-8S ℓ	Mitsubishi	
										M5M4V418800A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V418800A-8S ℓ	Mitsubishi	
										M5M416800-8	Mitsubishi	20
									Self Refresh	M5M416800-8S	Mitsubishi	
										M5M418800-8	Mitsubishi	
									Self Refresh	M5M418800-8S	Mitsubishi	
				Nibble			5	24		M5M4V416801A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V416801A-8S ℓ	Mitsubishi	25
										M5M4V417801A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417801A-8S ℓ	Mitsubishi	
										M5M4V418801A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V418801A-8S ℓ	Mitsubishi	
										M5M416801-8	Mitsubishi	30
									Self Refresh	M5M416801-8S	Mitsubishi	
										M5M417801-8	Mitsubishi	
									Self Refresh	M5M417801-8S	Mitsubishi	
										M5M418801-8	Mitsubishi	
									Self Refresh	M5M418801-8S	Mitsubishi	35
				Static Column			5	24		M5M4V41680A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V41680A-8S ℓ	Mitsubishi	
										M5M4V417802A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417802A-8S ℓ	Mitsubishi	
										M5M4V418802A-8 ℓ	Mitsubishi	40
										M5M416802-8	Mitsubishi	
									Self Refresh	M5M416802-8S	Mitsubishi	
										M5M417802-8	Mitsubishi	
									Self Refresh	M5M417802-8S	Mitsubishi	
										M5M418802-8	Mitsubishi	45
									Self Refresh	M5M418802-8S	Mitsubishi	
			TTL	Fast Page			5	28		µPD4216800-80	NEC	
					1	80	3	32	2K Refresh	MT4LC2M8B1-8 ℓ	MicronSemi	
							3.3	32		MT4LC2M8B1-8S ℓ	MicronSemi	
					2	120	5	28	2K Refresh	MT4C2M8B1-8	MicronSemi	50
								32		MT4C2M8B1-8S	MicronSemi	
						70	5	28		µPD42S16800-80	NEC	
						60	3.3	28		µPD42S16800L-A80 ℓ	NEC	
						90	5	28		µPD42S17800-80	NEC	
						80	3.3	28		µPD42S17800L-A80 ℓ	NEC	55
						60	3.3	28		µPD4216800L-A80 ℓ	NEC	
						90	5	28		µPD4217800-80	NEC	
						80	3.3	28		µPD4217800L-A80 ℓ	NEC	
							5	28		KM48C2000-8	Samsung	
						100	5	28		KM48C2100-8	Samsung	60
				Static Column			5	28	4K Refresh	µPD4216802-80	NEC	
	100	CMOS	TTL		16	80	3.3	50	Synchronous	µPD42116820-10 ℓ	NEC	
	150	CMOS	TTL		16	70	3.3	50	Synchronous	µPD42116820-15 ℓ	NEC	
	200	CMOS	TTL		16	60	3.3	50	Synchronous	µPD42116820-20 ℓ	NEC	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx9		CMOS					5	32		TC59R1609VK	Toshiba	
	50	CMOS	TTL	Fast Page	2	110	5	32		µPD42S16900-50	NEC	
						130	5	32		µPD42S17900-50	NEC	
						110	5	32		µPD4216900-50	NEC	
						130	5	32		µPD4217900-50	NEC	5
	60	CMOS		Fast Page			5	24		M5M4V416900A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V416900A-6S ℓ	Mitsubishi	
										M5M4V417900A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V417900A-6S ℓ	Mitsubishi	
										M5M4V418900A-6 ℓ	Mitsubishi	10
									Self Refresh	M5M4V418900A-6S ℓ	Mitsubishi	
										M5M416900-6	Mitsubishi	
									Self Refresh	M5M416900-6S	Mitsubishi	
										M5M417900-6	Mitsubishi	
									Self Refresh	M5M417900-6S	Mitsubishi	15
										M5M418900-6	Mitsubishi	
									Self Refresh	M5M418900-6S	Mitsubishi	
				Nibble			5	24		M5M4V416901A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V416901A-6S ℓ	Mitsubishi	
										M5M4V417901A-6 ℓ	Mitsubishi	20
									Self Refresh	M5M4V417901A-6S ℓ	Mitsubishi	
										M5M4V418901A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V418901A-6S ℓ	Mitsubishi	
										M5M416901-6	Mitsubishi	
									Self Refresh	M5M416901-6S	Mitsubishi	25
										M5M417901-6	Mitsubishi	
									Self Refresh	M5M417901-6S	Mitsubishi	
										M5M418901-6	Mitsubishi	
									Self Refresh	M5M418901-6S	Mitsubishi	
				Static Column			5	24		M5M4V416902A-6 ℓ	Mitsubishi	30
									Self Refresh	M5M4V416902A-6S ℓ	Mitsubishi	
										M5M4V417902A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V417902A-6S ℓ	Mitsubishi	
										M5M4V418902A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V418902A-6S ℓ	Mitsubishi	35
										M5M416902-6	Mitsubishi	
									Self Refresh	M5M416902-6S	Mitsubishi	
										M5M417902-6	Mitsubishi	
									Self Refresh	M5M417902-6S	Mitsubishi	
										M5M418902-6	Mitsubishi	40
									Self Refresh	M5M418902-6S	Mitsubishi	
			TTL	Fast Page	2	100	5	32		µPD42S16900-60	NEC	
						90	3.3	32		µPD42S16900L-A60 ℓ	NEC	
						120	5	32		µPD42S17900-60	NEC	
						110	3.3	32		µPD42S17900L-A60 ℓ	NEC	45
						100	5	32		µPD4216900-60	NEC	
						90	3.3	32		µPD4216900L-A60 ℓ	NEC	
						110	5	32		µPD4217900-60	NEC	
							3.3	32		µPD4217900L-A60 ℓ	NEC	
				Static Column			5	32	4K Refresh	µPD4216902-60	NEC	50
	70	CMOS		Fast Page			5	24		M5M4V416900A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V416900A-7S ℓ	Mitsubishi	
										M5M4V417900A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V417900A-7S ℓ	Mitsubishi	
										M5M4V418900A-7 ℓ	Mitsubishi	55
									Self Refresh	M5M4V418900A-7S ℓ	Mitsubishi	
										M5M416900-7	Mitsubishi	
									Self Refresh	M5M416900-7S	Mitsubishi	
										M5M417900-7	Mitsubishi	
									Self Refresh	M5M417900-7S	Mitsubishi	60
										M5M418900-7	Mitsubishi	
									Self Refresh	M5M418900-7S	Mitsubishi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx9	70	CMOS		Nibble			5	24		M5M4V416901A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V416901A-7S ℓ	Mitsubishi	
										M5M4V417901A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V417901A-7S ℓ	Mitsubishi	
										M5M4V418901A-7 ℓ	Mitsubishi	5
									Self Refresh	M5M4V418901A-7S ℓ	Mitsubishi	
										M5M416901-7	Mitsubishi	
									Self Refresh	M5M416901-7S	Mitsubishi	
										M5M417901-7	Mitsubishi	
									Self Refresh	M5M417901-7S	Mitsubishi	10
										M5M418901-7	Mitsubishi	
									Self Refresh	M5M418901-7S	Mitsubishi	
				Static Column			5	24		M5M4V416902A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V416902A-7S ℓ	Mitsubishi	
										M5M4V417902A-7 ℓ	Mitsubishi	15
									Self Refresh	M5M4V417902A-7S ℓ	Mitsubishi	
										M5M4V418902A-7 †	Mitsubishi	
									Self Refresh	M5M4V418902A-7S ℓ	Mitsubishi	
										M5M416902-7	Mitsubishi	
									Self Refresh	M5M416902-7S	Mitsubishi	20
										M5M417902-7	Mitsubishi	
									Self Refresh	M5M417902-7S	Mitsubishi	
										M5M418902-7	Mitsubishi	
									Self Refresh	M5M418902-7S	Mitsubishi	
			TTL	Fast Page	2	90	5	32		μPD42S16900-70	NEC	25
						80	3.3	32		μPD42S16900L-A70	NEC	
						110	5	32		μPD42S17900-70	NEC	
						100	3.3	32		μPD42S17900L-A70 ℓ	NEC	
						90	5	32		μPD4216900-70	NEC	
						80	3.3	32		μPD4216900L-A70 ℓ	NEC	30
						110	5	32		μPD4217900-70	NEC	
						100	3.3	32		μPD4217900L-A70 ℓ	NEC	
				Static Column			5	32	Low Power	μPD42S16902	NEC	
							3.3	32	Low Power	μPD42S16902L ℓ	NEC	
							5	32	Low Power	μPD42S17902	NEC	35
							3.3	32	Low Power	μPD42S17902L ℓ	NEC	
							5	32	Low Power	μPD4216902	NEC	
									4K Refresh	μPD4216902-70	NEC	
							3.3	32	Low Power	μPD4216902L ℓ	NEC	
							5	32	Low Power	μPD4217902	NEC	40
							3.3	32	Low Power	μPD4217902L ℓ	NEC	
	80	CMOS		Fast Page			5	24		M5M4V416900A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V416900A-8S ℓ	Mitsubishi	
										M5M4V417900A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417900A-8S ℓ	Mitsubishi	45
										M5M4V418900A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V418900A-8S ℓ	Mitsubishi	
										M5M416900-8	Mitsubishi	
									Self Refresh	M5M416900-8S	Mitsubishi	
										M5M417900-8	Mitsubishi	50
									Self Refresh	M5M417900-8S	Mitsubishi	
										M5M418900-8	Mitsubishi	
									Self Refresh	M5M418900-8S	Mitsubishi	
				Nibble			5	24		M5M4V416901A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V416901A-8S ℓ	Mitsubishi	55
										M5M4V417901A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417901A-8S ℓ	Mitsubishi	
										M5M4V418901A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V418901A-8S ℓ	Mitsubishi	
										M5M416901-8	Mitsubishi	60
									Self Refresh	M5M416901-8S	Mitsubishi	
										M5M417901-8	Mitsubishi	
									Self Refresh	M5M417901-8S	Mitsubishi	
										M5M418901-8	Mitsubishi	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose											**(Cont'd)**	
											(Cont'd)	
2Mx9	80	CMOS		Nibble			5	24	Self Refresh	M5M418901-8S	Mitsubishi	
				Static Column			5	24	Self Refresh	M5M4V416902A-8 ℓ	Mitsubishi	
										M5M4V416902A-8S ℓ	Mitsubishi	
										M5M4V417902A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V417902A-8S ℓ	Mitsubishi	5
										M5M4V418902A-8 ℓ	Mitsubishi	
									Self Refresh	M5M4V418902A-8S ℓ	Mitsubishi	
										M5M416902-8	Mitsubishi	
									Self Refresh	M5M416902-8S	Mitsubishi	
										M5M417902-8	Mitsubishi	10
									Self Refresh	M5M417902-8S	Mitsubishi	
										M5M418902-8	Mitsubishi	
									Self Refresh	M5M418902-8S	Mitsubishi	
			TTL	Fast Page	2	80	5	32		μPD42S16900-80	NEC	
						70	3.3	32		μPD42S16900L-A80	NEC	15
						100	5	32		μPD42S17900-80	NEC	
						90	3.3	32		μPD42S17900L-A80 ℓ	NEC	
						80	5	32		μPD4216900-80	NEC	
						70	3.3	32		μPD4216900L-A80 ℓ	NEC	
						100	5	32		μPD4217900-80	NEC	20
						90	3.3	32		μPD4217900L-A80 ℓ	NEC	
				Static Column			5	32	4K Refresh	μPD4216902-80	NEC	
	100	CMOS	TTL		16	80	3.3	50	Synchronous	μPD42116920-10 ℓ	NEC	
	150	CMOS	TTL		16	70	3.3	50	Synchronous	μPD42116920-15 ℓ	NEC	
	200	CMOS	TTL		16	60	3.3	50	Synchronous	μPD42116920-20 ℓ	NEC	25
4Mx1	35	BiCMOS	TTL		5		5	32		HM574100-35	Hitachi	
	40	BiCMOS	TTL		5		5	32		HM574100-40	Hitachi	
	45	BiCMOS	TTL		5		5	32		HM574100-45	Hitachi	
	60	CMOS					5	26		MB814101A-60	Fujitsu	
				Fast Page	0.1	110	5	20	Low Power	GM71C4100ASL-60	GoldStar	30
					0.2	110	5	20	Low Power	GM71C4100AL-60	GoldStar	
					1	110	5	20		GM71C4100A-60	GoldStar	
										HM514100A-6	Hitachi	
										HM514100AL-6	Hitachi	
										HM514100ASL-6	Hitachi	35
			TTL		1.1	132	5	26		TC514100A-60	Toshiba	
										TC514101A-60	Toshiba	
										TC514102A-60 •	Toshiba	
				Fast Page	2	120	5	18		TC514100AL-60	Toshiba	
			TTL/CMOS	Fast Page	2	100	5	20		HY514100-60	Hyundai	40
	70		TTL/CMOS	Fast Page	2	105	5	26		21040-07	Intel	
		CMOS					5	26		MB814101A-70	Fujitsu	
										MN414100ASJ-07	Panasonic	
								32		MN414100AT-07	Panasonic	
								26		MN414100ATT-07	Panasonic	45
								20		MN424100AL-07	Panasonic	
								26		MN424100ASJ-07	Panasonic	
								32		MN424100AT-07	Panasonic	
								26		MN424100ATT-07	Panasonic	
										MN424100AWJ-07	Panasonic	50
								20		HYB514100-70	Siemens	
				Fast Page	0.1	100	5	20	Low Power	GM71C4100ASL-70	GoldStar	
					0.2	100	5	20	Low Power	GM71C4100AL-70	GoldStar	
					1	100	5	20		GM71C4100A-70	GoldStar	
										HM514100A-7	Hitachi	55
										HM514100AL-7	Hitachi	
										HM514100ASL-7	Hitachi	
			TTL		1.1	110	5	26		TC514100A-70	Toshiba	
										TC514101A-70	Toshiba	
										TC514102A-70 •	Toshiba	60
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx1	70	CMOS	TTL								(Cont'd)	
				Fast Page	0.2	90	5	26		MSM514100AL-70	OKI	
					0.4		5	26		V53C400L-70L	Mosel-Vitelic	
					1	100	5	20		HM514100-7	Hitachi	
								26		V53C400-70L	Mosel-Vitelic	
					2	100	5	18		MSM514100-70	OKI	5
						90	5	26		MSM514100A-70	OKI	
						100	5	18		TC514100AL-70	Toshiba	
				Nibble	0.2	90	5	26		MSM514101AL-70	OKI	
					1	100	5	20		HM514101A-7	Hitachi	
					2	100	5	18		MSM514101-70	OKI	10
						90	5	26		MSM514101A-70	OKI	
				Static Column	0.2	90	5	26		MSM514102AL-70	OKI	
					2	100	5	18		MSM514102-70	OKI	
						90	5	26		MSM514102A-70	OKI	
	80		TTL/CMOS	Fast Page	2	95	5	26		21040-08	Intel	15
		CMOS					5	20		EDI41496C80B	EDI	
								26		MCM11400-80	Motorola	
								18		MCM51L4100-80	Motorola	
										MCM514100-80	Motorola	
										MN41C4000-08	Panasonic	20
								26		MN414100ASJ-08	Panasonic	
								32		MN414100AT-08	Panasonic	
								26		MN414100ATT-08	Panasonic	
								20		MN424100AL-08	Panasonic	
								26		MN424100ASJ-08	Panasonic	25
								32		MN424100AT-08	Panasonic	
								26		MN424100ATT-08	Panasonic	
										MN424100AWJ-08	Panasonic	
								20		KM41C4000-08	Samsung	
										KM41C4001-08	Samsung	30
										KM41C4002-08	Samsung	
								26		TMS44100-80	• TI	
				Fast Page			5	20		TC514100-80	Toshiba	
					0.1	90	5	20	Low Power	GM71C4100ASL-80	GoldStar	
					0.2	90	5	20	Low Power	GM71C4100AL-80	GoldStar	35
					1	90	5	20		GM71C4100A-80	GoldStar	
										HM514100A-8	Hitachi	
										HM514100AL-8	Hitachi	
										HM514100ASL-8	Hitachi	
				Nibble			5	20		TC514101-80	Toshiba	40
				Static Column			5	20		TC514102-80	° Toshiba	
			TTL		1.1	94	5	26		TC514100A-80	Toshiba	
										TC514101A-80	Toshiba	
										TC514102A-80	° Toshiba	
				Fast Page	0.15	60	3.3	26		TC51V4100A-80	ℓ Toshiba	45
					0.2	80	5	26		MSM514100AL-80	OKI	
					0.4		5	26		V53C400L-80L	Mosel-Vitelic	
					1	90	5	20		HM514100-8	Hitachi	
								26		V53C400-80L	Mosel-Vitelic	
					2	90	5	20		HM514100L-8	Hitachi	50
						85	5	20		HY514100A-80	Hyundai	
										HY514100AL-80	Hyundai	
						90	5	18		MSM514100-8	OKI	
										MSM514100-8A	OKI	
										MSM514100-80	OKI	55
						80	5	26		MSM514100A-80	OKI	
						85	5	18		TC514100AL-80	Toshiba	
						105	5	26		TC514400L-80	Toshiba	
				Nibble	0.2	80	5	26		MSM514101AL-80	OKI	
					1	90	5	20		HM514101-8	Hitachi	60
										HM514101A-8	Hitachi	
					2	90	5	18		MSM514101-80	OKI	
						80	5	26		MSM514101A-80	OKI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx1	80	CMOS	TTL								(Cont'd)	
				Static Column	0.2	80	5	26		MSM514102AL-80	OKI	
					2	90	5	18		MSM514102-8	OKI	
										MSM514102-8A	OKI	
										MSM514102-80	OKI	
						80	5	26		MSM514102A-80	OKI	5
	100	CMOS					5	26		MCM11400-10	Motorola	
								18		MCM51L4100-10	Motorola	
										MCM514100-10	Motorola	
								26		TMS44100-10	° TI	
				Fast Page	1	80	5	20		HM514100A-10	Hitachi	10
										HM514100AL-10	Hitachi	
										HM514100ASL-10	Hitachi	
				Nibble			5	20		TC514101-10	Toshiba	
				Static Column			5	20		TC514102-10	• Toshiba	
			TTL	Fast Page	0.15	55	3.3	26		TC51V4100A-10	ℓ Toshiba	15
					0.2	70	5	26		MSM514100AL-10	OKI	
					0.4		5	26		V53C400L-10L	Mosel-Vitelic	
					1	70	5	26		V53C400-10	Mosel-Vitelic	
										V53C400-10L	Mosel-Vitelic	
					2	80	5	20		HM514100L-10	Hitachi	20
						85	5	20		21040-10	Intel	
						80	5	18		MSM514100-10	OKI	
						70	5	26		MSM514100A-10	OKI	
						75	5	18		TC514100AL-10	Toshiba	
						85	5	26		TC514100L-10	Toshiba	25
						90	5	26		TC514400L-10	Toshiba	
				Nibble	0.2	70	5	26		MSM514101AL-10	OKI	
					1	80	5	20		HM514101-10	Hitachi	
										HM514101A-10	Hitachi	
					2	80	5	18		MSM514101-10	OKI	30
						70	5	26		MSM514101A-10	OKI	
				Static Column	0.2	70	5	26		MSM514102AL-10	OKI	
					2	65	5	26		M6M44102A-10	Mitsubishi	
						80	5	18		MSM514102-10	OKI	
						70	5	26		MSM514102A-10	OKI	35
	120	CMOS	TTL	Fast Page	1	70	5	20		HM514100-12	Hitachi	
					2	70	5	20		HM514100L-12	Hitachi	
										21040-12	Intel	
				Nibble	1	70	5	20		HM514101-12	Hitachi	
	150	CMOS					5	20		EDI414096C150B	EDI	40
4Mx4	70	CMOS	TTL		1.1	88	5	28		TC5116400-70	Toshiba	
										TC5116402-70	Toshiba	
										TC5116410-70	Toshiba	
				Fast Page	1	80	5	24		HM5116400-7	Hitachi	
					1.1	110	5	28		TC5117400-70	Toshiba	45
					2	80	5	24		HM5116400L-7	Hitachi	
				Static Column	1.1	110	5	28		TC5117402-70	Toshiba	
										TC5117410-70	Toshiba	
	80	CMOS	TTL		1.1	77	5	28		TC5116400-80	Toshiba	
										TC5116402-80	Toshiba	50
										TC5116410-80	Toshiba	
						93.6	5	28		TC5117410-80	Toshiba	
				Fast Page	1	70	5	24		HM5116400-8	Hitachi	
					1.1	94	5	28		TC5117400-80	Toshiba	
					2	70	5	24		HM5116400L-8	Hitachi	55
				Static Column	1.1	94	5	28		TC5117402-80	Toshiba	
	100	CMOS	TTL	Fast Page	1	60	5	24		HM5116400-10	Hitachi	
					2	60	5	24		HM5116400L-10	Hitachi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx8	60	CMOS	TTL/CMOS	Fast Page	4	180	5	30		HYM584000B-60	Hyundai	
	70	CMOS	TTL/CMOS	Fast Page	4	180	5	30		HYM584000B-70	Hyundai	
	80	CMOS					5	30		MCM8L4000-80	Motorola	
										MCM84000-80	Motorola	
	100	CMOS					5	30		MCM84000-10	Motorola	5
4Mx9	60	CMOS	TTL/CMOS	Fast Page	6	295	5	30		HYM594000B-60	Hyundai	
	70	CMOS	TTL/CMOS	Fast Page	6	295	5	30		HYM594000B-70	Hyundai	
	80	CMOS					5	30		MCM9L4000-80	Motorola	
										MCM94000-80	Motorola	
	100	CMOS					5	30		MCM8L4000-10	Motorola	10
										MCM94000-10	Motorola	
4Mx32	60	CMOS	TTL/CMOS	Fast Page	16	720	5	72		HYM532400A-60	Hyundai	
	70	CMOS	TTL/CMOS	Fast Page	16	720	5	72		HYM532400A-70	Hyundai	
4Mx36	60	CMOS	TTL/CMOS	Fast Page	24	1140	5	72		HYM536400A-60	Hyundai	
	70	CMOS	TTL/CMOS	Fast Page	24	1140	5	72		HYM536400A-70	Hyundai	15
4Mx1	15	CMOS		Fast Page	1	80		28	Static Column	DM2200J-15	Ramtron	
	20	CMOS		Fast Page	1	80		28	Static Column	DM2200J-20	Ramtron	
	50	CMOS	TTL	Fast Page	2	100	5	26		μPD42S4100A-50	NEC	
										μPD424100A-50 ℓ	NEC	
	60	CMOS					5	26		MB81400A-60L	Fujitsu	20
										MB814101A-60L	Fujitsu	
									Self Refresh	M5M44102B-6S	Mitsubishi	
										M5M44102BL-6S	Mitsubishi	
				Fast Page		120	5	26		MCM34100A-60	Motorola	
				Nibble			5	24		M5M4V416201A-6 ℓ	Mitsubishi	25
									Self Refresh	M5M4V416201A-6S ℓ	Mitsubishi	
										M5M4V417201A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V417201A-6S ℓ	Mitsubishi	
										M5M4V418201A-6 ℓ	Mitsubishi	
									Self Refresh	M5M4V418201A-6S ℓ	Mitsubishi	30
								26	Self Refresh	M5M44101B-6S	Mitsubishi	
										M5M44101BL-6S	Mitsubishi	
			TTL		2	100	5	26		M5M44102B-6	Mitsubishi	
										M5M44102BL-6	Mitsubishi	
				Fast Page	0.2	100	5	26		MSM514100BL-60	OKI	35
					1	110	5	20		MT4C1004J-6	MicronSemi	
						100	5	20		**V53C400F-60**	**Mosel-Vitelic (3696)**	
					2	121	5	18		**MB814100A-60**	**Fujitsu (3612)**	
						105	5	20		HY514100A-60	Hyundai	
										HY514100AL-60	Hyundai	40
						110	5	26		MT4C1004J-6L	MicronSemi	
						100	5	26		M5M44100B-6	Mitsubishi	
										M5M44100B-6S	Mitsubishi	
										M5M44100BL-6	Mitsubishi	
										M5M44100BL-6S	Mitsubishi	45
						110	5	26		MCM4L4100-60	Motorola	
										MCM44100-60	Motorola	
						120	5	26		MCM5L4100A-60	Motorola	
										MCM54100A-60	Motorola	
										μPD42S4100A-60	NEC	50
										μPD424100-60	NEC	
							3.3	26		μPD424100-60L ℓ	NEC	
							5	26		μPD424100A-60	NEC	
						100	5	26		MSM514100B-60	OKI	
						90	5	20		KM41C4000B-6	Samsung	55
						110	5	26		HYB514100B-60	Siemens	
										HYB514100BL-60	Siemens	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx1	60	CMOS	TTL	Nibble	2	100	5	26		M5M44101B-6	Mitsubishi	
										M5M44101BL-6	Mitsubishi	
						120	5	26		MCM54101A-60	Motorola	
						90	5	26		µPD424101-60	NEC	
						120	5	26		µPD424101-60L	NEC	5
				Static Column	2	120	5	26		MCM54102A-60	Motorola	
										MCM54402A-60	Motorola	
						90	5	26		µPD424102-60	NEC	
										µPD424102-60L	NEC	
			TTL/CMOS	Fast Page	2	100	5	20		**514100-60**	**Krueger (3663)**	10
	70	CMOS					5	26		MB814100A-70L	Fujitsu	
										MB814101A-70L	Fujitsu	
									Self Refresh	M5M44102BL-7S	Mitsubishi	
				Fast Page		100	5	26		MCM34100A-70	Motorola	
				Nibble			5	24		M5M4V416201A-7 ℓ	Mitsubishi	15
									Self Refresh	M5M4V416201A-7S ℓ	Mitsubishi	
										M5M4V417201A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V417201A-7S ℓ	Mitsubishi	
										M5M4V418201A-7 ℓ	Mitsubishi	
									Self Refresh	M5M4V418201A-7S ℓ	Mitsubishi	20
								26	Self Refresh	M5M44101B-7S	Mitsubishi	
				Static			5	26	Self Refresh	M5M44102B-7S	Mitsubishi	
			TTL		2	85	5	26		M5M44102B-7	Mitsubishi	
										M5M44102BL-7	Mitsubishi	
				Fast Page	0.2	90	5	26		MSM514100BL-70	OKI	25
					0.5	100	3.3	26		µPD42S4100L-70 ℓ	NEC	
										µPD424100L-70 ℓ	NEC	
					1	100	5	20		MT4C1004J-7	MicronSemi	
								26		V53C400-70	Mosel-Vitelic	
						90	5	20		**V53C400F-70**	**Mosel-Vitelic (3696)**	30
					2	110	5	26		**MB814100A-70**	**Fujitsu (3612)**	
						90	5	20		HY514100-70	Hyundai	
						95	5	20		HY514100A-70	Hyundai	
										HY514100AL-70	Hyundai	
						90	5	20		**514100-70**	**Krueger (3663)**	35
						100	5	26		MT4C1004J-7L	MicronSemi	
						85	5	26		M5M44100B-7	Mitsubishi	
										M5M44100B-7S	Mitsubishi	
										M5M44100BL-7	Mitsubishi	
										M5M44100BL-7S	Mitsubishi	40
						100	5	26		MCM4L4100-70	Motorola	
										MCM44100-70	Motorola	
										MCM5L4100A-70	Motorola	
										MCM54100A-C70	Motorola	
										MCM54100A-70	Motorola	45
										µPD42S4100A-70	NEC	
										µPD424100-70	NEC	
							3.3	26		µPD424100-70L ℓ	NEC	
							5	26		µPD424100A-70	NEC	
						90	5	26		MSM514100B-70	OKI	50
						105	5	20		KM41C4000A-7	Samsung	
										KM41C4000AL-7	Samsung	
										KM41C4000ASL-7	Samsung	
						80	5	20		KM41C4000B-7	Samsung	
						105	5	20		KM44C4000A-7	Samsung	55
						100	5	26		HYB514100B-70	Siemens	
										HYB514100BL-70	Siemens	
				Nibble	2	75	5	26		M5M44101B-7	Mitsubishi	
										M5M44101BL-7	Mitsubishi	
										M5M44101BL-7S	Mitsubishi	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx1	70	CMOS	TTL	Nibble	2						(Cont'd)	
						100	5	26		MCM54101A-70	Motorola	
										μPD424101-70	NEC	
										μPD424101-70L	NEC	
						105	5	20		KM41C40001A-7	Samsung	
										KM41C4001A-7	Samsung	5
				Static Column								
					1	100	5	20		MT4C1006J-7	MicronSemi	
					2	100	5	26		MCM54102A-70	Motorola	
										MCM54402A-70	Motorola	
						80	5	26		μPD424102-70	NEC	
										μPD424102-70L	NEC	10
						105	5	20		KM41C40002A-7	Samsung	
										KM41C4002A-7	Samsung	
	80	CMOS					5	26	Self Refresh	M5M44102B-8S	Mitsubishi	
								18		μPD42641-80	NEC	
				Fast Page		85	5	26		MCM34100A-80	Motorola	15
				Nibble			5	24		M5M4V416201A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V416201A-8S	ℓ Mitsubishi	
										M5M4V417201A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V417201A-8S	ℓ Mitsubishi	
										M5M4V418201A-8	ℓ Mitsubishi	20
									Self Refresh	M5M4V418201A-8S	ℓ Mitsubishi	
								26	Self Refresh	M5M44101B-8S	Mitsubishi	
				Static			5	26	Self Refresh	M5M44102BL-8S	Mitsubishi	
			TTL	Fast Page	0.2	80	5	26		MSM514100BL-80	OKI	
					0.5	90	5	26		μPD42S4100A-80	NEC	25
							3.3	26		μPD42S4100L-80	ℓ NEC	
										μPD424100L-80	ℓ NEC	
					1	90	5	20		MT4C1004J-8	MicronSemi	
								26		V53C400-80	Mosel-Vitelic	
						80	5	20		**V53C400F-80**	**Mosel-Vitelic (3696)**	30
					2	99	5	26		**MB814100A-80**	**Fujitsu (3612)**	
						80	5	20		HY514100-80	Hyundai	
										514100-80	**Krueger (3663)**	
						90	5	26		MT4C1004J-8L	MicronSemi	
						75	5	26		M5M44100B-8	Mitsubishi	35
										M5M44100B-8S	Mitsubishi	
										M5M44100BL-8	Mitsubishi	
										M5M44100BL-8S	Mitsubishi	
						90	5	24		MDM14000-80	Mosaic Semi	
										MDM14000I-80	Mosaic Semi	40
										MDM14000M-80	† Mosaic Semi	
										MDM14000MB-80	† Mosaic Semi	
										MDM14000MC-80	† Mosaic Semi	
								26		MCM4L4100-80	Motorola	
										MCM44100-80	Motorola	45
						85	5	26		MCM5L4100A-80	Motorola	
										MCM54100A-C80	Motorola	
										MCM54100A-80	Motorola	
						90	5	26		μPD424100-80	NEC	
							3.3	26		μPD424100-80L	ℓ NEC	50
							5	26		μPD424100A-80	NEC	
						80	5	26		MSM514100B-80	OKI	
						100	5	20		KM41C4000-8	Samsung	
						95	5	20		KM41C4000A-8	Samsung	
										KM41C4000AL-8	Samsung	55
										KM41C4000ASL-8	Samsung	
						70	5	20		KM41C4000B-8	Samsung	
						100	5	20		KM41C4000L-8	Samsung	
						95	5	20		KM44C4000A-8	Samsung	
						85	5	26		HYB514100B-80	Siemens	60
										HYB514100BL-80	Siemens	
						100	5	26		TC514100L-80	Toshiba	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
4Mx1	80	CMOS	TTL	Nibble	2	75	5	26		M5M44101B-8	Mitsubishi	
										M5M44101BL-8	Mitsubishi	
										M5M44101BL-8S	Mitsubishi	
						90	5	24		MDM14001-80	Mosaic Semi	
										MDM14001I-80	Mosaic Semi	5
										MDM14001M-80	† Mosaic Semi	
										MDM14001MB-80	† Mosaic Semi	
						85	5	26		MCM54101A-80	Motorola	
						90	5	26		µPD424101-80	NEC	
										µPD424101-80L	NEC	10
						95	5	20		KM41C40001A-8	Samsung	
						100	5	20		KM41C4001-8	Samsung	
						95	5	20		KM41C4001A-8	Samsung	
				Static Column	1	90	5	20		MT4C1006J-8	MicronSemi	
					2	85	5	26		MCM54102A-80	Motorola	15
										MCM54402A-80	Motorola	
						90	5	26		µPD424102-80	NEC	
										µPD424102-80L	NEC	
						95	5	20		KM41C40002A-8	Samsung	
						100	5	20		KM41C4002-8	Samsung	20
						95	5	20		KM41C4002A-8	Samsung	
		NMOS					5			M5M44102B-8	Mitsubishi	
										M5M44102BL-8	Mitsubishi	
	100	CMOS		Fast Page			5	20		TC514100-10	Toshiba	
			TTL		1.1	83	5	26		TC514100A-10	Toshiba	25
										TC514101A-10	Toshiba	
										TC514102A-10	• Toshiba	
				Fast Page	0.2	70	5	26		MSM514100BL-10	OKI	
					1	80	5	20		HM514100-10	Hitachi	
						70	5	20		**V53C400F-10**	**Mosel-Vitelic (3696)**	30
					2	80	5	24		MDM14000-10	Mosaic Semi	
										MDM14000I-10	Mosaic Semi	
										MDM14000M-10	† Mosaic Semi	
										MDM14000MB-10	† Mosaic Semi	
										MDM14000MC-10	† Mosaic Semi	35
								26		µPD424100-10	NEC	
							3.3	26		µPD424100-10L	ℓ NEC	
						70	5	26		MSM514100B-10	OKI	
						85	5	20		KM41C4000-10	Samsung	
										KM41C4000A-10	Samsung	40
										KM41C4000AL-10	Samsung	
										KM41C4000ASL-10	Samsung	
										KM41C4000L-10	Samsung	
										KM44C4000A-10	Samsung	
				Nibble	2	80	5	24		MDM14001-10	Mosaic Semi	45
										MDM14001I-10	Mosaic Semi	
										MDM14001M-10	† Mosaic Semi	
										MDM14001MB-10	† Mosaic Semi	
								26		µPD424101-10	NEC	
										µPD424101-10L	NEC	50
						85	5	20		KM41C40001A-10	Samsung	
										KM41C4001-10	Samsung	
										KM41C4001A-10	Samsung	
				Static Column	2	80	5	26		µPD424102-10	NEC	
										µPD424102-10L	NEC	55
						85	5	20		KM41C4002-10	Samsung	
										KM41C4002A-10	Samsung	
	120	CMOS	TTL	Fast Page	2	70	5	24		MDM14000-12	Mosaic Semi	
										MDM14000I-12	Mosaic Semi	
										MDM14000M-12	† Mosaic Semi	60
										MDM14000MB-12	† Mosaic Semi	
										MDM14000MC-12	† Mosaic Semi	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx1	120	CMOS	TTL								(Cont'd)	
				Nibble	2	70	5	24		MDM14001-12	Mosaic Semi	
										MDM14001I-12	Mosaic Semi	
										MDM14001M-12	† Mosaic Semi	
										MDM14001MB-12	† Mosaic Semi	
4Mx4	10	CMOS	TTL				3.3	44		MT48LC4M4R1-10	MicronSemi	5
										M5M4V16407A-10	ℓ Mitsubishi	
	12	CMOS	TTL				3.3	44		MT48LC4M4R1-12	MicronSemi	
										M5M4V16407A-12	ℓ Mitsubishi	
	13	CMOS	TTL				3.3	44		MT48LC4M4R1-13	MicronSemi	
	15	CMOS	TTL				3.3	44		M5M4V16407A-15	ℓ Mitsubishi	10
	60	CMOS				90	5	24		MCM516402-60	Motorola	
										MCM517402-60	Motorola	
				Fast Page			5	24		M5M4V416200A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V416200A-6S	ℓ Mitsubishi	
										M5M4V417200A-6	ℓ Mitsubishi	15
									Self Refresh	M5M4V417200A-6S	ℓ Mitsubishi	
										M5M4V418200A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V418200A-6S	ℓ Mitsubishi	
										M5M416200-6	Mitsubishi	
									Self Refresh	M5M416200-6S	Mitsubishi	20
										M5M417200-6	Mitsubishi	
									Self Refresh	M5M417200-6S	Mitsubishi	
										M5M418200-6	Mitsubishi	
									Self Refresh	M5M418200-6S	Mitsubishi	
				Nibble			5	24		M5M416101-6	Mitsubishi	25
									Self Refresh	M5M416101-6S	Mitsubishi	
										M5M417101-6	Mitsubishi	
									Self Refresh	M5M417101-6S	Mitsubishi	
										M5M418101-6	Mitsubishi	
									Self Refresh	M5M418101-6S	Mitsubishi	30
				Static Column			5	24		M5M4V416202A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V416202A-6S	ℓ Mitsubishi	
										M5M4V417202A-6	ℓ Mitsubishi	
									Self Refresh	M5M4V417202A-6S	ℓ Mitsubishi	
										M5M4V41820A-6	ℓ Mitsubishi	35
									Self Refresh	M5M4V41820A-6S	ℓ Mitsubishi	
										M5M416202-6	Mitsubishi	
									Self Refresh	M5M416202-6S	Mitsubishi	
										M5M417202-6	Mitsubishi	
									Self Refresh	M5M417202-6S	Mitsubishi	40
										M5M418202-6	Mitsubishi	
									Self Refresh	M5M418202-6S	Mitsubishi	
			TTL				3.3	24		M5M4V16400B-6	ℓ Mitsubishi	
								26		M5M4V16400B-6S	ℓ Mitsubishi	
								24		M5M4V17400B-6	ℓ Mitsubishi	45
								26		M5M4V17400B-6S	ℓ Mitsubishi	
								28		M5M4V17800A-6	ℓ Mitsubishi	
										M5M4V17800A-6S	ℓ Mitsubishi	
							5	24		M5M416400A-6	Mitsubishi	
								28		M5M416400A-6S	Mitsubishi	50
								24		M5M416400B-6	Mitsubishi	
								28		M5M416400B-6S	Mitsubishi	
								24		M5M417400A-6	Mitsubishi	
								28		M5M417400A-6S	Mitsubishi	
								24		M5M417400B-6	Mitsubishi	55
								26		M5M417400B-6S	Mitsubishi	
					1.1	99	5	28		TC5116400-60	Toshiba	
										TC5116402-60	Toshiba	
										TC5116410-60	Toshiba	
						132	5	28		TC5117410-60	Toshiba	60
				Fast Page			5	28		μPD4216410-60	NEC	
										μPD4217410-60	NEC	

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
4Mx4	60	CMOS	TTL	Fast Page	1	60	3	24	4K Refresh	MT4LC4M4A1-6	ℓ MicronSemi	
						80	3	24	2K Refresh	MT4LC4M4B1-6	ℓ MicronSemi	
						100	5	20		**V53C404F-60**	**Mosel-Vitelic (3696)**	
					1.1	132	5	28		TC5117400-60	Toshiba	
					2	110	5	28		**MB8116400-60**	**Fujitsu (3616)**	5
						132	5	28		**MB8117400-60**	**Fujitsu (3617)**	
						90	5	28		MCM516400-60	Motorola	
						120	5	28		MCM517400-60	Motorola	
						90	5	28		µPD4216400-60	NEC	
						110	5	28		µPD4217400-60	NEC	10
						90	5	24		KM44C4000-6	Samsung	
										KM44C4000L-6	Samsung	
						110	5	24		KM44C4100-6	Samsung	
										KM44C4100L-6	Samsung	
				Static Column			5	28		µPD4216402-60	NEC	15
										µPD4216412-60	NEC	
										µPD4217402-60	NEC	
										µPD4217412-60	NEC	
					1.1	132	5	28		TC5117402-60	Toshiba	
			TTL/CMOS	Fast Page	2	90	5	28		HY511640-60	Hyundai	20
	70	CMOS				80	5	24		MCM516402-70	Motorola	
										MCM517402-70	Motorola	
				Fast Page			5	24		M5M4V416200A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V416200A-7S	ℓ Mitsubishi	
										M5M4V417200A-7	ℓ Mitsubishi	25
									Self Refresh	M5M4V417200A-7S	ℓ Mitsubishi	
										M5M4V418200A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V418200A-7S	ℓ Mitsubishi	
										M5M416200-7	Mitsubishi	
									Self Refresh	M5M416200-7S	Mitsubishi	30
										M5M417200-7	Mitsubishi	
									Self Refresh	M5M417200-7S	Mitsubishi	
										M5M418200-7	Mitsubishi	
									Self Refresh	M5M418200-7S	Mitsubishi	
										MDM44000-70	Mosaic Semi	35
										MDM44000X-70	Mosaic Semi	
				Nibble			5	24		M5M416101-7	Mitsubishi	
									Self Refresh	M5M416101-7S	Mitsubishi	
										M5M417101-7	Mitsubishi	
									Self Refresh	M5M417101-7S	Mitsubishi	40
										M5M418101-7	Mitsubishi	
									Self Refresh	M5M418101-7S	Mitsubishi	
				Static Column			5	24		M5M4V416202A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V416202A-7S	ℓ Mitsubishi	
										M5M4V417202A-7	ℓ Mitsubishi	45
									Self Refresh	M5M4V417202A-7S	ℓ Mitsubishi	
										M5M4V41820A-7	ℓ Mitsubishi	
									Self Refresh	M5M4V41820A-7S	ℓ Mitsubishi	
										M5M416202-7	Mitsubishi	
									Self Refresh	M5M416202-7S	Mitsubishi	50
										M5M417202-7	Mitsubishi	
									Self Refresh	M5M417202-7S	Mitsubishi	
										M5M418202-7	Mitsubishi	
									Self Refresh	M5M418202-7S	Mitsubishi	
			TTL				3.3	24		M5M4V16400B-7	ℓ Mitsubishi	55
								26		M5M4V16400B-7S	ℓ Mitsubishi	
								24		M5M4V17400B-7	ℓ Mitsubishi	
								26		M5M4V17400B-7S	ℓ Mitsubishi	
								28		M5M4V17800A-7	ℓ Mitsubishi	
										M5M4V17800A-7S	ℓ Mitsubishi	60
							5	24		M5M416400A-7	Mitsubishi	
								28		M5M416400A-7S	Mitsubishi	
								24		M5M416400B-7	Mitsubishi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx4	70	CMOS	TTL				5				(Cont'd)	
								28		M5M416400B-7S	Mitsubishi	
										M5M417400A-7	Mitsubishi	
										M5M417400A-7S	Mitsubishi	
								24		M5M417400B-7	Mitsubishi	
								26		M5M417400B-7S	Mitsubishi	5
				Fast Page			5	28		µPD4216410-70	NEC	
										µPD4217410-70	NEC	
					1	55	3	24	4K Refresh	MT4LC4M4A1-7	ℓ MicronSemi	
						70	3	24	2K Refresh	MT4LC4M4B1-7	ℓ MicronSemi	
						90	5	20		**V53C404F-70**	**Mosel-Vitelic (3696)**	10
					2	99	5	28		**MB8116400-70**	**Fujitsu (3616)**	
						110	5	28		**MB8117400-70**	**Fujitsu (3617)**	
						80	5	28	2K Refresh	MT4C4M4B1-7	MicronSemi	
										MCM516400-70	Motorola	
						100	5	28		MCM517400-70	Motorola	15
						80	5	28		µPD4216400-70	NEC	
						100	5	28		µPD4217400-70	NEC	
						80	5	24		KM44C4000-7	Samsung	
										KM44C4000L-7	Samsung	
						100	5	24		KM44C4100-7	Samsung	20
										KM44C4100L-7	Samsung	
				Static Column			5	28		µPD4216402-70	NEC	
										µPD4216412-70	NEC	
										µPD4217402-70	NEC	
										µPD4217412-70	NEC	25
			TTL/CMOS	Fast Page	2	90	5	28		HY511640-70	Hyundai	
	80	CMOS				70	5	24		MCM516402-80	Motorola	
										MCM517402-80	Motorola	
				Fast Page			5	24		M5M4V416200A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V416200A-8S	ℓ Mitsubishi	30
										M5M4V417200A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V417200A-8S	ℓ Mitsubishi	
										M5M4V418200A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V418200A-8S	ℓ Mitsubishi	
										M5M416200-8	Mitsubishi	35
									Self Refresh	M5M416200-8S	Mitsubishi	
										M5M417200-8	Mitsubishi	
									Self Refresh	M5M417200-8S	Mitsubishi	
										M5M418200-8	Mitsubishi	
									Self Refresh	M5M418200-8S	Mitsubishi	40
										MDM44000-80	Mosaic Semi	
										MDM44000X-80	Mosaic Semi	
						70	5	24		MCM516400-80	Motorola	
										MCM517400-80	Motorola	
				Nibble			5	24		M5M416101-8	Mitsubishi	45
									Self Refresh	M5M416101-8S	Mitsubishi	
										M5M417101-8	Mitsubishi	
									Self Refresh	M5M417101-8S	Mitsubishi	
										M5M418101-8	Mitsubishi	
									Self Refresh	M5M418101-8S	Mitsubishi	50
				Static Column			5	24		M5M4V416202A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V416202A-8S	ℓ Mitsubishi	
										M5M4V417202A-8	ℓ Mitsubishi	
									Self Refresh	M5M4V417202A-8S	ℓ Mitsubishi	
										M5M4V41820A-8	ℓ Mitsubishi	55
									Self Refresh	M5M4V41820A-8S	ℓ Mitsubishi	
										M5M416202-8	Mitsubishi	
									Self Refresh	M5M416202-8S	Mitsubishi	
										M5M417202-8	Mitsubishi	
									Self Refresh	M5M417202-8S	Mitsubishi	60
										M5M418202-8	Mitsubishi	
									Self Refresh	M5M418202-8S	Mitsubishi (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—General Purpose											**(Cont'd)**	
											(Cont'd)	
4Mx4	80	CMOS	TTL	Fast Page			5	28		µPD4216410-80	NEC	
										µPD4217410-80	NEC	
					1	80	5	20		**V53C404F-80**	**Mosel-Vitelic (3696)**	
					2	88	5	24		**MB8116400-80**	**Fujitsu (3616)**	
						94	5	28		**MB8117400-80**	**Fujitsu (3617)**	5
						70	5	28		µPD4216400-80	NEC	
						90	5	28		µPD4217400-80	NEC	
						70	5	24		KM44C4000-8	Samsung	
										KM44C4000L-8	Samsung	
						90	5	24		KM44C4100-8	Samsung	10
										KM44C4100L-8	Samsung	
				Static Column			5	28		µPD4216402-80	NEC	
										µPD4216412-80	NEC	
								24		µPD4217402-80	NEC	
								28		µPD4217412-80	NEC	15
			TTL/CMOS	Fast Page	2	90	5	28		HY511640-80	Hyundai	
	100	CMOS		Fast Page			5	24		MDM44000-10	Mosaic Semi	
										MDM44000X-10	Mosaic Semi	
			TTL		16	80	3.3	50	Synchronous	µPD42116420-10	ℓ NEC	
				Fast Page			5	28		µPD4217410-10	NEC	20
					1	70	5	20		**V53C404F-10**	**Mosel-Vitelic (3696)**	
					2	60	5	28		µPD4216400-10	NEC	
						80	5	28		µPD4217400-10	NEC	
				Static Column			5	28		µPD4216402-10	NEC	
										µPD4216412-10	NEC	25
										µPD4217402-10	NEC	
										µPD4217412-10	NEC	
	150	CMOS	TTL		16	70	3.3	50	Synchronous	µPD42116420-15	NEC	
	200	CMOS	TTL		16	60	3.3	50	Synchronous	µPD42116420-20	ℓ NEC	
4Mx9	60	CMOS	TTL		18	990	5	30		HYM94500L-60	Siemens	30
Dynamic—Modules												
8Mx16	60	CMOS	TTL	Fast Page	8	960	5	72		MT8D432-6	MicronSemi	
	70	CMOS	TTL	Fast Page	8	800	5	72		MT8D432-7	MicronSemi	
8Mx32	60	CMOS	TTL	Fast Page			5	72		MCM32800-60	Motorola	
					32	940	5	72		MC428000A32-60	NEC	
						896	5	72		KMM5328100V-6	Samsung	35
					48	1420	5	72		MC428000A36-60	NEC	
	70	CMOS	TTL	Fast Page			5	72		MCM32800-70	Motorola	
					32	860	5	72		MC428000A32-70	NEC	
						816	5	72		KMM5328100V-7	Samsung	
					48	1260	5	72		MC428000A36-70	NEC	40
	80	CMOS	TTL	Fast Page			5	72		MCM32800-80	Motorola	
					32	780	5	72		MC428000A32-80	NEC	
						736	5	72		KMM5328100V-8	Samsung	
					48	1140	5	72		MC428000A36-80	NEC	
	100	CMOS	TTL	Fast Page	48	1020	5	72		MC428000A36-10	NEC	45
8Mx36	60	CMOS	TTL	Fast Page			5	72		MCM36800-60	Motorola	
					36	828	5	72		KMM5368000H-6	Samsung	
						1008	5	72		KMM5368100H-6	Samsung	
	70	CMOS	TTL	Fast Page			5	72		MCM36800-70	Motorola	
					36	738	5	72		KMM5368000H-7	Samsung	50
						918	5	72		KMM5368100H-7	Samsung	
	80	CMOS	TTL	Fast Page			5	72		MCM36800-80	Motorola	
					36	648	5	72		KMM5368000H-8	Samsung	
						828	5	72		KMM5368100H-8	Samsung	
8Mx40	60	CMOS	TTL	Fast Page			5	72		MCM40800-60	Motorola	55
					12	510	5	72		MT20D840-6	MicronSemi	
	70	CMOS		Fast Page			5	72		MC428000AA40-70	NEC	
			TTL	Fast Page			5	72		MCM40800-70	Motorola	
					12	510	5	72		MT20D840-7	MicronSemi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Mx40											(Cont'd)	
	80	CMOS		Fast Page			5	72		MC428000AA40-80	NEC	
			TTL	Fast Page			5	72		MCM40800-80	Motorola	
8Mx72	60	CMOS	TTL	Fast Page			5	100		MCM72800-60	Motorola	
	70	CMOS	TTL	Fast Page			5	100		MCM72800-70	Motorola	
	80	CMOS	TTL	Fast Page			5	100		MCM72800-80	Motorola	5
8Mx36	60	CMOS	TTL	Fast Page	24	1424	5	72		MT12D836-6	MicronSemi	
	70	CMOS	TTL	Fast Page	24	1224	5	72		MT12D836-7	MicronSemi	
	80	CMOS	TTL	Fast Page	24	1064	5	72		MT12D836-8	MicronSemi	
8Mx40	80	CMOS	TTL	Fast Page	12	510	5	72		MT20D840-8	MicronSemi	
16Mx16	60	CMOS	TTL	Fast Page	16	976	5	72		MT16D832-6	MicronSemi	10
	70	CMOS	TTL	Fast Page	16	816	5	72		MT16D832-7	MicronSemi	
	80	CMOS	TTL	Fast Page	16	696	5	72		MT16D832-8	MicronSemi	
16Mx18	60	CMOS	TTL	Fast Page	20.8	640	5	72	8Mx36	MT24D836-6	MicronSemi	
	70	CMOS	TTL	Fast Page	20.8	640	5	72	8Mx36	MT24D836-7	MicronSemi	
	80	CMOS	TTL	Fast Page	20.8	640	5	72	8Mx36	MT24D836-8	MicronSemi	15
16Mx8	60	CMOS	TTL	Fast Page			5	30		MCM8L1600-60	Motorola	
										MCM81600-60	Motorola	
					16	720	5	30		KMM5816000-6	Samsung	
						880	5	30		KMM5816100-6	Samsung	
	70	CMOS	TTL	Fast Page			5	30		MCM8L1600-70	Motorola	20
										MCM81600-70	Motorola	
					16	640	5	30		KMM5816000-7	Samsung	
						800	5	30		KMM5816100-7	Samsung	
	80	CMOS	TTL	Fast Page			5	30		MCM8L1600-80	Motorola	
										MCM81600-80	Motorola	25
					16	560	5	30		KMM5816000-8	Samsung	
						720	5	30		KMM5816100-8	Samsung	
16Mx9	60	CMOS	TTL	Fast Page			5	30		MCM9L1600-60	Motorola	
										MCM91600-60	Motorola	
					8	810	5	30		KMM5916000-6	Samsung	30
					18	990	5	30		KMM5916100-6	Samsung	
	70	CMOS	TTL	Fast Page			5	30		MCM9L1600-70	Motorola	
										MCM91600-70	Motorola	
					8	720	5	30		KMM5916000-7	Samsung	
					18	900	5	30		KMM5916100-7	Samsung	35
	80	CMOS	TTL	Fast Page			5	30		MCM9L1600-80	Motorola	
										MCM91600-80	Motorola	
					8	630	5	30		KMM5916000-8	Samsung	
					18	810	5	30		KMM5916100-8	Samsung	
512x32	70	CMOS					5	72		MH25632SX-7	Mitsubishi	40
	80	CMOS					5	72		MH25632SX-8	Mitsubishi	
1Kx8							5	40		DS2250T8-12	Dallas	
										DS2250T8-16	Dallas	
										DS2250T8-8	Dallas	
										DS22508-12	Dallas	45
										DS22508-16	Dallas	
										DS22508-8	Dallas	
4Kx8							5	40		DS2250T32-12	Dallas	
										DS2250T32-16	Dallas	
										DS2250T32-8	Dallas	50
										DS225032-12	Dallas	
										DS225032-16	Dallas	
										DS225032-8	Dallas	
8Kx8							5	40		DS2250T64-12	Dallas	
										DS2250T64-16	Dallas	55
										DS2250T64-8	Dallas	
										DS225064-12	Dallas	
										DS225064-16	Dallas	
										DS225064-8	Dallas	
32Kx8	85	CMOS	TTL	Common	0.1	45	5	28		µPD43256A-85L	NEC	60
	100	CMOS	TTL	Common	0.05	40	5	28		µPD43256A-10LL	NEC	
					0.1	40	5	28		µPD43256A-10L	NEC	
	120	CMOS	TTL	Common	0.05	40	5	28		µPD43256A-12LL	NEC	
					0.1	40	5	28		µPD43256A-12L	NEC	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx8	150	CMOS	TTL	Common	0.1	35	5	28		μPD43256A-15L	NEC
										μPD43256A-15LL	NEC
64Kx32	40	CMOS		Fast Page			5	72		TP012323T4A-40	IBM
	80	CMOS		Fast Page			5	72		TP012323T4A-80	IBM
64Kx4	120						5	22		**PEP4064EC4-120**	**Peps (3706)**
	150						5	22		**PEP4064EC4-150**	**Peps (3706)**
	200						5	22		**PEP4064EC4-200**	**Peps (3706)**
64Kx5	120						5	24		**PEP4064EC5-120**	**Peps (3706)**
	150						5	24		**PEP4064EC5-150**	**Peps (3706)**
	200						5	24		**PEP4064EC5-200**	**Peps (3706)**
64Kx8	120						5	30		**PEP4064EL8-120**	**Peps (3706)**
	150						5	30		**PEP4064EL8-150**	**Peps (3706)**
	200						5	30		**PEP4064EL8-200**	**Peps (3706)**
64Kx9	120						5	30		**PEP4064EL9-120**	**Peps (3706)**
	150						5	30		**PEP4064EL9-150**	**Peps (3706)**
	200						5	30		**PEP4064EL9-200**	**Peps (3706)**
256Kx8	45	CMOS					5			V104HJ8-45	Mosel-Vitelic
	50	CMOS					5			V104HJ8-50	Mosel-Vitelic
	60	CMOS					5			V104HJ8-60	Mosel-Vitelic
				Fast Page	2	180	5	30		GMM78256S-60	GoldStar
			TTL	Fast Page	4	180	5	20		HYM58256A-60	Hyundai
			TTL/CMOS	FP	2	180	5	30		THM82500B-60	Toshiba
	70	CMOS					5	30		VM53C256K8-70	Mosel-Vitelic
										V104AJ8-70	Mosel-Vitelic
										V256J8-70	Mosel-Vitelic
								30		THM82500A-70	Toshiba
				Fast Page	2	160	5	30		GMM78256S-70	GoldStar
			TTL		4	160	5	30		KMM58256BN-7	Samsung
				Fast Page	4	160	5	20		HYM58256A-70	Hyundai
	80	CMOS					5	30		VM53C256K8-80	Mosel-Vitelic
										V104AJ8-80	Mosel-Vitelic
										V256J8-80	Mosel-Vitelic
								30		THM82500A-80	Toshiba
				Fast Page	2	140	5	30		GMM78256S-80	GoldStar
			TTL		4	150	5	30		MSC2328A-8AS2	OKI
										MSC2328A-80S2	OKI
						140	5	30		KMM58256BN-8	Samsung
				Fast Page	4	140	5	20		HYM58256A-80	Hyundai
	100	CMOS					5	30		VM53C256K8-10	Mosel-Vitelic
										THM82500A-10	Toshiba
			TTL		4	120	5	30		MC157-10	NEC
						130	5	30		MSC2328A-1AS2	OKI
										MSC2328A-10S2	OKI
						120	5	30		KMM58256BN-10	Samsung
				Fast Page	4	120	5	30		MC157	NEC
		NMOS	TTL	Page	40	480	5	30		MSC2304S8-10	OKI
	120						5	30		TM4256FL8-12	TI
		NMOS	TTL	Page	40	440	5	30		MSC2304S8-12	OKI
	150	NMOS	TTL	Page	40	400	5	30		MSC2304S8-15	OKI
256Kx9	10	CMOS					5	30		THM92500A-10	Toshiba
	60	CMOS					5	30		TM256GU9C-6	TI
			TTL/CMOS	Fast Page	3	270	5	30		THM92500B-60	Toshiba
	70	CMOS					5	30		VM53C256K9-70	Mosel-Vitelic
										V104AJ9-70	Mosel-Vitelic
										V256J9-70	Mosel-Vitelic
								30		MCM9L4256-70	Motorola
										TM256GU9U-70	TI
										THM92500A-70	Toshiba
				Fast Page	5	245	5	30		GMM79256NS-70	GoldStar

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx9	70	CMOS									(Cont'd)	
			TTL		6	225	5	30		KMM59256BN-7	Samsung	
				Fast Page	5	230	5	18		HYM59256A-70	Hyundai	
	80	CMOS					5	30		VM53C256K9-80	Mosel-Vitelic	
										V104AJ9-80	Mosel-Vitelic	
										V256J9-80	Mosel-Vitelic	5
								30		MCM9L4256-80	Motorola	
										THM92500A-80	Toshiba	
				Fast Page	5	200	5	30		GMM79256NS-80	GoldStar	
			TTL		6	195	5	30		KMM59256BN-8	Samsung	
					7.5	210	5	30		MSC2331A-8AS3	OKI	10
										MSC2331A-80S3	OKI	
				Fast Page	6	200	5	18		HYM59256A-80	Hyundai	
					31.5	540	5	30		MSC2316-80S9	OKI	
		TTL					5	30		TM256GU9C-80	TI	
	100	CMOS					5	30		VM53C256K9-10	Mosel-Vitelic	15
										MCM9L4256-10	Motorola	
				Fast Page	5	170	5	30		GMM79256NS-10	GoldStar	
			TTL		6	165	5	30		KMM59256BN-10	Samsung	
					7.5	180	5	30		MSC2331A-1AS3	OKI	
										MSC2331A-10S3	OKI	20
				Fast Page	31.5	450	5	30		MSC2316-10S9	OKI	
				Page	9	210	5	30		MSC2329-10S3	OKI	
		NMOS	TTL	Page	45	540	5	30		MSC2304S9-10	OKI	
		TTL					5	30		TM256GU9C-10	TI	
	120	CMOS	TTL	Page	9	195	5	30		MSC2329-12S3	OKI	25
		NMOS	TTL	Page	45	495	5	30		MSC2304S9-12	OKI	
	150	NMOS	TTL	Page	45	450	5	30		MSC2304S9-15	OKI	
256Kx32	60	CMOS	TTL	Common	8	720	5	72		HB56B25632-6	Hitachi	
				Fast Page	16	720	5	72		THM322500B-60	Toshiba	
			TTL/CMOS	Fast Page	1.6	680	5	72		MT8D25632L-6	MicronSemi	30
					16	720	5	72		MC42256A32T-60	NEC	
		TTL					5	30		TM256BBK32-6	TI	
	70	CMOS	TTL	Common	8	640	5	72		HB56B25632-7	Hitachi	
			TTL/CMOS	Fast Page	1.6	600	5	72		MT8D25632L-7	MicronSemi	
					16	640	5	72		MC42256A32T-70	NEC	35
		TTL					5	30		TM256BBK32-70	TI	
	80	CMOS	TTL	Common	8	528	5	72		HB56B25632-8	Hitachi	
				Fast Page	16	600	5	72		MSC2327A-80S8	OKI	
			TTL/CMOS	Fast Page	1.6	520	5	72		MT8D25632L-8	MicronSemi	
					16	560	5	72		MC42256A32T-80	NEC	40
		TTL					5	30		TM256BBK32-80	TI	
	85	CMOS	TTL	Common	12	808	5	72		HB56D25636-85	Hitachi	
	100	CMOS	TTL	Common	8	440	5	72		HB56B25632-10	Hitachi	
					12	680	5	72		HB56D25636-10	Hitachi	
				Fast Page	16	520	5	72		MSC2327A-10S8	OKI	45
						480	5	72		THM322500A-10	Toshiba	
			TTL/CMOS	Fast Page	16	480	5	72		MC42256A32T-10	NEC	
		TTL					5	30		TM256BBK32-10	TI	
	120	CMOS	TTL	Common	8	376	5	72		HB56B25632-12	Hitachi	
					12	576	5	72		HB56D25636-12	Hitachi	50
256Kx36	10	CMOS		Fast Page	20	680	5	72		GMM736256SG-10	GoldStar	
	60	TTL					5			TM256KBK36B-6	TI	
										TM256KBK36C-6	TI	
	70	CMOS					5			V104AJ36-70	Mosel-Vitelic	
				Fast Page	20	920	5	72		GMM736256SG-70	GoldStar	55
			TTL		13.2	1056	5	72		THM362500A-70	Toshiba	
					24	900	5	72		KMM536256B-7	Samsung	
				Fast Page	24	960	5	72		MC424256A36H-70	NEC	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx36	70										(Cont'd)	
		TTL					5			TM256KBK36B-70	TI	
										TM256KBK36C-70	TI	
	80	CMOS					5	72		VM55C104K36-80	Mosel-Vitelic	
										V104AJ36-80	Mosel-Vitelic	
				Fast Page	20	800	5	72		GMM736256SG-80	GoldStar	5
			TTL		13.2	924	5	72		THM362500A-80	Toshiba	
					18	840	5	72		MSC2320A-8AS9	OKI	
										MSC2320A-80S9	OKI	
					24	780	5	72		KMM536256B-8	Samsung	
				Fast Page	24	840	5	72		MC424256A36H-80	NEC	10
		TTL					5			TM256KBK36B-80	TI	
										TM256KBK36C-80	TI	
	85		TTL	Page	36	808	5	72		MC424256A36H-85	NEC	
	100		TTL	Page	36	680	5	72		MC424256A36H-10	NEC	
		CMOS					5	72		VM55C104K36-10	Mosel-Vitelic	15
			TTL		18	720	5	72		MSC2320A-1AS9	OKI	
										MSC2320A-10S9	OKI	
					24	660	5	72		KMM536256B-10	Samsung	
		TTL					5			TM256KBK36B-10	TI	
										TM256KBK36C-10	TI	20
256Kx40	60	CMOS	TTL		22	1012	5	72		THM402510B-60	Toshiba	
				Fast Page	20	900	5	72		THM402500B-60	Toshiba	
	70	CMOS	TTL		22	902	5	72		THM402510A-70	Toshiba	
	80	CMOS	TTL		22	792	5	72		THM402510A-80	Toshiba	
				Fast Page	20	700	5	72		THM402500A-80	Toshiba	25
	100	CMOS	TTL		22	682	5	72		THM402510A-10	Toshiba	
256Kx32	60	CMOS	TTL	Fast Page	8	720	5	72		MT8D25632-6	MicronSemi	
					16	720	5	30		MC42256A32-60	NEC	
	70	CMOS		Fast Page			5	72		MC42256AA32-70	NEC	
			TTL	Fast Page	1.6	640	5	72		MCM32L256-70	Motorola	30
					8	640	5	72		MCM32256-70	Motorola	
										MMCM322560-70	Motorola	
					16	640	5	30		MC42256A32-70	NEC	
								72		MSC2327B-70S8	OKI	
										THM322500A-70	Toshiba	35
					700	240	5	104	With 512x32 SAM	MT4V25632-7	MicronSemi	
			TTL/CMOS	Fast Page	16	640	5	72		MT8D25632-7	MicronSemi	
	80	CMOS		Fast Page			5	72		MC42256AA32-80	NEC	
			TTL	Fast Page	1.6	560	5	72		MCM32L256-80	Motorola	
					8	560	5	72		MCM32256-80	Motorola	40
										MMCM322560-80	Motorola	
					16	560	5	30		MC42256A32-80	NEC	
								72		MSC2327B-80SB	OKI	
										THM322500A-80	Toshiba	
					640	240	5	104	With 512x32 SAM	MT4V25632-8	MicronSemi	45
			TTL/CMOS	Fast Page	16	560	5	72		MT8D25632-8	MicronSemi	
	100	CMOS	TTL	Fast Page	1.6	480	5	72		MCM32L256-10	Motorola	
					8	480	5	72		MCM32256-10	Motorola	
					16	480	5	30		MC42256A32-10	NEC	
								72		MSC2327B-10S8	OKI	50
256Kx35	70	CMOS	TTL	Fast Page	28	900	5	72		MSC2320B-70S9	OKI	
	80	CMOS	TTL	Fast Page	28	780	5	72		MSC2320B-80S9	OKI	
	100	CMOS	TTL	Fast Page	28	660	5	72		MSC2320B-10S9	OKI	
256Kx36	60						5	64		**AST1000-60**	**Peps (3706)**	
								72		PEP25636-60	Peps	55
		CMOS	TTL	Fast Page			5	72		**MB85336-60**	**Fujitsu (3618)**	
					24	1080	5	72		THM362500B-60	Toshiba	
	70						5	64		**AST1000-70**	**Peps (3706)**	
								72		PEP25636-70	Peps	
					12.8	760	5			**V104J36-70**	**Mosel-Vitelic (3696)**	60
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Dynamic—Modules											**(Cont'd)**	
256Kx36	70										(Cont'd)	
		CMOS	TTL	Fast Page			5	72		**MB85336-70**	**Fujitsu (3618)**	
					4	300	5	72		KMM536256W-7	Samsung	
					24	940	5	72		MCM36256-70	Motorola	
						920	5	72		MC42256A36-70	NEC	
						960	5	72		MC424256A36-70	NEC	5
						740	5	72		KMM536256C-7	Samsung	
	80						5	64		**AST1000-80**	**Peps (3706)**	
								72		PEP25636-80	Peps	
					12.8	760	5			**V104J36-80**	**Mosel-Vitelic (3696)**	
		CMOS	TTL	Fast Page			5	72		**MB85336-80**	**Fujitsu (3618)**	10
					4	260	5	72		KMM536256W-8	Samsung	
					24	820	5	72		MCM36256-80	Motorola	
						800	5	72		MC42256A36-80	NEC	
						840	5	72		MC424256A36-80	NEC	
						700	5	72		KMM536256C-8	Samsung	15
	85	CMOS	TTL	Fast Page	36	808	5	72		MC424256A36-85	NEC	
	100	CMOS	TTL		13.2	792	5	72		THM362500A-10	Toshiba	
				Fast Page			5	72		**MB85336-10**	**Fujitsu (3618)**	
					4	220	5	72		KMM536256W-10	Samsung	
					12	700	5	72		MCM36256-10	Motorola	20
					24	680	5	72		MC42256A36-10	NEC	
						720	5	72		MC424256A36-10	NEC	
256Kx4	60						5	22		**PEP4256EC4-60**	**Peps (3706)**	
	70						5	22		**PEP4256EC4-70**	**Peps (3706)**	
	80						5	22		**PEP4256EC4-80**	**Peps (3706)**	25
	100						5	22		**PEP4256EC4-100**	**Peps (3706)**	
	120						5	22		**PEP4256EC4-120**	**Peps (3706)**	
	150						5	22		**PEP4256EC4-150**	**Peps (3706)**	
256Kx40	60	CMOS	TTL	Fast Page	2	900	5	72		MCM40L256-60	Motorola	
					10	900	5	72		MCM40256-60	Motorola	30
					20	900	5	72		MC42256AA40-60	NEC	
	70	CMOS	TTL	Fast Page	2	800	5	72		MCM40L256-70	Motorola	
					10	800	5	72		MCM40256-70	Motorola	
					20	800	5	72		MC42256AA40-70	NEC	
										THM402500A-70	Toshiba	35
	80	CMOS	TTL	Fast Page	2	700	5	72		MCM40L256-80	Motorola	
					10	700	5	72		MCM40256-80	Motorola	
					20	700	5	72		MC42256AA40-80	NEC	
	100	CMOS	TTL	Fast Page	2	600	5	72		MCM40L256-10	Motorola	
					10	600	5	72		MCM40256-10	Motorola	40
					20	600	5	72		MC42256AA40-10	NEC	
										THM402500A-10	Toshiba	
256Kx5	60						5	24		**PEP4256EC5-60**	**Peps (3706)**	
	70						5	24		**PEP4256EC5-70**	**Peps (3706)**	
	80						5	24		**PEP4256EC5-80**	**Peps (3706)**	45
	100						5	24		**PEP4256EC5-100**	**Peps (3706)**	
	120						5	24		**PEP4256EC5-120**	**Peps (3706)**	
	150						5	24		**PEP4256EC5-150**	**Peps (3706)**	
256Kx8	60						5	30		**PEP4256EL8-60**	**Peps (3706)**	
										PEP4256EL8LP-60	**Peps (3706)**	50
					2	130	5			V104BJ8-60	Mosel-Vitelic	
								30		**V104J8-60**	**Mosel-Vitelic (3696)**	
		CMOS	TTL	Fast Page	4	180	5	30		MC42256AB8-60	NEC	
						140	5	30		KMM58256CN-6	Samsung	
	70						5	30		**PEP4256EL8-70**	**Peps (3706)**	55
										PEP4256EL8LP-70	**Peps (3706)**	
					2	130	5			V104BJ8-70	Mosel-Vitelic	
								30		**V104J8-70**	**Mosel-Vitelic (3696)**	
		CMOS	TTL	Fast Page	4	160	5	30		MCM8L4256-70	Motorola	
										MCM84256-70	Motorola	60
										MC42256AB8-70	NEC	
										MSC2328B-70S2	OKI	
						130	5	30		KMM58256CN-7	Samsung	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx8											(Cont'd)	
	80						5	30		**PEP4256EL8-80**	**Peps** (3706)	
										PEP4256EL8LP-80	**Peps** (3706)	
					2	130	5			V104BJ8-80	Mosel-Vitelic	
								30		**V104J8-80**	**Mosel-Vitelic** (3696)	
		CMOS	TTL	Fast Page	4	140	5	30		MCM8L4256-80	Motorola	5
										MCM84256-80	Motorola	
										MC42256AB8-80	NEC	
										MSC2328B-80S2	OKI	
						120	5	30		KMM58256CN-8	Samsung	
	100						5	30		**PEP4256EL8-100**	**Peps** (3706)	10
										PEP4256EL8LP-100	**Peps** (3706)	
		CMOS					5	30		MCM84256-10	Motorola	
			TTL	Fast Page	0.4	120	5	30		MCM8L4256-10	Motorola	
					4	120	5	30		MC42256AB8-10	NEC	
										MSC2328B-10S2	OKI	15
	120						5	30		**PEP4256EL8-120**	**Peps** (3706)	
										PEP4256EL8LP-120	**Peps** (3706)	
	150						5	30		**PEP4256EL8-150**	**Peps** (3706)	
										PEP4256EL8LP-150	**Peps** (3706)	
256Kx9	60						5	30		**PEP4256EL9-60**	**Peps** (3706)	20
										PEP4256EL9LP-60	**Peps** (3706)	
		CMOS	TTL	Page	6	270	5	30		MC42256AB9-60	NEC	
	70						5	30		**PEP4256EL9-70**	**Peps** (3706)	
										PEP4256EL9LP-70	**Peps** (3706)	
					3	180	5			**V104J9-70**	**Mosel-Vitelic** (3696)	25
		CMOS	TTL	Fast Page	6	225	5	30		MCM94256-70	Motorola	
										MCM94256A-70	Motorola	
						205	5	30		KMM59256CN-7	Samsung	
					7	225	5	30		MSC2331B-70S3	OKI	
				Page	6	240	5	30		MC42256AB9-70	NEC	30
	80						5	30		**PEP4256EL9-80**	**Peps** (3706)	
										PEP4256EL9LP-80	**Peps** (3706)	
					3	180	5			**V104J9-80**	**Mosel-Vitelic** (3696)	
		CMOS	TTL	Fast Page	3	210	5	30		MCM94256A-80	Motorola	
					6	195	5	30		MCM94256-80	Motorola	35
						185	5	30		KMM59256CN-8	Samsung	
					7	195	5	30		MSC2331B-80S3	OKI	
				Page	6	210	5	30		MC42256AB9-80	NEC	
	100						5	30		**PEP4256EL9-100**	**Peps** (3706)	
										PEP4256EL9LP-100	**Peps** (3706)	40
		CMOS	TTL	Fast Page	3	165	5	30		MCM94256-10	Motorola	
						180	5	30		MCM94256A-10	Motorola	
					7	165	5	30		MSC2331B-10S3	OKI	
				Page	6	180	5	30		MC42256AB9-10	NEC	
	120						5	30		**PEP4256EL9-120**	**Peps** (3706)	45
										PEP4256EL9LP-120	**Peps** (3706)	
	150						5	30		**PEP4256EL9-150**	**Peps** (3706)	
										PEP4256EL9LP-150	**Peps** (3706)	
512Kx4	100	CMOS		Page			5	30	(256Kx4)x2 + (256Kx1)	MH25609B-10	Mitsubishi	
512Kx8	80	CMOS	TTL	Fast Page	8	154	5	30		MSC2330A-80S4	OKI	50
	100	CMOS	TTL	Fast Page	8	134	5	30		MSC2330A-10S4	OKI	
512Kx32	60	CMOS	TTL	Fast Page	32	736	5	72		THM325120B-60	Toshiba	
			TTL/CMOS	Fast Page	3.2	684	5	72		MT16D51232L-6	MicronSemi	
		TTL					5			TM512CBK32-6	TI	
	70	CMOS	TTL/CMOS	Fast Page	3.2	604	5	72		MT16D51232L-7	MicronSemi	55
		TTL					5			TM512CBK32-70	TI	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY–RAMs (Cont'd)

Dynamic–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx32	80	CMOS	TTL	Fast Page	32	616	5	72		MSC2333A-80S16	OKI	
						576	5	72		THM325120A-80	Toshiba	
			TTL/CMOS	Fast Page	3.2	524	5	72		MT16D51232L-8	MicronSemi	
		TTL					5			TM512CBK32-80	TI	
	100	CMOS	TTL	Fast Page	32	536	5	72		MSC2333A-10S16	OKI	5
		TTL					5			TM512CBK32-10	TI	
512Kx36	60	CMOS	TTL		26.4	1214.4	5	72		THM365210B-60	Toshiba	
				Fast Page	48	1104	5	72		THM365120B-60	Toshiba	
		TTL					5			TM512LBK36B-6	TI	
										TM512LBK36C-6	TI	10
	70	CMOS					5			V104AJ236-70	Mosel-Vitelic	
				Fast Page	40	950	5	72		GMM736512SG-70	GoldStar	
			TTL		26.4	1082.4	5	72		THM365120A-70	Toshiba	
					48	924	5	72		KMM536512B-7	Samsung	
				Fast Page	24	1040	5	72		MC424512A36H-70	NEC	15
		TTL					5			TM512LBK36B-70	TI	
										TM512LBK36C-70	TI	
	80		TTL	Page	72	1024	5	72		MCM424512A36-80	NEC	
		CMOS					5	72		VM55C1042K36-80	Mosel-Vitelic	
										V104AJ236-80	Mosel-Vitelic	20
				Fast Page	40	830	5	72		GMM736512SG-80	GoldStar	
			TTL		36	870	5	72		MSC2321A-8AS18	OKI	
										MSC2321A-80S18	OKI	
					48	804	5	72		KMM536512B-8	Samsung	
				Fast Page	24	910	5	72		MC424512A36H-80	NEC	25
		TTL					5			TM512LBK36B-80	TI	
										TM512LBK36C-80	TI	
	85		TTL	Page	72	872	5	72		MCM424512A36-85	NEC	
		CMOS	TTL	Common	24	872	5	72		HB56D51236-85	Hitachi	
	100	CMOS					5	72		VM5C1042K36-10	Mosel-Vitelic	30
				Fast Page	40	710	5	72		GMM736512SG-10	GoldStar	
			TTL		36	750	5	72		MSC2321A-1AS18	OKI	
										MSC2321A-10S18	OKI	
					48	684	5	72		KMM536512B-10	Samsung	
				Common	24	744	5	72		HB56D51236-10	Hitachi	35
				Fast Page	24	780	5	72		MC424512A36H-10	NEC	
		TTL					5			TM512LBK36B-10	TI	
										TM512LBK36C-10	TI	
	120	CMOS	TTL	Common	24	640	5	72		HB56D51236-12	Hitachi	
512Kx40	60	CMOS	TTL		22	1012	5	72		THM405140B-60	Toshiba	40
				Fast Page	4	854	5	72		MT20D51240L-6	MicronSemi	
					40	920	5	72		THM405120B-60	Toshiba	
	70	CMOS	TTL		22	902	5	72		THM405140A-70	Toshiba	
					40	820	5	72		KMM540512B-7	Samsung	
				Fast Page	4	754	5	72		MT20D51240L-7	MicronSemi	45
					40	820	5	72		THM405120A-70	Toshiba	
	80	CMOS	TTL		22	792	5	72		THM405140A-80	Toshiba	
					40	720	5	72		KMM540512B-8	Samsung	
				Fast Page	4	654	5	72		MT20D51240L-8	MicronSemi	
					40	720	5	72		THM405120A-80	Toshiba	50
	100	CMOS	TTL		22	682	5	72		THM405140A-10	Toshiba	
					40	620	5	72		KMM540512B-10	Samsung	
				Fast Page	40	620	5	72		THM405120A-10	Toshiba	
512Kx32	6	CMOS	TTL	Fast Page	9.6	140	5	72	Low Power, Low Voltage available; 1Mx16	MT16D51232-6	ℓ MicronSemi	
	60	CMOS	TTL	Fast Page	32	736	5	72		MT16DT51232-6	MicronSemi	55
						780	5	72		MC42512A32-60	NEC	
						576	5	72		KMM532512CV-6	Samsung	
	70	CMOS		Fast Page			5	72		MC42512AA32-70	NEC	
			TTL	Fast Page	3.2	656	5	72		MCM32L512-70	Motorola	
					8	294	5	72		KMM532F12W-7	Samsung	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx32	70	CMOS	TTL	Fast Page							(Cont'd)	
					16	656	5	72		MCM32512-70	Motorola	
					32	656	5	72		MT16DT51232-7	MicronSemi	
						700	5	72		MC42512A32-70	NEC	
						680	5	72		MSC2333B-70S16	OKI	
						536	5	72		KMM532512CV-7	Samsung	5
						656	5	72		THM325120A-70	Toshiba	
			TTL/CMOS	Fast Page	32	656	5	72		MT16D51232-7	MicronSemi	
	80	CMOS		Fast Page			5	72		MC42512AA32-80	NEC	
			TTL	Fast Page	3.2	576	5	72		MCM32L512-80	Motorola	
					8	254	5	72		KMM532F12W-8	Samsung	10
					16	576	5	72		MCM32512-80	Motorola	
					32	576	5	72		MT16DT51232-8	MicronSemi	
						620	5	72		MC42512A32-80	NEC	
						600	5	72		MSC2333B-80S16	OKI	
						496	5	72		KMM532512CV-8	Samsung	15
			TTL/CMOS	Fast Page	32	576	5	72		MT16D51232-8	MicronSemi	
	100	CMOS	TTL	Fast Page	3.2	496	5	72		MCM32L512-10	Motorola	
					8	214	5	72		KMM532F12W-10	Samsung	
					16	496	5	72		MCM32512-10	Motorola	
					32	540	5	72		MC42512A32-10	NEC	20
						520	5	72		MSC2333B-10S16	OKI	
						496	5	72		THM325120A-10	Toshiba	
512Kx36	60						5	72		PEP51236-60	Peps	
	70						5	72		PEP51236-70	Peps	
		CMOS			12.8	760	5	30	SIMM	**V104J236-70**	**Mosel-Vitelic (3696)**	25
			TTL	Fast Page	8	304	5	72		KMM536512W-7	Samsung	
										KMM536512W3-7	Samsung	
					48	964	5	72		MCM36512-70	Motorola	
						804	5	72		KMM536512C-7	Samsung	
				Page	48	1040	5	72		MC424512A36-70	NEC	30
						980	5	72		MC42512A36-70	NEC	
	80						5	72		PEP51236-80	Peps	
		CMOS			24	1320	5	30	SIMM	**V104J236-80**	**Mosel-Vitelic (3696)**	
			TTL		26.4	950.4	5	72		THM365120A-80	Toshiba	
				Fast Page	8	264	5	72		KMM536512W-8	Samsung	35
										KMM536512W3-8	Samsung	
					48	844	5	72		MCM36512-80	Motorola	
						724	5	72		KMM536512C-8	Samsung	
				Page	48	910	5	72		MC424512A36-80	NEC	
						860	5	72		MC42512A36-80	NEC	40
	85	CMOS	TTL	Page	72	872	5	72		MC424512A36-85	NEC	
	100	CMOS	TTL		26.4	818.4	5	72		THM365120A-10	Toshiba	
				Fast Page	8	224	5	72		KMM536512W-10	Samsung	
										KMM536512W3-10	Samsung	
					24	724	5	72		MCM36512-10	Motorola	45
				Page	48	780	5	72		MC424512A36-10	NEC	
						740	5	72		MC42512A36-10	NEC	
512Kx40	60	CMOS	TTL	Fast Page	4	920	5	72		MCM40L512-60	Motorola	
					12	360	5			MT20D51240-6	MicronSemi	
					20	920	5	72		MCM40512-60	Motorola	50
					40	720	5	72		KMM540512C-6	Samsung	
	70	CMOS	TTL	Fast Page	4	820	5	72		MCM40L512-70	Motorola	
					10	525	5	72		MC42512AB40-70	NEC	
					12	360	5			MT20D51240-7	MicronSemi	
					20	820	5	72		MCM40512-70	Motorola	55
					40	960	5	72		MC42512AA40-70	NEC	
						670	5	72		KMM540512C-7	Samsung	
	80	CMOS	TTL	Fast Page	4	720	5	72		MCM40L512-80	Motorola	
					10	475	5	72		MC42512AB40-80	NEC	
					12	360	5			MT20D51240-8	MicronSemi	60
					20	720	5	72		MCM40512-80	Motorola	
					40	840	5	72		MC42512AA40-80	NEC	
						620	5	72		KMM540512C-8	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
512Kx40	100	CMOS	TTL	Fast Page	4	920	5	72		MCM40L512-10	Motorola	
					10	400	5	72		MC42512AB40-10	NEC	
					20	620	5	72		MCM40512-10	Motorola	
					40	720	5	72		MC42512AA40-10	NEC	
512Kx8	55	CMOS	TTL	Common	0.05	15	5	32		µPD434000-55LL	NEC	5
					0.1	15	5	32		µPD434000-55L	NEC	
					2	15	5	32		µPD434000-55	NEC	
	60	CMOS		Fast Page	2	150	3.3	28		TP014800BJ3B-60 ℓ	IBM	
										TP014800BT3B-60 ℓ	IBM	
							5	28		TP014800J2C-60	IBM	10
										TP014800J3B-60	IBM	
										TP014800LJ3B-60	IBM	
										TP014800LT3B-60	IBM	
							3.3	28		TP014800NJ3B-60 ℓ	IBM	
										TP014800NT3B-60 ℓ	IBM	15
							5	28		TP014800T3B-60	IBM	
	70	CMOS		Fast Page	2	135	3.3	28		TP014800BJ3B-70 ℓ	IBM	
										TP014800BT3B-70 ℓ	IBM	
							5	28		TP014800J2C-70	IBM	
										TP014800J3B-70	IBM	20
										TP014800LJ3B-70	IBM	
										TP014800LT3B-70	IBM	
							3.3	28		TP014800NJ3B-70 ℓ	IBM	
										TP014800NT3B-70 ℓ	IBM	
							5	28		TP014800T3B-70	IBM	25
			TTL	Common	0.05	15	5	32		µPD434000-70LL	NEC	
					0.1	15	5	32		µPD434000-70L	NEC	
					2	15	5	32		µPD434000-70	NEC	
	80	CMOS		Fast Page	2	115	5	28		TP014800J2C-80	IBM	
	85	CMOS	TTL	Common	0.05	15	5	32		µPD434000-85LL	NEC	30
					0.1	15	5	32		µPD434000-85L	NEC	
					2	15	5	32		µPD434000-85	NEC	
	100	CMOS	TTL	Common	0.05	15	5	32		µPD434000-10LL	NEC	
					0.1	15	5	32		µPD434000-10L	NEC	
					2	15	5	32		µPD434000-10	NEC	35
	200	CMOS				7	5	30		DS2262	Dallas	
1Mx32	60	CMOS	TTL/CMOS	Fast Page	16	840	5	72		MT8D132-6	MicronSemi	
1Mx4	80						5	26		PEP1MX4Z-80	Peps	
		CMOS					5	26		MCM41000-80	Motorola	
	100						5	26		PEP1MX4Z-100	Peps	40
								24		TM024HAC4-10	TI	
		CMOS					5	26		MCM41000-10	Motorola	
	120						5	26		PEP1MX4Z-120	Peps	
								24		TM024HAC4-12	TI	
	150						5	24		TM024HAC4-15	TI	45
1Mx8	45	CMOS					5			V100HJ8-45	Mosel-Vitelic	
	50	CMOS					5			V100HJ8-50	Mosel-Vitelic	
	60			Fast Page	16	720	5	30		THM81000BL-60	Toshiba	
			TTL	Fast Page	8.8	792	5	30		THM81000B-60	Toshiba	
		CMOS					5			V100HJ8-60	Mosel-Vitelic	50
				Fast Page	2	220	5	30		GMM781000NS-60	GoldStar	
					8	720	5	30		GMM781000S-60	GoldStar	
			TTL		8.8	792	5	30		THM81020B-60	Toshiba	
					16	720	5	30		KMM581000B-6	Samsung	
				Fast Page	0.4	220	5	30		MT2D18L-6	MicronSemi	55
					1.6	680	5	30		MT8D18L-6	MicronSemi	
					2	240	5	30		MC421000A8BA-60	NEC	
					4	220	5	20		HYM581000B-60	Hyundai	
										HYM581000BL-60	Hyundai	
						240	5	30		THM81070A-60	Toshiba	60
										THM81070AL-60	Toshiba	
					8	720	5	30		HB56A18-6	Hitachi	
					16	680	5	20		HYM581000-60	Hyundai	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx8	60	CMOS									(Cont'd)	
			TTL/CMOS									
				Fast Page	4	200	5	30		HYM581000A-60	Hyundai	
					8	720	5	30		THM81020BL-60	Toshiba	
		TTL					5	30		TM024GAD8-6	TI	
										TM124GU8A-6	TI	
	70	CMOS					5			V100AJ8-70	Mosel-Vitelic	5
								30		MCM81000A-70	Motorola	
										MCM81000LH-70	Motorola	
										MCM81001-70	Motorola	
										MCM81002-70	Motorola	
				Fast Page			5	30	(1Mx1)x8	MH1M08B0-7	Mitsubishi	10
					2	200	5	30		GMM781000NS-70	GoldStar	
					8	640	5	30		GMM781000S-70	GoldStar	
				Nibble			5	30	(1Mx1)x8	MH1M08B1-7	Mitsubishi	
				Static Column			5	30	(1Mx1)x8	MH1M08B2-7	Mitsubishi	
			TTL		8.8	704	5	30		THM81020A-70	Toshiba	15
					16	640	5	30		KMM581000B-7	Samsung	
				Common	2	200	5	30		HB56G18-7	Hitachi	
				Fast Page	0.4	200	5	30		MT2D18L-7	MicronSemi	
					1.6	600	5	30		MT8D18L-7	MicronSemi	
					4	190	5	20		HYM581000A-70	Hyundai	20
						220	5	20		HYM581000B-70	Hyundai	
						200	5	20		HYM581000BL-70	Hyundai	
										YM581000BL-70	Hyundai	
								30		THM81070A-70	Toshiba	
										THM81070AL-70	Toshiba	25
					8	640	5	30		HB56A18-7	Hitachi	
					16	600	5	20		HYM581000-70	Hyundai	
		TTL					5	30		TM024GAD8-70	TI	
										TM124GU8A-70	TI	
	80						5	30		MH1M08A1-8	Mitsubishi	30
										MH1M08A2-8	Mitsubishi	
										MH1M08BA0-8	Mitsubishi	
										MH1M08BA1-8	Mitsubishi	
										MH1M08BA2-8	Mitsubishi	
										MH1M09A0-8	Mitsubishi	35
		CMOS					5			V100AJ8-80	Mosel-Vitelic	
								30		MCM81000A-80	Motorola	
										MCM81001-80	Motorola	
										MCM81002-80	Motorola	
										TM024GAD8-80	TI	40
				Fast Page			5	30	(1Mx1)x8	MH1M08B0-8	Mitsubishi	
					2	180	5	30		GMM781000NS-80	GoldStar	
					8	560	5	30		GMM781000S-80	GoldStar	
				Nibble			5	30	(1Mx1)x8	MH1M08B1-8	Mitsubishi	
				Static Column			5	30	(1Mx1)x8	MH1M08B2-8	Mitsubishi	45
			TTL		4	210	5	30		KMM581000N-8	Samsung	
					8	560	5	30		HB56C18-8	Hitachi	
					8.8	616	5	30		THM81000A-80	Toshiba	
										THM81020A-80	Toshiba	
					16	600	5	30		MSC2313A-8AS8	OKI	50
										MSC2313A-80S8	OKI	
						560	5	30		KMM581000B-8	Samsung	
				Common	2	180	5	30		HB56G18-8	Hitachi	
				Fast Page	0.4	180	5	30		MT2D18L-8	MicronSemi	
					1.6	520	5	30		MT8D18L-8	MicronSemi	55
					2	180	5	24		MC421000A8BA-80	NEC	
					4	170	5	20		HYM581000A-80	Hyundai	
						180	5	20		HYM581000B-80	Hyundai	
										HYM581000BL-80	Hyundai	
						170	5	30		THM81070A-80	Toshiba	60
										THM81070AL-80	Toshiba	
					8	560	5	30		HB56A18-8	Hitachi	
					16	520	5	20		HYM581000-80	Hyundai	
		TTL					5	30		TM124GU8A-80	TI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
1Mx8	85	CMOS					5	30		THM81020-85	Toshiba	
										THM81021-85	Toshiba	
	100						5	30		MH1M08A1-10	Mitsubishi	
										MH1M08A2-10	Mitsubishi	
										MH1M08BA0-10	Mitsubishi	5
										MH1M08BA1-10	Mitsubishi	
										MH1M08BA2-10	Mitsubishi	
										MH1M09A0-10	Mitsubishi	
										MCM1002-10	Motorola	
			TTL		8.8	528	5	30		THM81000A-10	Toshiba	10
		CMOS					5	30		MCM81000A-10	Motorola	
										MCM81000LH-10	Motorola	
										MCM81001-10	Motorola	
										MCM81002-10	Motorola	
										TM024GAD8-10	TI	15
										THM81020-10	Toshiba	
				Fast Page			5	30	(1Mx1)x8	MH1M08B0-10	Mitsubishi	
				Nibble			5	30	(1Mx1)x8	MH1M08B1-10	Mitsubishi	
				Static Column			5	30	(1Mx1)x9	MH1M08B2-10	Mitsubishi	
			TTL		4	180	5	30		KMM581000N-10	Samsung	20
					8	480	5	30		HB56C18-10	Hitachi	
					8.8	528	5	30		THM81020A-10	Toshiba	
					16	520	5	30		MSC2313A-1AS8	OKI	
										MSC2313A-10S8	OKI	
						480	5	30		KMM581000B-10	Samsung	25
				Common Fast Page	2	160	5	30		HB56G18-10	Hitachi	
					4	150	5	30		THM81070AL-10	Toshiba	
					8	480	5	30		HB56A18-10	Hitachi	
		TTL					5	30		TM124GU8A-10	TI	
	120	CMOS					5	30		THM81020-12	Toshiba	30
			TTL		8	400	5	30		HB56C18-12	Hitachi	
				Fast Page	8	400	5	30		HB56A18-12	Hitachi	
	200	CMOS				7	5	30		DS2262	Dallas	
1Mx9	10	CMOS					5	30		THM91050A-10	Toshiba	
	45	CMOS					5			V100HJ9-45	Mosel-Vitelic	35
	50	CMOS					5			V100HJ9-50	Mosel-Vitelic	
	60	CMOS					5	30		MB85235A-60	Fujitsu	
										V100HJ9-60	Mosel-Vitelic	
				Fast Page	3	310	5	30		GMM791000NS-60	GoldStar	
					9	810	5	30		GMM791000S-60	GoldStar	40
			TTL		9.9	891	5	30		THM91020B-60	Toshiba	
					18	810	5	30		KMM591000B-6	Samsung	
				Common	2.7	810	5	30		HB56A19L-6	Hitachi	
					3	310	5	30		HB56G19-6	Hitachi	
					9	810	5	30		HB56A19-6	Hitachi	45
				Fast Page	0.6	305	5	30		MT3D19L-6	MicronSemi	
					1.8	765	5	30		MT9D19L-6	MicronSemi	
					6	305	5	20		HYM591000B-60	Hyundai	
										HYM591000BL-60	Hyundai	
						330	5	30		THM91070A-60	Toshiba	50
										THM91070AL-60	Toshiba	
					18	675	5	20		HYM591000-60	Hyundai	
						810	5	30		THM91000B-60	Toshiba	
										THM91000BL-60	Toshiba	
			TTL/CMOS	Fast Page	18	285	5	30		HYM591000A-60	Hyundai	55
						810	5	30		THM91020BL-60	Toshiba	
		TTL					5	30		TM024EAD9-6	TI	
										TM124EU9B-6	TI	
										TM124EU9C-6	TI	
	70		TTL	Fast Page	6	290	5	30		ISM001DR09L-70	Intel	60
					18	720	5	30		ISM001DR09P-70	Intel	
		CMOS					5	30		MB85235A-70	Fujitsu	
										V100AJ9-70	Mosel-Vitelic	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx9	70	CMOS					5				(Cont'd)	
								30		MCM91000A-70	Motorola	
										MCM91001-70	Motorola	
										MCM91002-70	Motorola	
										THM91010A-70	Toshiba	
										THM91050A-70	Toshiba	5
				Fast Page			5	30	(1Mx1)x9	MH1M09B0-7	Mitsubishi	
					3	280	5	30		GMM791000NS-70	GoldStar	
					9	720	5	30		GMM791000S-70	GoldStar	
				Nibble			5	30	(1Mx1)x9	MH1M09B1-7	Mitsubishi	
				Static Column			5	30	(1Mx1)x9	MH1M09B2-7	Mitsubishi	10
			TTL		9.9	792	5	30		THM91000A-70	Toshiba	
										THM91020A-70	Toshiba	
					18	720	5	30		KMM591000B-7	Samsung	
				Common	2.7	720	5	30		HB56A19L-7	Hitachi	
					3	280	5	30		HB56G19-7	Hitachi	15
					9	720	5	30		HB56A19-7	Hitachi	
				Fast Page	0.6	275	5	30		MT3D19L-7	MicronSemi	
					1.8	675	5	30		MT9D19L-7	MicronSemi	
					6	265	5	20		HYM591000A-70	Hyundai	
						275	5	20		HYM591000B-70	Hyundai	20
										HYM591000BL-70	Hyundai	
						280	5	30		THM91070AL-70	Toshiba	
					18	675	5	20		HYM591000-70	Hyundai	
		TTL					5	30		TMO24EAD9-70	TI	
										TM124EU9C-70	TI	25
	80						5	30		MH1M09A1-8	Mitsubishi	
										MH1M09A2-8	Mitsubishi	
			TTL	Fast Page	6	260	5	30		ISM001DR09L-80	Intel	
					18	630	5	30		ISM001DR09P-80	Intel	
		CMOS					5			V100AJ9-80	Mosel-Vitelic	30
								30		MCM91000A-80	Motorola	
										MCM91001-80	Motorola	
										MCM91002-80	Motorola	
										TM024EAD9-80	TI	
										THM91010A-80	Toshiba	35
										THM91050A-80	Toshiba	
				Fast Page			5	30	(1Mx1)x9	MH1M09B0-8	Mitsubishi	
					3	250	5	30		GMM791000NS-80	GoldStar	
					9	630	5	30		GMM791000S-80	GoldStar	
				Nibble			5	30	(1Mx1)x9	MH1M09B1-8	Mitsubishi	40
				Static Column			5	30	(1Mx1)x9	MH1M09B2-8	Mitsubishi	
			TTL		6	280	5	30		KMM591000N-8	Samsung	
					9.9	693	5	30		THM91000A-80	Toshiba	
										THM91020A-80	Toshiba	
					18	675	5	30		MSC2312A-8AS9	OKI	45
										MSC2312A-80S9	OKI	
						630	5	30		KMM591000B-8	Samsung	
				Common	2.7	630	5	30		HB56A19L-8	Hitachi	
					3	250	5	30		HB56G19-8	Hitachi	
					9	630	5	30		HB56A19-8	Hitachi	50
										HB56C19-8	Hitachi	
				Fast Page			5	30		MSC2359-80S3	OKI	
					0.6	245	5	30		MT3D19L-8	MicronSemi	
					1.8	585	5	30		MT9D19L-8	MicronSemi	
					3.3	264.2	5	30		THM91070A-80	Toshiba	55
					6	235	5	20		HYM591000A-80	Hyundai	
						245	5	20		HYM591000B-80	Hyundai	
										HYM591000BL-80	Hyundai	
						240	5	30		THM91070AL-80	Toshiba	
					9	280	5	30		THM91070-80	Toshiba	60
										THM91070L-80	Toshiba	
					18	585	5	20		HYM591000-80	Hyundai	
		TTL					5			TM124EU9B-80	TI	
										TM124EU9C-80	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx9											(Cont'd)	
	85	CMOS					5	30		THM91020-85	Toshiba	
	100						5	30		MH1M09A1-10	Mitsubishi	
										MH1M09A2-10	Mitsubishi	
										THM91000-10	Toshiba	
		CMOS					5	30		MCM91000A-10	Motorola	5
										MCM91001-10	Motorola	
										MCM91002-10	Motorola	
										TM024EAD9-10	TI	
										THM91010A-10	Toshiba	
										THM91020-10	Toshiba	10
				Fast Page			5	30	(1Mx1)x9	MH1M09B0-10	Mitsubishi	
				Nibble			5	30	(1Mx1)x9	MH1M09B1-10	Mitsubishi	
				Static Column			5	30	(1Mx1)x9	MH1M09B2-10	Mitsubishi	
			TTL		6	240	5	30		KMM591000N-10	Samsung	
					9.9	594	5	30		THM91000A-10	Toshiba	15
										THM91020A-10	Toshiba	
					18	585	5	30		MSC2312A-1AS9	OKI	
										MSC2312A-10S9	OKI	
						540	5	30		KMM591000B-10	Samsung	
				Common	2.7	540	5	30		HB56A19L-10	Hitachi	20
					3	220	5	30		HB56G19-10	Hitachi	
					9	540	5	30		HB56A19-10	Hitachi	
										HB56C19-10	Hitachi	
				Fast Page			5	30		MSC2359-10S3	OKI	
					6	210	5	30		THM91070A-10	Toshiba	25
										THM91070AL-10	Toshiba	
					9	240	5	30		THM91070-10	Toshiba	
										THM91070L-10	Toshiba	
		TTL					5			TM124EU9B-10	TI	
										TM124EU9C-10	TI	30
	120						5	30		THM91000-12	Toshiba	
		CMOS				15	5	30		DS2219-120	Dallas	
										THM91020-12	Toshiba	
			TTL	Common	2.7	450	5	30		HB56A19L-12	Hitachi	
					9	450	5	30		HB56A19-12	Hitachi	35
										HB56C19-12	Hitachi	
	150	CMOS				15	5	30		DS2219-150	Dallas	
	70	TTL					5	30		TM124EU9B-70	TI	
1Mx16	80						5	64		PEP1MX16-80	Peps	
	100						5	64		PEP1MX16-100	Peps	40
	120						5	64		PEP1MX16-120	Peps	
1Mx18	60	CMOS	TTL		1.32	726	5	30		THM181010A-60L	Toshiba	
					1.76	1056	5	72		THM321000A-60L	Toshiba	
					6.6	726	5	30		THM181000A-60	Toshiba	
				Fast Page	6	660	5	72		THM181000A-60L	Toshiba	45
	70	CMOS	TTL		1.32	616	5	30		THM181010A-70L	Toshiba	
					6.6	616	5	30		THM181000A-70	Toshiba	
				Fast Page	6	560	5	72		THM181000A-70L	Toshiba	
	80	CMOS	TTL		1.32	528.4	5	30		THM181010A-80L	Toshiba	
					6.6	528.4	5	30		THM181000A-80	Toshiba	50
			TTL/CMOS	Fast Page	6	480	5	72		THM181000A-80L	Toshiba	
	100	CMOS	TTL		1.32		5	30		THM181010A-10L	Toshiba	
			TTL/CMOS	Fast Page	6	420	5	72		THM181000A-10L	Toshiba	
1Mx32	60	CMOS		Fast Page	8	880	5	72		GMM7321000SG-60	GoldStar	
			TTL	Common	8	880	5	72		HB56D132-6	Hitachi	55
				Fast Page	1.6	880	5	72		MT8D132L-6	MicronSemi	
					8.8	1056	5	72		THM321000A-60	Toshiba	
		TTL					5			TM124BBK32-6	TI	
	70	CMOS		Fast Page	8	800	5	72		GMM7321000SG-70	GoldStar	
			TTL		1.76	880	5	72		THM321000A-70L	Toshiba	60
				Common	8	800	5	72		HB56D132-7	Hitachi	
				Fast Page	1.6	800	5	72		MT8D132L-7	MicronSemi	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Dynamic–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx32	70	CMOS	TTL	Fast Page							(Cont'd)	
					8.8	880	5	72		THM321000A-70	Toshiba	
					16	760	5	20		HYM532100-70	Hyundai	
		TTL					5			TM124BBK32-70	TI	
	80	CMOS					5	72		THM321020-80	Toshiba	
				Fast Page	8	720	5	72		GMM7321000SG-80	GoldStar	5
			TTL		1.76	748	5	72		THM321000A-80L	Toshiba	
				Common	8	720	5	72		HB56D132-8	Hitachi	
				Fast Page			5	72		MSC2357-80S8	OKI	
					1.6	720	5	72		MT8D132L-8	MicronSemi	
					8.8	748.8	5	72		THM321000A-80	Toshiba	10
					16	680	5	20		HYM532100-80	Hyundai	
						840	5	72		THM321000-80	Toshiba	
		TTL					5			TM124BBK32-80	TI	
	100	CMOS					5	72		THM321020-10	Toshiba	
			TTL		1.76	660	5	72		THM321000A-10L	Toshiba	15
				Common	8	640	5	72		HB56D132-10	Hitachi	
				Fast Page			5	72		MSC2357-10S8	OKI	
					8	720	5	72		MC421000A32-10	NEC	
					8.8	660.8	5	72		THM321000A-10	Toshiba	
		TTL					5			TM124BBK32-10	TI	20
1Mx33	60	CMOS	TTL		9.9	1155	5	72		THM331000A-60	Toshiba	
			TTL/CMOS	Fast Page	9	1050	5	72		THM331020A-60	Toshiba	
	70	CMOS	TTL		9.9	968	5	72		THM331000A-70	Toshiba	
			TTL/CMOS	Fast Page	9	880	5	72		THM331020A-70	Toshiba	
	80	CMOS	TTL		9.9	825.8	5	72		THM331000A-80	Toshiba	25
			TTL/CMOS	Fast Page	9	750	5	72		THM331020A-80	Toshiba	
	100	CMOS	TTL		9.9	726.8	5	72		THM331000A-10	Toshiba	
			TTL/CMOS	Fast Page	9	660	5	72		THM331020A-10	Toshiba	
1Mx36	10	CMOS	TTL	Fast Page	13.2	924.8	5	72		THM361020A-10	Toshiba	
	60	CMOS		Fast Page	12	1240	5	72		GMM7361000SG-60	GoldStar	30
			TTL		12	1320	5	72		THM361020A-60	Toshiba	
					13.2	1452	5	72		THM361010A-60	Toshiba	
				Common	12	1240	5	72		HB56D136S-6	Hitachi	
				Fast Page	2.4	1220	5	72		MT12D136L-6	MicronSemi	
					13.2	1452	5	72		THM361000A-60	Toshiba	35
			TTL/CMOS	Fast Page	12	1320	5	72		THM361080A-60L	Toshiba	
		TTL					5			TM124MBK36A-6	TI	
										TM124MBK36B-6	TI	
	70	CMOS		Fast Page	12	1120	5	72		GMM7361000SG-70	GoldStar	
			TTL		13.2	1232	5	72		THM361010A-70	Toshiba	40
				Common	12	1120	5	72		HB56D136S-7	Hitachi	
				Fast Page	2.4	1100	5	72		MT12D136L-7	MicronSemi	
					13.2	1232	5	72		THM361000A-70	Toshiba	
										THM361020A-70	Toshiba	
					24	1060	5	20		HYM536100-70	Hyundai	45
			TTL/CMOS	Fast Page	12	1120	5	72		THM361080A-70L	Toshiba	
		TTL					5			TM124MBK36A-7	TI	
										TM124MBK36B-7	TI	
	80	CMOS					5	72		THM361020-80	Toshiba	
				Fast Page	12	1000	5	72		GMM7361000SG-80	GoldStar	50
			TTL		13.2	1056.8	5	72		THM361010A-80	Toshiba	
						1232	5	72		THM361040-80L	Toshiba	
										THM361080-80L	Toshiba	
					24	1080	5	72		KMM5361000-8	Samsung	
				Common	12	1000	5	72		HB56D136B-8	Hitachi	55
										HB56D136S-8	Hitachi	
				Fast Page	2.4	980	5	72		MT12D136L-8	MicronSemi	
					7.2	360	5	72	Low Power Option available	MT12D136-8	MicronSemi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx36	80	CMOS	TTL	Fast Page	13.2	1056.8	5	72		THM361000A-80	Toshiba	
										THM361020A-80	Toshiba	
					24	940	5	20		HYM536100-80	Hyundai	
					60	1020	5	72		MSC2355-80S12	OKI	
			TTL/CMOS	Fast Page	12	961	5	72		THM361080A-80L	Toshiba	5
		TTL					5			TM124MBK36A-8	TI	
										TM124MBK36B-8	TI	
	100	CMOS	TTL		13.2	924.8	5	72		THM361010A-10	Toshiba	
						1056	5	72		THM361040-10L	Toshiba	
										THM361080-10L	Toshiba	10
					24	920	5	72		KMM5361000-10	Samsung	
				Common	12	880	5	72		HB56D136B-10	Hitachi	
										HB56D136S-10	Hitachi	
				Fast Page	60	900	5	72		MSC2355-10S12	OKI	
			TTL/CMOS	Fast Page	12	841	5	72		THM361080A-10L	Toshiba	15
	120	CMOS	TTL	Common	12	760	5	72		HB56D136B-12	Hitachi	
1Mx40	10		TTL		11	825	5	72		THM401010A-10	Toshiba	
	60		TTL		11	1320	5	72		THM401010A-60	Toshiba	
		CMOS	TTL	Common	10	1100	5	72		HB56A140-6	Hitachi	
				Fast Page	2	800	5	72		MT10D140L-6	MicronSemi	20
					11	1320	5	72		THM401000A-60	Toshiba	
	70		TTL		11	1100	5	72		THM401010A-70	Toshiba	
				Fast Page	11	1100	5	72		THM401000A-70	Toshiba	
		CMOS	TTL	Common	10	1000	5	72		HB56A140-7	Hitachi	
				Fast Page	2	700	5	72		MT10D140L-7	MicronSemi	25
	80		TTL		11	935	5	72		THM401010A-80	Toshiba	
		CMOS					5	72		THM401020-80	Toshiba	
			TTL	Common	10	900	5	72		HB56A140-8	Hitachi	
				Fast Page	2	600	5	72		MT10D140L-8	MicronSemi	
	100	CMOS					5	72		THM401020-10	Toshiba	30
			TTL	Common	10	800	5	72		HB56A140-10	Hitachi	
1Mx16	60	CMOS		Fast Page	2	85	3.3	50		TP0116180BT3A-60 ℓ	IBM	
							5	50		TP0116180T3A-60	IBM	
	70	CMOS		Fast Page	2	75	3.3	50		TP0116180BT3A-70 ℓ	IBM	
							5	50		TP0116180T3A-70	IBM	35
	80	CMOS	TTL	Fast Page	12	960	5	72		MCM36100-80	Motorola	
	100	CMOS	TTL	Fast Page	4	960	5	72		MCM36L100-10	Motorola	
					12	960	5	72		MCM36100-10	Motorola	
1Mx18	60	CMOS		Fast Page	2	85	3.3	50		TP0116180BT3A-60 ℓ	IBM	
							5	50		TP0116180T3A-60	IBM	40
			TTL	Fast Page	3.6	260	5	30		MT6D118-6	MicronSemi	
	70	CMOS		Fast Page	2	75	3.3	50		TP0116180BT3A-70 ℓ	IBM	
							5	50		TP0116180T3A-70	IBM	
			TTL	Fast Page	3.6	260	5	30		MT6D118-7	MicronSemi	
	80	CMOS	TTL	Fast Page	3.6	260	5	30		MT6D118-8	MicronSemi	45
	100	CMOS	TTL		6.6	462.4	5	30		THM181000A-10	Toshiba	
1Mx32	35			Page	8	240	5	72		DM1M32S	Ramtron	
	60	CMOS	TTL	Fast Page	1.6	960	5	72		MCM32L130-60	Motorola	
					8	960	5	72		MCM32130-60	Motorola	
					16	960	5	72		MC421000A32-60	NEC	50
						720	5	72		KMM5321000BV-6	Samsung	
	70				8	760	5			HYM532100M-70	Hyundai	
		CMOS	TTL	Fast Page	1.6	800	5	72		MCM32L130-70	Motorola	
					4	300	5	72		KMM5321000W-7	Samsung	
					8	800	5	72		MCM32130-70	Motorola	55
					16	800	5	72		MC421000A32-70	NEC	
						720	5	72		MSC23132-70S8	OKI	
										MSC235132-70S8	OKI	
						840	5	72		KMM5321000AV-7	Samsung	
						640	5	72		KMM5321000BV-7	Samsung	60
			TTL/CMOS	Fast Page	16	800	5	72		MT8D132-7	MicronSemi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx32											(Cont'd)	
	80				8	760	5			HYM532100M-80	Hyundai	
		CMOS					5	72		MH25632B-8	Mitsubishi	
								48		MD321000FKX-80	Mosaic Semi	
			TTL	Fast Page	1.6	680	5	72		MCM32L130-80	Motorola	
					3.2	840	5	72		MCM32L100-80	Motorola	5
					4	260	5	72		KMM5321000W-8	Samsung	
					8	840	5	72		MCM32100-80	Motorola	
						680	5	72		MCM32130-80	Motorola	
					16	720	5	72		MC421000A32-80	NEC	
						640	5	72		MSC23132-80S8	OKI	10
						720	5	72		MSC235132-80S8	OKI	
						760	5	72		KMM5321000AV-8	Samsung	
						560	5	72		KMM5321000BV-8	Samsung	
			TTL/CMOS	Fast Page	16	720	5	72		MT8D132-8	MicronSemi	
	100	CMOS					5	48		MD321000FKX-10	Mosaic Semi	15
			TTL	Fast Page	1.6	600	5	72		MCM32L130-10	Motorola	
					3.2	720	5	72		MCM32L100-10	Motorola	
					4	220	5	72		KMM5321000W-10	Samsung	
					8	720	5	72		MCM32100-10	Motorola	
						600	5	72		MCM32130-10	Motorola	20
					16	560	5	72		MSC23132-10S8	OKI	
										MSC235132-10S8	OKI	
						680	5	72		KMM5321000AV-10	Samsung	
						720	5	72		THM321000-10	Toshiba	
	120	CMOS					5	48		MD321000FKX-12	Mosaic Semi	25
1Mx33	60						5	72		**PEP1MX33-60**	**Peps (3706)**	
	70						5	72		**PEP1MX33-70**	**Peps (3706)**	
	80						5	72		**PEP1MX33-80**	**Peps (3706)**	
1Mx36	15	CMOS		Fast Page	45	720		72	Static Column	DM1M36SJ-15	Ramtron	
	20	CMOS		Fast Page	45	720		72	Static Column	DM1M36SJ-20	Ramtron	30
	45	CMOS		Enhanced Page	12	960	5	72		MM1M0J36-45	NMB	
	50	CMOS		Enhanced Page	12	740	5	72		MM1M0J36-05	NMB	
	60						5	64		**AST4000-60**	**Peps (3706)**	
								72		**PEP1MX36-60**	**Peps (3706)**	
		CMOS		Enhanced Page	12	1280	5	72		MM1M0J36-06	NMB	35
			TTL		24	1240	5	72		HYM361120GS-60	Siemens	
				Fast Page	9	990	5	72		MT9D136-6	MicronSemi	
					12	1240	5	72		MT12D136-6	MicronSemi	
					24	1320	5	72		MC421000A36-60	NEC	
						1000	5	72		KMM5361000B-6	Samsung	40
										KMM5361000B1-6	Samsung	
			TTL/CMOS	Fast Page	24	1176	5	72		MB85346A-60	Fujitsu	
	70						5	64		**AST4000-70**	**Peps (3706)**	
								72		**PEP1MX36-70**	**Peps (3706)**	
					12	1060	5			HYM536100M-70	Hyundai	45
						900	5			**V404J36-70**	**Mosel-Vitelic (3696)**	
		CMOS					5	72		MT9D136-7	MicronSemi	
										HYM361120S-70	Siemens	
				Enhanced Page	12	1160	5	72		MM1M0J36-07	NMB	
			TTL		24	1120	5	72		HYM361120GS-70	Siemens	50
				Fast Page	2.4	1120	5	72		MCM36L100-70	Motorola	
					7.2	360	5	72	Low Power Option available	MT12D136-7	MicronSemi	
					12	1120	5	72		MCM36100-70	Motorola	
					24	1120	5	72		MC421000A36-70	NEC	
						1040	5	72		MSC23136-70S12	OKI	55
						1160	5	72		KMM5361000A-7	Samsung	
										KMM5361000A1-7	Samsung	
						900	5	72		KMM5361000B-7	Samsung	
										KMM5361000B1-7	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx36	70	CMOS									(Cont'd)	
			TTL/CMOS	Fast Page	24	1072	5	72		MB85346A-70	Fujitsu	
	80						5	64		**AST4000-80**	**Peps (3706)**	
								72		**PEP1MX36-80**	**Peps (3706)**	
					12	1060	5			HYM536100M-80	Hyundai	
						900	5			**V404J36-80**	**Mosel-Vitelic (3696)**	5
		CMOS					5	72		MT9D136-8	MicronSemi	
										HYM361120S-80	Siemens	
			TTL		24	1000	5	72		HYM361120GS-80	Siemens	
				Fast Page	2.4	960	5	72		MCM36L100-80	Motorola	
			ttl	Fast Page	13	932	5	72		**MB85346-80**	**Fujitsu (3619)**	10
			TTL	Fast Page	24	1000	5	72		MC421000A36-80	NEC	
						920	5	72		MSC23136-80S12	OKI	
						1040	5	72		KMM5361000A-8	Samsung	
										KMM5361000A1-8	Samsung	
						800	5	72		KMM5361000B-8	Samsung	15
										KMM5361000B1-8	Samsung	
	100	CMOS					5	72		THM361020-10	Toshiba	
			TTL	Fast Page	13.2	942.8	5	72		THM361000A-10	Toshiba	
					24	800	5	72		MSC23136-10S12	OKI	
						920	5	72		KMM5361000A-10	Samsung	20
										KMM5361000A1-10	Samsung	
					26	810	5	72		**MB85346-10**	**Fujitsu (3619)**	
1Mx4	8 MHz	CMOS		Pseudo Static RAM			5	46	(256Kx4)x4; 8MHz	MH25616PNA-8	Mitsubishi	
								40	(256Kx4)x4; 10MHz	MH51208PNA-8	Mitsubishi	
	10 MHz	CMOS		Pseudo Static RAM			5	46	(256Kx4)x4; 10MHz	MH25616PNA-10	Mitsubishi	25
								40	(256Kx4)x4; 10MHz	MH51208PNA-10	Mitsubishi	
	60						5	24		**PEP1MX4-60**	**Peps (3706)**	
		CMOS		Fast Page	2	150	3.3	26		TP014400BJ1B-60 ℓ	IBM	
										TP014400BT1B-60 ℓ	IBM	
							5	26		TP014400J1B-60	IBM	30
										TP014400J2A-60	IBM	
										TP014400LJ1B-60	IBM	
										TP014400LT1B-60	IBM	
							3.3	26		TP014400NJ1B-60 ℓ	IBM	
										TP014400NT1B-60 ℓ	IBM	35
							5	26		TP014400T1B-60	IBM	
	70						5	24		**PEP1MX4-70**	**Peps (3706)**	
		CMOS		Fast Page	2	135	3.3	26		TP014400BJ1B-70 ℓ	IBM	
										TP014400BT1B-70	IBM	
							5	26		TP014400J1B-70	IBM	40
										TP014400J2A-70	IBM	
										TP014400LJ1B-70	IBM	
										TP014400LT1B-70	IBM	
							3.3	26		TP014400NJ1B-70 ℓ	IBM	
										TP014400NT1B-70 ℓ	IBM	45
							5	26		TP014400T1B-70	IBM	
	80						5	24		**PEP1MX4-80**	**Peps (3706)**	
		CMOS		Fast Page	2	115	5	26		TP014400J2A-80	IBM	
	100						5	24		**PEP1MX4-100**	**Peps (3706)**	
	120						5	24		PEP1MX4-120	Peps	50
1Mx40	60						5	72		**PEP1MX40-60**	**Peps (3706)**	
		CMOS	TTL	Fast Page	2	1200	5	72		MCM40L100-60	Motorola	
					6	460	5	72		MT10D140-6	MicronSemi	
					10	1200	5	72		MCM40100-60	Motorola	
					20	1250	5	72		MC421000AA40-60	NEC	55
										MC421000AB40-60	NEC	
						900	5	72		KMM5401000B-6	Samsung	
	70						5	72		**PEP1MX40-70**	**Peps (3706)**	
					12	1060	5			HYM546100M-70	Hyundai	
		CMOS	TTL	Fast Page	2	1000	5	72		MCM40L100-70	Motorola	60
					6	460	5	72		MT10D140-7	MicronSemi	
					10	1000	5	72		MCM40100-70	Motorola	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx40	70	CMOS	TTL	Fast Page							(Cont'd)	
					20	1050	5	72		MC421000AA40-70	NEC	
										MC421000AB40-70	NEC	
										KMM5401000A-7	Samsung	
						800	5	72		KMM5401000B-7	Samsung	
	80						5	72		**PEP1MX40-80**	**Peps (3706)**	5
					12	1060	5			HYM546100M-80	Hyundai	
			TTL		11	935	5	72		THM401000A-80	Toshiba	
		CMOS	TTL	Fast Page	2	850	5	72		MCM40L100-80	Motorola	
					6	460	5	72		MT10D140-8	MicronSemi	
					10	850	5	72		MCM40100-80	Motorola	10
					20	950	5	72		MC421000AA40-80	NEC	
										MC421000AB40-80	NEC	
										KMM5401000A-8	Samsung	
						700	5	72		KMM5401000B-8	Samsung	
	100		TTL	Fast Page	11	825	5	72		THM401000A-10	Toshiba	15
		CMOS	TTL	Fast Page	2	750	5	72		MCM40L100-10	Motorola	
					10	750	5	72		MCM40100-10	Motorola	
					20	800	5	72		MC421000AA40-10	NEC	
										MC421000AB40-10	NEC	
						850	5	72		KMM5401000A-10	Samsung	20
1Mx5	60						5	30		**PEP1MX5-60**	**Peps (3706)**	
	70						5	30		**PEP1MX5-70**	**Peps (3706)**	
	80						5	30		**PEP1MX5-80**	**Peps (3706)**	
	100						5	30		**PEP1MX5-100**	**Peps (3706)**	
	120						5	30		PEP1MX5-120	Peps	25
1Mx64	70	CMOS		Fast Page			5	72		MH51232SX-7	Mitsubishi	
	80	CMOS		Fast Page			5	72		MH51232B-8	Mitsubishi	
										MH51232SX-8	Mitsubishi	
1Mx72	60	CMOS	TTL	Fast Page			5	100		MCM72100-60	Motorola	
	70	CMOS	TTL	Fast Page			5	100		MCM72100-70	Motorola	30
	80	CMOS	TTL	Fast Page			5	100		MCM72100-80	Motorola	
1Mx8	60						5	64		**NTX4000-60**	**Peps (3706)**	
								30		**PEP1MX8-60**	**Peps (3706)**	
					8	520	5			V100BJ8-60	Mosel-Vitelic	
		CMOS			8	480	5	30	SIMM	**V100J8-60**	**Mosel-Vitelic (3696)**	35
			TTL	Fast Page	4	240	5	30		MCM8L1430-60	Motorola	
										MCM81430-60	Motorola	
										MC421000A8A-60	NEC	
						180	5	30		KMM581000BN-6	Samsung	
					4.8	280	5	30	Low Power Available	MT8D18-6	MicronSemi	40
					16	720	5	30		MSC2313B-60S8	OKI	
						560	5	30		KMM581000C-6	Samsung	
					24	720	5	30		MC421000A8-60	NEC	
			TTL/CMOS	Fast Page	4	200	5	30		MT2D18-6	MicronSemi	
	70						5	64		**NTX4000-70**	**Peps (3706)**	45
								30		**PEP1MX8-70**	**Peps (3706)**	
					2	190	5			HYM581000AM-70	Hyundai	
						180	5			**V404J8-70**	**Mosel-Vitelic (3696)**	
					8	520	5			V100BJ8-70	Mosel-Vitelic	
		CMOS					5	30		MT8D18-7	MicronSemi	50
					8	480	5	30		**V100J8-70**	**Mosel-Vitelic (3696)**	
			TTL		8.8	704	5	30		THM81000A-70	Toshiba	
				Fast Page	2	200	5	30		MC421000A8BA-70	NEC	
					4	200	5	30		MCM8L1430-70	Motorola	
										MCM81430-70	Motorola	55
										MC421000A8A-70	NEC	
						180	5	30		MSC23108-70S2	OKI	
										MSC23108L-70S2	OKI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx8	70	CMOS	TTL	Fast Page	4						(Cont'd)	
						210	5	30		KMM581000AN-7	Samsung	
						160	5	30		KMM581000BN-7	Samsung	
						210	5	30		KMM581020AN-7	Samsung	
					16	640	5	28		MCM8L1000-70	Motorola	
								30		MCM81000-70	Motorola	5
										MSC2312B-70S8	OKI	
										MSC2313B-70S8	OKI	
						520	5	30		KMM581000C-7	Samsung	
					24	640	5	30		MC421000A8-70	NEC	
			TTL/CMOS	Fast Page	4	200	5	30		MT2D18-7	MicronSemi	10
	80						5	64		**NTX4000-80**	**Peps (3706)**	
								30		**PEP1MX8-80**	**Peps (3706)**	
										PEP1MX8LP-60	**Peps (3736)**	
										PEP1MX8LP-70	**Peps (3736)**	
										PEP1MX8LP-80	**Peps (3736)**	15
					2	190	5			HYM581000AM-80	Hyundai	
						180	5			**V404J8-80**	**Mosel-Vitelic (3696)**	
					8	520	5			V100BJ8-80	Mosel-Vitelic	
		CMOS					5	30		MT8D18-8	MicronSemi	
					8	480	5	30		**V100J8-80**	**Mosel-Vitelic (3696)**	20
			TTL	Fast Page	4	170	5	30		MCM8L1430-80	Motorola	
										MCM81430-80	Motorola	
						180	5	30		MC421000A8A-80	NEC	
						160	5	30		MSC23108-80S2	OKI	
										MSC23108L-80S2	OKI	25
						190	5	30		KMM581000AN-8	Samsung	
						140	5	30		KMM581000BN-8	Samsung	
						190	5	30		KMM581020AN-8	Samsung	
					16	560	5	30		MCM8L1000-80	Motorola	
										MCM81000-80	Motorola	30
										MSC2313B-80S8	OKI	
						480	5	30		KMM581000C-8	Samsung	
					24	560	5	30		MC421000A8-80	NEC	
			TTL/CMOS	Fast Page	4	180	5	30		MT2D18-8	MicronSemi	
	100						5	30		**PEP1MX8-100**	**Peps (3706)**	35
										PEP1MX8LP-100	**Peps (3736)**	
					2	180	5			**V404J8-100**	**Mosel-Vitelic (3696)**	
		CMOS	TTL		4	150	5	30		THM81070A-10	Toshiba	
				Fast Page	0.4	150	5	30		MCM8L1430-10	Motorola	
					1.6	480	5	72		MCM8L1000-10	Motorola	40
					2	150	5	30		MCM81430-10	Motorola	
					4	140	5	30		MSC23108-10S2	OKI	
										MSC23108L-10S2	OKI	
						170	5	30		KMM581000AN-10	Samsung	
										KMM581020AN-10	Samsung	45
					8	480	5	72		MCM81000-10	Motorola	
					16	480	5	30		MSC2313B-10S8	OKI	
	120						5	30		PEP1MX8-120	Peps	
1Mx9	60						5	30		**PEP1MX9-60**	**Peps (3706)**	
					9	585	5			V100BJ9-60	Mosel-Vitelic	50
		CMOS			9	540	5	30		**V100J9-60**	**Mosel-Vitelic (3696)**	
			TTL		6	310	5	30		HYM32200L-60	Siemens	
										HYM32200S-60	Siemens	
					18	810	5	30		HYM91000L-60	Siemens	
										HYM91000LL-60	Siemens	55
										HYM91000S-60	Siemens	
										HYM91000SL-60	Siemens	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx9	60	CMOS	TTL								(Cont'd)	
				Fast Page	0.6	330	5	30		MCM9L1430-60	Motorola	
					3	330	5	30		MCM91430-60	Motorola	
					5.4	320	5	30	Low Power Available	MT9D19-6	MicronSemi	
					6	330	5	30		MC421000A9A-60	NEC	
						250	5	30		KMM5910000BN-6	Samsung	5
						290	5	30		KMM594100N-6	Samsung	
					18	810	5	30		MC421000A9-60	NEC	
										MSC2312B-60S9	OKI	
						630	5	30		KMM591000C-6	Samsung	
			TTL/CMOS	Fast Page	6	294	5	30		MB85305A-60	Fujitsu	10
						300	5	30		MT3D19-6	MicronSemi	
	70						5	30		**PEP1MX9-70**	**Peps (3706)**	
					3	265	5			HYM591000AM-70	Hyundai	
						230	5			**V404J9-70**	**Mosel-Vitelic (3696)**	
					9	585	5			V100BJ9-70	Mosel-Vitelic	15
		CMOS					5	30		MT9D19-7	MicronSemi	
					9	540	5	30		**V100J9-70**	**Mosel-Vitelic (3696)**	
				Fast Page			5	30		MH1M09BO-7	Mitsubishi	
										MH1M09BOB-7	Mitsubishi	
										MH1M09BODJA-7	Mitsubishi	20
			TTL		6	280	5	30		HYM32200L-70	Siemens	
										HYM32200S-70	Siemens	
					18	720	5	30		HYM91000L-70	Siemens	
										HYM91000LL-70	Siemens	
										HYM91000S-70	Siemens	25
										HYM91000SL-70	Siemens	
				Fast Page	0.6	280	5	30		MCM9L1430-70	Motorola	
					1.8	720	5	30		MCM9L1000-70	Motorola	
					3	280	5	30		MCM91430-70	Motorola	
					6	280	5	30		MC421000A9A-70	NEC	30
						260	5	30		MSC23109-70S3	OKI	
										MSC23109L-70S3	OKI	
						290	5	30		KMM591000AN-7	Samsung	
						225	5	30		KMM5910000BN-7	Samsung	
						290	5	30	Low Power	KMM591020AN-7	Samsung	35
						265	5	30		KMM594100N-7	Samsung	
						280	5	30		THM91070A-70	Toshiba	
					9	720	5	30		MCM91000-70	Motorola	
					18	720	5	30		MC421000A9-70	NEC	
										MSC2312B-70S9	OKI	40
						585	5	30		KMM591000C-7	Samsung	
			TTL/CMOS	Fast Page	6	268	5	30		MB85305A-70	Fujitsu	
						280	5	30		MT3D19-7	MicronSemi	
	80						5	30		**PEP1MX9-80**	**Peps (3706)**	
										PEP1MX9LP-80	**Peps (3736)**	45
					3	265	5			HYM591000AM-80	Hyundai	
						230	5			**V404J9-80**	**Mosel-Vitelic (3696)**	
					9	585	5			V100BJ9-80	Mosel-Vitelic	
		CMOS					5	30		MT9D19-8	MicronSemi	
					9	540	5	30		**V100J9-80**	**Mosel-Vitelic (3696)**	50
				Fast Page			5	30	(1Mx4)x2 + (1Mx1)x1	MH1M09BO-8	Mitsubishi	
										MH1M09BOB-8	Mitsubishi	
										MH1M09BODJA-8	Mitsubishi	
			TTL		6	250	5	30		HYM32200L-80	Siemens	
										HYM32200S-80	Siemens	55
					18	630	5	30		HYM91000L-80	Siemens	
										HYM91000S-80	Siemens	
				Fast Page	0.6	240	5	30		MCM9L1430-80	Motorola	
					1.8	630	5	30		MCM9L1000-80	Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx9	80	CMOS	TTL	Fast Page							(Cont'd)	
					3	240	5	30		MCM91430-80	Motorola	
					6	250	5	30		MC421000A9A-80	NEC	
						230	5	30		MSC23109-80S3	OKI	
										MSC23109L-80S3	OKI	
						260	5	30		KMM591000AN-8	Samsung	5
						200	5	30		KMM5910000BN-8	Samsung	
						260	5	30	Low Power	KMM591020AN-8	Samsung	
						240	5	30		KMM594100N-8	Samsung	
					9	630	5	30		MCM91000-80	Motorola	
					18	630	5	30		MC421000A9-80	NEC	10
						540	5	30		KMM591000C-8	Samsung	
			TTL/CMOS	Fast Page	6	250	5	30		MT3D19-8	MicronSemi	
	90	CMOS	TTL	Fast Page	18	630	5	30		MSC2312B-80S9	OKI	
	100						5	30		**PEP1MX9-100**	**Peps (3706)**	
										PEP1MX9LP-100	**Peps (3736)**	15
										PEP1MX9LP-60	**Peps (3736)**	
										PEP1MX9LP-70	**Peps (3736)**	
		CMOS		Fast Page			5	30		MH1M09BO-10	Mitsubishi	
										MH1M09BOB-10	Mitsubishi	
			TTL	Fast Page	0.6	210	5	30		MCM9L1430-10	Motorola	20
					1.8	540	5	30		MCM9L1000-10	Motorola	
					3	210	5	30		MCM91430-10	Motorola	
					6	220	5	30		MC421000A9A-10	NEC	
						200	5	30		MSC23109-10S3	OKI	
										MSC23109L-10S3	OKI	25
						230	5	30		KMM591000AN-10	Samsung	
									Low Power	KMM591020AN-10	Samsung	
					9	540	5	30		MCM91000-10	Motorola	
					18	540	5	30		MC421000A9-10	NEC	
										MSC2312B-10S9	OKI	30
	120						5	30		PEP1MX9-120	Peps	
16Mx4	70	CMOS		Fast Page			5	72		MH2M36AC-7	Mitsubishi	
										MH2M36ANC-7	Mitsubishi	
										MH2M36ANC-8	Mitsubishi	
										MH2M36AST-7	Mitsubishi	35
	80	CMOS		Fast Page			5	72		MH2M36AC-8	Mitsubishi	
										MH2M36ASA-8	Mitsubishi	
										MH2M36AST-8	Mitsubishi	
								30		MH8M9AOTJ-8	Mitsubishi	
16Mx8	60	CMOS	TTL	Fast Page	45	210	5	34	Stack Family	DPD16MX8P-60	Dense-Pac	40
	70	CMOS					5	30		MH16M08-7	Mitsubishi	
			TTL	Fast Page	45	210	5	34	Stack Family	DPD16MX8P-70	Dense-Pac	
	80	CMOS					5	30		MH16M08-8	Mitsubishi	
			TTL	Fast Page	45	210	5	34	Stack Family	DPD16MX8P-80	Dense-Pac	
	100	CMOS	TTL	Fast Page	45	210	5	34	Stack Family	DPD16MX8P-10	Dense-Pac	45
16Mx9	70	CMOS					5	30		MH16M09-7	Mitsubishi	
	80	CMOS					5	30		MH16M09-8	Mitsubishi	
2Mx4	80	CMOS		Fast Page			5	72	(256Kx4)x8 + (256Kx4)	MH26636B-8	Mitsubishi	
	100	CMOS		Fast Page			5	72	(256Kx4)x8 + (256Kx4)	MH26636B-10	Mitsubishi	
2Mx8	80						5	64		PEP2MX8-80	Peps	50
	100						5	64		PEP2MX8-100	Peps	
	120						5	64		PEP2MX8-120	Peps	
2Mx32	60	CMOS		Fast Page	16	896	5	72		GMM7322000SG-60	GoldStar	
			TTL	Common	16	920	5	72		HB56D232BS-6	Hitachi	
										HB56D232SBS-6	Hitachi	55
				Fast Page	3.2	896	5	72		MT16D232L-6	MicronSemi	
					17.6	1073.6	5	72		THM322020A-60	Toshiba	
	70	CMOS		Fast Page	16	816	5	72		GMM7322000SG-70	GoldStar	
			TTL	Common	16	840	5	72		HB56D232BS-7	Hitachi	
										HB56D232SBS-7	Hitachi	60
				Fast Page	3.2	816	5	72		MT16D232L-7	MicronSemi	
					17.6	897.6	5	72		THM322020A-70	Toshiba	
	80	CMOS		Fast Page	16	736	5	72		GMM7322000SG-80	GoldStar	
			TTL	Common	16	760	5	72		HB56D232B-8	Hitachi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx32	80	CMOS	TTL	Common	16	760	5	72			(Cont'd)	
										HB56D232BS-8	Hitachi	
										HB56D232SBS-8	Hitachi	
				Fast Page	3.2	736	5	72		MT16D232L-8	MicronSemi	
					17.6	766.4	5	72		THM322020A-80	Toshiba	
					32	856	5	72		THM322020-80	Toshiba	5
	100	CMOS	TTL	Common	16	680	5	72		HB56D232B-10	Hitachi	
										HB56D232BS-10	Hitachi	
										HB56D232SBS-10	Hitachi	
				Fast Page	6.4	736	5	72		MCM32L200-10	Motorola	
					16	616	5	72		MCM32230-10	Motorola	10
					17.6	678.4	5	72		THM322020A-10	Toshiba	
					32	736	5	72		THM322020-10	Toshiba	
	120	CMOS	TTL	Common	16	600	5	72		HB56D232B-12	Hitachi	
2Mx36	60		TTL	Fast Page	26.4	1478.4	5	72		THM362040A-60	Toshiba	
		CMOS		Fast Page	24	1264	5	72		GMM7362000SG-60	GoldStar	15
			TTL	Common	24	1300	5	72		HB56D236SB-6	Hitachi	
				Fast Page	4.8	1225	5	72		MT24D236L-6	MicronSemi	
					26.4	1478.4	5	72		THM362020A-60	Toshiba	
	70		TTL	Fast Page	26.4	1258.4	5	72		THM362040A-70	Toshiba	
		CMOS		Fast Page	24	1144	5	72		GMM7362000SG-70	GoldStar	20
			TTL	Common	24	1180	5	72		HB56D236SB-7	Hitachi	
				Fast Page	4.8	1105	5	72		MT24D236L-7	MicronSemi	
					26.4	1258.4	5	72		THM362020A-70	Toshiba	
	80		TTL	Fast Page	26.4	1083.2	5	72		THM362020A-80	Toshiba	
										THM362040A-80	Toshiba	25
		CMOS					5	72		THM362020-80	Toshiba	
				Fast Page	24	1024	5	72		GMM7362000SG-80	GoldStar	
			TTL	Common	24	1060	5	72		HB56D236B-8	Hitachi	
										HB56D236SB-8	Hitachi	
				Fast Page	4.8	985	5	72		MT24D236L-8	MicronSemi	30
	100		TTT	Fast Page	26.4	951.2	5	72		THM362020A-10	Toshiba	
		CMOS	TTL	Common	24	940	5	72		HB56D236B-10	Hitachi	
										HB56D236SB-10	Hitachi	
	120	CMOS	TTL	Common	24	820	5	72		HB56D236B-12	Hitachi	
2Mx40	60		TTL		22	1342	5	72		THM402040A-60	Toshiba	35
				Fast Page	22	1342	5	72		THM402020A-60	Toshiba	
		CMOS	TTL	Common	20	1150	5	72		HB56A240-6	Hitachi	
				Fast Page			5	72		MC422000AA40-60	NEC	
					4	1104	5	72		MT20D240L-6	MicronSemi	
	70		TTL		22	1122	5	72		THM402040A-70	Toshiba	40
				Fast Page	22	1122	5	72		THM402020A-70	Toshiba	
		CMOS	TTL	Common	20	1050	5	72		HB56A240-7	Hitachi	
				Fast Page	4	1004	5	72		MT20D240L-7	MicronSemi	
	80		TTL	Fast Page	22	958	5	72		THM402020A-80	Toshiba	
		CMOS	TTL	Common	20	950	5	72		HB56A240-8	Hitachi	45
				Fast Page	4	904	5	72		MT20D240L-8	MicronSemi	
		HYBRID	TTL		22	958	5	72		THM402040A-80	Toshiba	
	100	CMOS	TTL	Common	20	850	5	72		HB56A240-10	Hitachi	
				Fast Page	40	920	5	72		THM402020-10	Toshiba	
		HYBRID	TTL		22	848	5	72		THM402040A-10	Toshiba	50
2Mx18	60	CMOS	TTL		24	1240	5	72		HYM361120GS-60	Siemens	
	70	CMOS	TTL		24	1120	5	72		HYM361120GS-70	Siemens	
	80	CMOS	TTL		24	1000	5	72		HYM361120GS-80	Siemens	
2Mx32	60	CMOS	TTL	Fast Page	3.2	976	5	72		MCM32L230-60	Motorola	
					16	976	5	72		MCM32230-60	Motorola	55
					32	896	5	72		MT16DT232-6	MicronSemi	
						1020	5	72		MC422000A32-60	NEC	
						736	5	72		KMM5322000BV-6	Samsung	
			TTL/CMOS	Fast Page	32	886	5	72		MT16D232-6	MicronSemi	
	70				16	776	5			HYM532200M-70	Hyundai	60
		CMOS	TTL	Fast Page	3.2	816	5	72		MCM32L230-70	Motorola	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx32	70	CMOS	TTL	Fast Page							(Cont'd)	
					8	304	5	72		KMM5322000W-7	Samsung	
					16	816	5	72		MCM32230-70	Motorola	
					32	816	5	72		MT16DT232-7	MicronSemi	
						860	5	72		MC422000A32-70	NEC	
						760	5	72		MSC23232-70S16	OKI	5
						856	5	72		KMM5322000AV-7	Samsung	
						656	5	72		KMM5322000BV-7	Samsung	
			TTL/CMOS	Fast Page	32	816	5	72		MT16D232-7	MicronSemi	
	80				16	776	5			HYM532200M-80	Hyundai	
		CMOS	TTL	Fast Page	3.2	696	5	72		MCM32L230-80	Motorola	10
					6.4	856	5	72		MCM32L200-80	Motorola	
					8	264	5	72		KMM5322000W-8	Samsung	
					16	856	5	72		MCM32200-80	Motorola	
						696	5	72		MCM32230-80	Motorola	
					32	736	5	72		MT16DT232-8	MicronSemi	15
						780	5	72		MC422000A32-80	NEC	
						680	5	72		MSC23232-80S16	OKI	
						776	5	72		KMM5322000AV-8	Samsung	
						576	5	72		KMM5322000BV-8	Samsung	
			TTL/CMOS	Fast Page	32	736	5	72		MT16D232-8	MicronSemi	20
	100	CMOS	TTL	Fast Page	3.2	616	5	72		MCM32L230-10	Motorola	
					8	224	5	72		KMM5322000W-10	Samsung	
					16	736	5	72		MCM32200-10	Motorola	
					32	700	5	72		MC422000A32-10	NEC	
						600	5	72		MSC23232-10S16	OKI	25
						696	5	72		KMM5322000AV-10	Samsung	
2Mx33	60						5	72		**PEP2MX33-60**	**Peps (3706)**	
	70						5	72		**PEP2MX33-70**	**Peps (3706)**	
	80						5	72		**PEP2MX33-80**	**Peps (3706)**	
2Mx36	53	CMOS		Enhanced Page	24	1292	5	72		MM2M0J36-05	NMB	30
	60						5	72		**PEP2MX36-60**	**Peps (3706)**	
		CMOS		Enhanced Page	24	1292	5	72		MM2M0J36-06	NMB	
			TTL		48	1264	5	72		HYM362120GS-60	Siemens	
				Fast Page	18	1008	5	72		MT18D236-6	MicronSemi	
					48	1264	5	72		MT24D236-6	MicronSemi	35
						1380	5	72		MC422000A36-60	NEC	
						1024	5	72		KMM5362000B-6	Samsung	
										KMM5362000B1-6	Samsung	
			TTL/CMOS	Fast Page	48	1200	5	72		MB85347A-60	Fujitsu	
	70						5	72		**PEP2MX36-70**	**Peps (3706)**	40
					24	1084	5			HYM536200M-70	Hyundai	
		CMOS					5	72		MT18D236-7	MicronSemi	
					40	3240	5	30		**V404J236-70**	**Mosel-Vitelic (3696)**	
				Enhanced Page	24	1172	5	72		MM2M0J36-07	NMB	
			TTL		48	1144	5	72		HYM362120GS-70	Siemens	45
				Fast Page	8	1144	5	72		MCM36L200-70	Motorola	
					24	1144	5	72		MCM36200-70	Motorola	
					48	1180	5	72		MC422000A36-70	NEC	
						1100	5	72		MSC23236-70S24	OKI	
						1184	5	72		KMM5362000A-7	Samsung	50
										KMM5362000A1-7	Samsung	
						924	5	72		KMM5362000B-7	Samsung	
										KMM5362000B1-7	Samsung	
			TTL/CMOS	Fast Page	48	1096	5	72		MB85347A-70	Fujitsu	
						1144	5	72		MT24D236-7	MicronSemi	55
	80						5	72		**PEP2MX36-80**	**Peps (3706)**	
					24	1084	5			HYM536200M-80	Hyundai	
		CMOS					5	72		MT18D236-8	MicronSemi	
										HYM362120S-80	Siemens	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
2Mx36	80	CMOS			40	3240	5	30		**V404J236-80**	**Mosel-Vitelic (3696)**	
				Enhanced Page	24	972	5	72		MM2M0J36-08	NMB	
			TTL		48	1024	5	72		HYM362120GS-80	Siemens	
				Fast Page	8	984	5	72		MCM36L200-80	Motorola	
					24	984	5	72		MCM36200-80	Motorola	5
					48	1060	5	72		MC422000A36-80	NEC	
						980	5	72		MSC23236-80S24	OKI	
						1064	5	72		KMM5362000A-8	Samsung	
										KMM5362000A1-8	Samsung	
						824	5	72		KMM5362000B-8	Samsung	10
										KMM5362000B1-8	Samsung	
			TTL/CMOS	Fast Page	48	1024	5	72		MT24D236-8	MicronSemi	
	100		TTL		26.4	951.2	5	72		THM362040A-10	Toshiba	
		CMOS					5	72		HYM362120S-10	Siemens	
										THM362020-10	Toshiba	15
			TTL	Fast Page	8	984	5	72		MCM36L200-10	Motorola	
					24	984	5	72		MCM36200-10	Motorola	
					48	860	5	72		MSC23236-10S24	OKI	
						944	5	72		KMM5362000A-10	Samsung	
										KMM5362000A1-10	Samsung	20
2Mx4	70	CMOS		Fast Page			5	30	(1Mx4)x2 + (1Mx1)x1	MH1M09A0A-7	Mitsubishi	
	80	CMOS		Fast Page			5	30	(1Mx4)x2 + (1Mx1)x1	MH1M09A0A-8	Mitsubishi	
2Mx40	60						5	72		**PEP2MX40-60**	**Peps (3706)**	
		CMOS	TTL	Fast Page	4	1220	5	72		MCM40L200-60	Motorola	
					12	460	5	72		MT20D240-6	MicronSemi	25
					20	1220	5	72		MCM40200-60	Motorola	
					40	920	5	72		KMM5402000B-6	Samsung	
	70						5	72		**PEP2MX40-70**	**Peps (3706)**	
		CMOS	TTL	Fast Page	4	1020	5	72		MCM40L200-70	Motorola	
					12	460	5	72		MT20D240-7	MicronSemi	30
					20	1020	5	72		MCM40200-70	Motorola	
					40	1060	5	72		MC422000AA40-70	NEC	
						1070	5	72		KMM5402000A-7	Samsung	
						820	5	72		KMM5402000B-7	Samsung	
	80						5	72		**PEP2MX40-80**	**Peps (3706)**	35
		CMOS	TTL	Fast Page	4	870	5	72		MCM40L200-80	Motorola	
					12	460	5	72		MT20D240-8	MicronSemi	
					20	870	5	72		MCM40200-80	Motorola	
					40	960	5	72		MC422000AA40-80	NEC	
						970	5	72		KMM5402000A-8	Samsung	40
						720	5	72		KMM5402000B-8	Samsung	
						1070	5	72		THM402020-80	Toshiba	
	100		TTL	Fast Page	22	848	5	72		THM402020A-10	Toshiba	
		CMOS	TTL	Fast Page	4	770	5	72		MCM40L200-10	Motorola	
					20	770	5	72		MCM40200-10	Motorola	45
					40	870	5	72		KMM5402000A-10	Samsung	
2Mx72	60	CMOS	TTL	Fast Page			5	100		MCM72200-60	Motorola	
	70	CMOS	TTL	Fast Page			5	100		MCM72200-70	Motorola	
	80	CMOS	TTL	Fast Page			5	100		MCM72200-80	Motorola	
2Mx8	85	CMOS					5	36		MH2M08TNA-85	Mitsubishi	50
	100	CMOS					5	36		MH2M08TNA-10	Mitsubishi	
	120	CMOS					5	36		MH2M08TNA-12	Mitsubishi	
	150	CMOS					5	36		MH2M08TNA-15	Mitsubishi	
4Mx1	80						5	26		PEP4MX1-80	Peps	
								23		PEP4MX1Z-80	Peps	55
		CMOS					5	26		MCM11400-80	Motorola	
	100						5	26		PEP4MX1-100	Peps	
								23		PEP4MX1Z-100	Peps	
		CMOS					5	26		MCM11400-10	Motorola	
	120						5	26		PEP4MX1-120	Peps	60
								23		PEP4MX1Z-120	Peps	
4Mx4	80	CMOS		Fast Page			5	72	(256Kx4)x16 + (256Kx4)	MH52236B-8	Mitsubishi	
			TTL	Fast Page	8	720	5	30		MC424000A8BA-80	NEC	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx4											(Cont'd)	
	100	CMOS		Fast Page			5	72	(256Kx4)x16 + (256Kx4)	MH52236B-10	Mitsubishi	
4Mx8	60	CMOS		Fast Page	8	880	5	30		GMM784000S-60	GoldStar	
			TTL		8.8	1056	5	30		THM84020A-60	Toshiba	
				Common	8	880	5	30		HB56A48-6	Hitachi	
				Fast Page	1.6	880	5	30		MT8D48L-6	MicronSemi	5
						960	5	30		MCM8L4000A-60	Motorola	
					8	960	5	30		MCM84000A-60	Motorola	
					8.8	1056	5	30		THM84000A-60	Toshiba	
					16	840	5	20		HYM584000A-60	Hyundai	
										HYM584000AL-60	Hyundai	10
			TTL/CMOS	Fast Page	8	960	5	30		THM84020AL-60	Toshiba	
		TTL					5			TM4100GBD8-6	TI	
	70	CMOS		Fast Page	8	800	5	30		GMM784000S-70	GoldStar	
			TTL		8.8	880	5	30		THM84020A-70	Toshiba	
				Common	8	800	5	30		HB56A48-7	Hitachi	15
				Fast Page	1.6	800	5	30		MT8D48L-7	MicronSemi	
										MCM8L4000A-70	Motorola	
					8	800	5	30		MCM84000A-70	Motorola	
					8.8	880	5	30		THM84000A-70	Toshiba	
					16	720	5	20		HYM584000-70	Hyundai	20
						760	5	20		HYM584000A-70	Hyundai	
										HYM584000AL-70	Hyundai	
			TTL/CMOS	Fast Page	8	800	5	30		THM84020AL-70	Toshiba	
		TTL					5			TM4100GBD8-70	TI	
	80	CMOS					5	30		THM84000-80	Toshiba	25
				Fast Page	8	720	5	30		GMM784000S-80	GoldStar	
			TTL		8.8	748.8	5	30		THM84020A-80	Toshiba	
					16	800	5	30		KMM584000-8	Samsung	
				Common	8	720	5	30		HB56A48-8	Hitachi	
				Fast Page	1.6	720	5	30		MT8D48L-8	MicronSemi	30
					8.8	748.8	5	30		THM84000A-80	Toshiba	
					16	640	5	20		HYM584000-80	Hyundai	
						680	5	20		HYM584000A-80	Hyundai	
										HYM584000AL-80	Hyundai	
						800	5	30		TM84000L-80	Toshiba	35
			TTL/CMOS	Fast Page	9	765	5	30		THM84020AL-80	Toshiba	
		NMOS					5	30		HB56A48A-8	Hitachi	
		TTL					5			TM4100GBD8-80	TI	
	100	CMOS	TTL		8.8	660.8	5	30		THM84020A-10	Toshiba	
					16	680	5	30		KMM584000-10	Samsung	40
				Common	8	640	5	30		HB56A48-10	Hitachi	
				Fast Page	8.8	660.8	5	30		THM84000A-10	Toshiba	
		NMOS					5	30		HB56A48A-10	Hitachi	
		TTL					5			TM4100GBD8-10	TI	
	120	NMOS					5	30		HB56A48A-12	Hitachi	45
4Mx9	60	CMOS		Fast Page	9	990	5	30		GMM794000S-60	GoldStar	
			TTL		9.9	1188	5	30		THM94020A-60	Toshiba	
				Common	9	990	5	30		HB56A49-6	Hitachi	
				Fast Page	1.8	990	5	30		MT9D49L-6	MicronSemi	
						1080	5	30		MCM9L4000A-60	Motorola	50
					9	1080	5	30		MCM94000A-60	Motorola	
					9.9	1188	5	30		THM94000A-60	Toshiba	
					16	945	5	20		HYM594000AL-60	Hyundai	
					18	945	5	20		HYM594000A-60	Hyundai	
			TTL/CMOS	Fast Page	6	285	5	30		HYM594000-60	Hyundai	55
		TTL					5			TM4100EBD9-6	TI	
	70	CMOS		Fast Page	9	900	5	30		GMM794000S-70	GoldStar	
			TTL		9.9	990	5	30		THM94020A-70	Toshiba	
				Common	9	900	5	30		HB56A49-7	Hitachi	
				Fast Page	1.8	900	5	30		MT9D49L-7	MicronSemi	60
										MCM9L4000A-70	Motorola	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx9	70	CMOS	TTL	Fast Page							(Cont'd)	
					9	900	5	30		MCM94000A-70	Motorola	
					9.9	990	5	30		THM94000A-70	Toshiba	
					16	855	5	20		HYM594000AL-70	Hyundai	
					18	810	5	20		HYM594000-70	Hyundai	
						855	5	20		HYM594000A-70	Hyundai	5
		TTL					5			TM4100EBD9-70	TI	
	80	CMOS					5	30		TMS4100EBD9-80	TI	
										THM94000-80	Toshiba	
				Fast Page	9	810	5	30		GMM794000S-80	GoldStar	
			TTL		9.9	842.4	5	30		THM94020A-80	Toshiba	10
					18	810	5	30		MSC2340-8AS9	OKI	
										MSC2340-8S9	OKI	
						900	5	30		KMM594000-8	Samsung	
				Common	9	810	5	30		HB56A49-8	Hitachi	
				Fast Page	1.8	810	5	30		MT9D49L-8	MicronSemi	15
					2.4	156	5	30		MT3D49-8	MicronSemi	
					9.9	842.4	5	30		THM94000A-80	Toshiba	
					16	765	5	20		HYM594000AL-80	Hyundai	
					18	720	5	20		HYM594000-80	Hyundai	
						765	5	20		HYM594000A-80	Hyundai	20
		NMOS					5	30		HB56A49A-8	Hitachi	
										MH4M09A0J-8	Mitsubishi	
	100	CMOS					5	30		TMS4100EBD9-10	TI	
										THM94000-10	Toshiba	
			TTL		9.9	743.4	5	30		THM94020A-10	Toshiba	25
					18	720	5	30		MSC2340-10S9	OKI	
						765	5	30		KMM594000-10	Samsung	
				Common	9	720	5	30		HB56A49-10	Hitachi	
				Fast Page	9.9	743.4	5	30		THM94000A-10	Toshiba	
			TTL/CMOS	Fast Page	9	675	5	30		THM94020AL-10	Toshiba	30
		NMOS					5	30		HB56A49A-10	Hitachi	
										MH4M09A0J-10	Mitsubishi	
	120	CMOS					5	30		TMS4100EBD9-12	TI	
		NMOS					5	30		HB56A49A-12	Hitachi	
4Mx18	60	CMOS	TTL/CMOS	Fast Page	18	2160	5	72		THM184080A-60L	Toshiba	35
	70	CMOS	TTL/CMOS	Fast Page	18	1800	5	72		THM184080A-70L	Toshiba	
	80	CMOS	TTL		7.92	1980	5	72		THM184040-80L	Toshiba	
					19.8	1980	5	72		THM184080-80L	Toshiba	
			TTL/CMOS	Fast Page	18	1531	5	72		THM184080A-80L	Toshiba	
	100	CMOS	TTL		7.92	1683	5	72		THM184040-10L	Toshiba	40
					19.8	1684.8	5	72		THM184080-10L	Toshiba	
			TTL/CMOS	Fast Page	18	1351	5	72		THM184080A-10L	Toshiba	
4Mx33	60	CMOS	TTL	Fast Page	36.3	4374	5	72		THM334080A-60	Toshiba	
	70	CMOS	TTL	Fast Page	36.3	3630	5	72		THM334080A-70	Toshiba	
	80	CMOS	TTL	Fast Page	36.3	3088.8	5	72		THM334080A-80	Toshiba	45
	100	CMOS	TTL	Fast Page	36.3	2725.8	5	72		THM334080A-10	Toshiba	
4Mx36	60		TTL	Fast Page	39.6	4752	5	72		THM364080A-60	Toshiba	
	70		TTL	Fast Page	39.6	3960	5	72		THM364080A-70	Toshiba	
	80		TTL	Fast Page	39.6	3369.6	5	72		THM364080A-80	Toshiba	
4Mx18	60	CMOS	TTL		48	1264	5	72		HYM362120GS-60	Siemens	50
				Fast Page	24	1264	5	72		MT24D236-6	MicronSemi	
	70	CMOS	TTL		48	1144	5	72		HYM362120GS-70	Siemens	
	80	CMOS	TTL		48	1024	5	72		HYM362120GS-80	Siemens	
4Mx2	70	CMOS		Fast Page			5	72		MH25636SX-7	Mitsubishi	
	80	CMOS		Fast Page			5	72		MH25636SX-8	Mitsubishi	55
4Mx20	60	CMOS		Fast Page			5	72		MH2M40AS-6	Mitsubishi	
	70	CMOS		Fast Page			5	72		MH2M40AS-7	Mitsubishi	
	80	CMOS		Fast Page			5	72	(1Mx4)x20	MH2M40AS-8	Mitsubishi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx32	60	CMOS	TTL	Fast Page			5	72		MCM32400-60	Motorola	
					16	720	5	72		MT8D432-6	MicronSemi	
						880	5	72		MC424000A32-60	NEC	
										KMM5324100V-6	Samsung	
	70	CMOS		Fast Page			5	72		MH4M32SA-7	Mitsubishi	5
										MCM32400-70	Motorola	
			TTL	Fast Page	16	800	5	72		MC424000A32-70	NEC	
										KMM5324100V-7	Samsung	
	80	CMOS					5	72		MH4M32SA-8	Mitsubishi	
										MH4M36SA-8	Mitsubishi	10
			TTL	Fast Page			5	72		MCM32400-80	Motorola	
					16	720	5	72		MC424000A32-80	NEC	
										KMM5324100V-8	Samsung	
4Mx33	60						5	72		**PEP4MX33-60**	**Peps** (3706)	
		CMOS		Fast Page			5	72		MH4M33A-6	Mitsubishi	15
	70						5	72		**PEP4MX33-70**	**Peps** (3706)	
		CMOS		Fast Page			5	72		MH4M33A-7	Mitsubishi	
	80						5	72		**PEP4MX33-80**	**Peps** (3706)	
		CMOS		Fast Page			5	72		MH4M33A-8	Mitsubishi	
4Mx36	60						5	72		**PEP4MX36-60**	**Peps** (3706)	20
		CMOS	TTL	Fast Page			5	72		MCM36400-60	Motorola	
					18	810	5	72		KMM5364000H-6	Samsung	
						990	5	72		KMM5364100H-6	Samsung	
					24	1360	5	72		MC424000A36-60	NEC	
						1340	5	72		KMM5364100-6	Samsung	25
	70						5	72		**PEP4MX36-70**	**Peps** (3706)	
		CMOS					5	72		MH4M36SA-7	Mitsubishi	
					36	3780	5	30		**V400J36-70**	**Mosel-Vitelic** (3696)	
			TTL	Fast Page			5	72		MCM36400-70	Motorola	
					18	720	5	72		KMM5364000H-7	Samsung	30
						900	5	72		KMM5364100H-7	Samsung	
					24	1200	5	72		MC424000A36-70	NEC	
						1220	5	72		KMM5364100-7	Samsung	
	80						5	72		**PEP4MX36-80**	**Peps** (3706)	
		CMOS			36	3780	5	30		**V400J36-80**	**Mosel-Vitelic** (3696)	35
			TTL	Fast Page			5	72		MCM36400-80	Motorola	
					18	630	5	72		KMM5364000H-8	Samsung	
						810	5	72		KMM5364100H-8	Samsung	
					24	1080	5	72		MC424000A36-80	NEC	
						1100	5	72		KMM5364100-8	Samsung	40
	100		TTL	Fast Page	39.6	2973.6	5	72		THM364080A-10	Toshiba	
4Mx4	8 MHz	CMOS					5	42	(1Mx4)x4; 8MHz	MH2M08PNA-8	Mitsubishi	
	10 MHz	CMOS					5	42	(1Mx4)x4; 8MHz	MH2M08PNA-10	Mitsubishi	
	50	CMOS		Fast Page	2	85	3.6	32		TP0116400ZJ3D-50 ℓ	IBM	
										TP0117400ZJ3D-50 ℓ	IBM	45
	60	CMOS		Fast Page	2	85	5	28		TP0116400J3A-60	IBM	
	70	CMOS		Fast Page			5	72		MH51236SX-7	Mitsubishi	
					2	75	5	28		TP0116400J3A-70	IBM	
							3.6	32		TP0116400ZJ3D-70 ℓ	IBM	
										TP0117400ZJ3D-70 ℓ	IBM	50
			TTL	Fast Page	16	800	5	30		MC424000A8-70	NEC	
										MC424000A8BA-70	NEC	
	80	CMOS		Fast Page			5	72		MH51236SX-8	Mitsubishi	
	100	CMOS					5	42		MH2N08-8	Mitsubishi	
4Mx40	60	CMOS	TTL	Fast Page			5	72		MCM40400-60	Motorola	55
					6	500	5	72		MT10D440-6	MicronSemi	
					20	900	5	72		KMM5404000-6	Samsung	
						1100	5	72		KMM5404100-6	Samsung	
	70	CMOS					5	72		MH4M40-7	Mitsubishi	
				Fast Page			5	72		MC424000AA40-70	NEC	60
			TTL	Fast Page			5	72		MCM40400-70	Motorola	
					6	500	5	72		MT10D440-7	MicronSemi	
					20	800	5	72		KMM5404000-7	Samsung	
						1000	5	72		KMM5404100-7	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx40											(Cont'd)	
	80	CMOS					5	72		MH4M40-8	Mitsubishi	
				Fast Page			5	72		MC424000AA40-80	NEC	
			TTL	Fast Page			5	72		MCM40400-80	Motorola	
					6	500	5	72		MT10D440-8	MicronSemi	
					20	700	5	72		KMM5404000-8	Samsung	5
						900	5	72		KMM5404100-8	Samsung	
4Mx72	60	CMOS	TTL	Fast Page			5	100		MCM72400-60	Motorola	
	70	CMOS	TTL	Fast Page			5	100		MCM72400-70	Motorola	
	80	CMOS	TTL	Fast Page			5	100		MCM72400-80	Motorola	
4Mx8							5	30		PEP4MX8	Peps	10
	6	CMOS	TTL	Fast Page	4.8	360	5	30	Low Power available	MT8D48-6	MicronSemi	
	60						5	64		**NTX4M-60**	**Peps (3706)**	
								30		**PEP4MX8-60**	**Peps (3736)**	
		CMOS				960	5	30		MCM8L4030-60	Motorola	
				Fast Page			5	30	(4Mx1)x8	MH4M08AO-6	Mitsubishi	15
			TTL	Fast Page	1.2	110	5	30		MT2D48-6	MicronSemi	
					1.6	960	5	30		MCM8L4000-60	Motorola	
					4	220	5	30		KMM584100N-6	Samsung	
					16	960	5	30		MCM84L4000-60	Motorola	
										MCM84000-60	Motorola	20
										MCM84030-60	Motorola	
										MC422000A8-60	NEC	
										MC424000A8BA-60	NEC	
						720	5	30		KMM584000B-6	Samsung	
	70						5	64		**NTX4M-70**	**Peps (3706)**	25
								30		**PEP4MX8-70**	**Peps (3736)**	
					8	720	5			HYM584000M-70	Hyundai	
						550	5			**V400J8-70**	**Mosel-Vitelic (3696)**	
		CMOS					5	30		MT8D48-7	MicronSemi	
						800	5	30		MCM8L4030-70	Motorola	30
				Fast Page			5	72		MH1M36AD-7	Mitsubishi	
										MH1M36ASD-7	Mitsubishi	
										MH1M36AT-7	Mitsubishi	
										MH1M36B-7	Mitsubishi	
										MH1M36BB-7	Mitsubishi	35
										MH1M36E-7	Mitsubishi	
										MH2M32AD-7	Mitsubishi	
										MH2M32ASD-7	Mitsubishi	
										MH2M32AST-7	Mitsubishi	
								30	(4Mx1)x8	MH4M08AO-7	Mitsubishi	40
										MH4M8AODJA-7	Mitsubishi	
										MH4M8AOT-7	Mitsubishi	
										MH4M8AOTJA-7	Mitsubishi	
			TTL	Fast Page	1.2	110	5	30		MT2D48-7	MicronSemi	
					1.6	800	5	30		MCM8L4000-70	Motorola	45
					4	200	5	30		KMM584100N-7	Samsung	
					16	800	5	30		MCM84L4000-70	Motorola	
										MCM84000-70	Motorola	
										MCM84030-70	Motorola	
										MC422000A8-70	NEC	50
						720	5	30		MSC23408-70S8	OKI	
										MSC23408L-70S8	OKI	
						840	5	30		KMM584000A-7	Samsung	
						640	5	30		KMM584000B-7	Samsung	
						840	5	30	Low Power	KMM584020A-7	Samsung	55
	80						5	64		**NTX4M-80**	**Peps (3706)**	
								30		**PEP4MX8-80**	**Peps (3736)**	
					8	720	5			HYM584000M-80	Hyundai	
						550	5			**V400J8-80**	**Mosel-Vitelic (3696)**	
		CMOS					5	30		MT8D48-8	MicronSemi	60
						680	5	30		MCM8L4030-80	Motorola	
				Fast Page			5	72	(1Mx1)x36	MH1MM36B-8	Mitsubishi	
										MH1M36AD-8	Mitsubishi	
										MH1M36AD-8L	Mitsubishi	
										MH1M36ASD-8	Mitsubishi	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx8	80	CMOS		Fast Page			5	72			(Cont'd)	
										MH1M36AST-8	Mitsubishi	
										MH1M36AT-8	Mitsubishi	
										MH1M36B-8	Mitsubishi	
										MH1M36SE-8	Mitsubishi	
										MH2M32AD-8	Mitsubishi	5
										MH2M32ASD-8	Mitsubishi	
										MH2M32AST-8	Mitsubishi	
								30	(4Mx1)x8	MH4M08AO-8	Mitsubishi	
										MH4M8AODJA-8	Mitsubishi	
										MH4M8AOT-8	Mitsubishi	10
										MH4M8AOTJA-8	Mitsubishi	
			TTL	Fast Page	1.2	110	5	30		MT2D48-8	MicronSemi	
					1.6	680	5	30		MCM8L4000-80	Motorola	
										MCM8L4000A-80	Motorola	
					4	180	5	30		KMM584100N-8	Samsung	15
					8	680	5	30		MCM84000A-80	Motorola	
					16	680	5	30		MCM84L4000-80	Motorola	
										MCM84000-80	Motorola	
										MCM84030-80	Motorola	
						720	5	30		MC422000A8-80	NEC	20
						640	5	30		MSC23408-80S8	OKI	
										MSC23408L-80S8	OKI	
						760	5	30		KMM584000A-8	Samsung	
						560	5	30		KMM584000B-8	Samsung	
						760	5	30	Low Power	KMM584020A-8	Samsung	25
	100				8	550	5			**V400J8-100**	**Mosel-Vitelic (3696)**	
		CMOS					5	30		THM84000-10	Toshiba	
			TTL	Fast Page	1.6	600	5	30		MCM8L4000A-100	Motorola	
					3.2	680	5	30		MCM8L4000-10	Motorola	
					8	680	5	30		MCM84000-10	Motorola	30
						600	5	30		MCM84000A-10	Motorola	
					16	560	5	30		MSC23408-10S8	OKI	
										MSC23408L-10S8	OKI	
						680	5	30		KMM584000A-10	Samsung	
									Low Power	KMM584020A-10	Samsung	35
										TM84000L-10	Toshiba	
4Mx9							5	30		PEP4MX9	Peps	
	6	CMOS	TTL	Fast Page	5.4	400	5	30	Low Power available	MT9D49-6	MicronSemi	
	60						5	30		**PEP4MX9-60**	**Peps (3736)**	
		CMOS				1080	5	30		MCM9L4030-60	Motorola	40
				Fast Page			5	30	(4Mx1)x9	MH4M09AO-6	Mitsubishi	
										MH4M09AOJA-6	Mitsubishi	
			TTL		18	990	5	30		HYM94500L-60	Siemens	
										HYM94500S-60	Siemens	
				Fast Page	1.8	1080	5	30		MCM9L4000-60	Motorola	45
					2.4	156	5	30		MT3D49-6	MicronSemi	
					9	1080	5	30		MCM94000-60	Motorola	
					18	1080	5	30		MCM94030-60	Motorola	
										MC422000A9-60	NEC	
										MC424100A9-60	NEC	50
						810	5	30		KMM594000B-6	Samsung	
			TTL/CMOS	Fast Page	18	990	5	30		MB85285A-60	Fujitsu	
	70						5	30		**PEP4MX9-70**	**Peps (3736)**	
					9	810	5			HYM594000M-70	Hyundai	
						640	5			**V400J9-70**	**Mosel-Vitelic (3696)**	55
		CMOS					5	30		MT9D49-7	MicronSemi	
						900	5	30		MCM9L4030-70	Motorola	
				Fast Page			5	30	(4Mx1)x9	MH4M09AO-7	Mitsubishi	
										MH4M09AOJA-7	Mitsubishi	
			TTL		18	900	5	30		HYM94500L-70	Siemens	60
										HYM94500S-70	Siemens	
				Fast Page	1.8	900	5	30		MCM9L4000-70	Motorola	
					2.4	156	5	30		MT3D49-7	MicronSemi	
					9	900	5	30		MCM94000-70	Motorola	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Mx9	70	CMOS	TTL	Fast Page							(Cont'd)	
					13	945	5	30	Low Power	KMM494020A-7	Samsung	
					18	900	5	30		MCM94030-70	Motorola	
										MC422000A9-70	NEC	
										MC424100A9-70	NEC	
						810	5	30		MSC23409-70S9	OKI	5
										MSC23409L-70S9	OKI	
						945	5	30		KMM594000A-7	Samsung	
						720	5	30		KMM594000B-7	Samsung	
			TTL/CMOS	Fast Page	18	900	5	30		MB85285A-70	Fujitsu	
	80						5	30		**PEP4MX9-80**	**Peps (3736)**	10
					9	810	5			HYM594000M-80	Hyundai	
						640	5			**V400J9-80**	**Mosel-Vitelic (3696)**	
		CMOS					5	30		MT9D49-8	MicronSemi	
						765	5	30		MCM9L4030-80	Motorola	
										HYM94500L-80	Siemens	15
										HYM94500S-80	Siemens	
				Fast Page			5	30	(4Mx1)x9	MH4M09A0-8	Mitsubishi	
										MH4M09A0B-8	Mitsubishi	
										MH4M09A0JA-8	Mitsubishi	
										MH4M9A0DJA-8	Mitsubishi	20
										MH4M9A0TJA-8	Mitsubishi	
									(4Mx1)x9	MH4M90D-8	Mitsubishi	
			TTL	Fast Page	1.8	765	5	30		MCM9L4000-80	Motorola	
										MCM9L4000A-80	Motorola	
					9	765	5	30		MCM94000-80	Motorola	25
										MCM94000A-80	Motorola	
					13	855	5	30	Low Power	KMM494020A-8	Samsung	
					18	765	5	30		MCM94030-80	Motorola	
						810	5	30		MC422000A9-80	NEC	
						720	5	30		MSC23409-80S9	OKI	30
										MSC23409L-80S9	OKI	
						855	5	30		KMM594000A-8	Samsung	
						630	5	30		KMM594000B-8	Samsung	
	100	CMOS					5	30		HYM94500S-10	Siemens	
				Fast Page			5	30	(4Mx1)x9	MH4M90D-10	Mitsubishi	35
			TTL	Fast Page	1.8	675	5	30		MCM9L4000A-10	Motorola	
					3.6	765	5	30		MCM9L4000-10	Motorola	
					9	765	5	30		MCM94000-10	Motorola	
						675	5	30		MCM94000A-10	Motorola	
					13	765	5	30	Low Power	KMM494020A-10	Samsung	40
					18	720	5	30		MC422000A9-10	NEC	
						630	5	30		MSC23409-10S9	OKI	
										MSC23409L-10S9	OKI	
						765	5	30		KMM594000A-10	Samsung	
8Mx32	70	CMOS					5	72		MH8M32-7	Mitsubishi	45
				Fast Page			5	72		MH1M32AD-7	Mitsubishi	
										MH1M32ASD-7	Mitsubishi	
										MH1M32AST-7	Mitsubishi	
	80	CMOS					5	72		MH8M32-8	Mitsubishi	
				Fast Page			5	72		MH1M32AD-8	Mitsubishi	50
										MH1M32ASD-8	Mitsubishi	
										MH1M32AST-8	Mitsubishi	
8Mx36	70	CMOS					5	72		MH8M36-7	Mitsubishi	
	80	CMOS					5	72		MH8M36-8	Mitsubishi	

Dynamic—Multiport

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32x8	35	CMOS	TTL/CMOS		5	30	5	24		DS1609-35	Dallas	55
	50	CMOS	TTL/CMOS		0.3	30	3	24		DS1609-50	ℓ Dallas	
256x4	60	CMOS			7	85	5	28	512x4	**V52C4258-60**	**Mosel-Vitelic (3697)**	
64Kx4	80	CMOS	TTL		8	70	5	24		MSM51C262-80	OKI	
	100						5	31	Two Port	HM53461-10	Hitachi	
		CMOS	TTL		8	60	5	24		MSM51C262-10	OKI	60

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4											(Cont'd)	
	120	CMOS					5	24	Two Port	41264-12	Krueger	
			TTL		8	50	5	24		MSM51C262-12	OKI	
		NMOS					5	24		MB81461-12	Fujitsu	
										SMJ4461-12	°† TI	
	150	CMOS					5	24	Two Port	41264-15	Krueger	5
		NMOS					5	24		SMJ4461-15	°† TI	
		2					5	24	Two Port	µPD41264-15	NEC	
		2-Port Module					5	31		HM53461-15	Hitachi	
64Kx4	120	NMOS	TTL	Page	12	155	5	24	Two Port; 256x4 bit serial read output circuit; 1024-bit data register	µPD41264-12	NEC	
128Kx4	100	CMOS			7	90	5	40	256x8	V52C8128-10	Mosel-Vitelic	10
128Kx8	70	CMOS					5	52	Three Port	MT43C8129-7	MicronSemi	
			TTL	Fast Page			5	52	Includes 512X4 SAMs	MT43C8128-7	MicronSemi	
	80						5	40	Two Port	TC528126B-80	Toshiba	
		TTL					5			TMS48C121-80	° TI	
	100	CMOS	TTL	Fast Page	10	95	5	52	Three Port	MT43C8129-10	MicronSemi	15
		NMOS					5			M5M482128-10	Mitsubishi	
		TTL					5			TMS48C121-10	° TI	
	120	CMOS					5	40		TMS48C121-12	° TI	
128Kx4	70	CMOS	TTL	Fast Page	10	150	5	40	Two Port (VRAM)	MT42C8128-7	MicronSemi	
128Kx8	70	CMOS		Fast Page			5	40	Video	**V52C8126-70**	**Mosel-Vitelic (3697)**	20
										V52C8128-70	**Mosel-Vitelic (3697)**	
			TTL	Fast Page	105	8	5	52	With Dual 256x8 SAMs	MT43C8128A-7	MicronSemi	
										MT43C8129A-7	MicronSemi	
	80	CMOS		Fast Page	50	130	5	40	Video	**V52C8126-80**	**Mosel-Vitelic (3697)**	
										V52C8128-80	**Mosel-Vitelic (3697)**	25
			TTL	Fast Page	10	150	5	40	Two Port	MT42C8128-8	MicronSemi	
						105	5	52	Includes 512X4 SAMs	MT43C8128-8	MicronSemi	
									Three Port	MT43C8129-8	MicronSemi	
						90	5	40	Two Port	TC528128B-80	Toshiba	
					95	8	5	52	With Dual 256x8 SAMs	MT43C8128A-8	MicronSemi	30
										MT43C8129A-8	MicronSemi	
	100	CMOS					5	40		TC528128A-10	° Toshiba	
				Fast Page	50	115	5	40	Video	**V52C8126-100**	**Mosel-Vitelic (3697)**	
										V52C8128-100	**Mosel-Vitelic (3697)**	
			TTL		10	75	5	40		TC528126B-10	Toshiba	35
				Fast Page	10	95	5	52	Includes 512X4 SAMs	MT43C8128-10	MicronSemi	
						75	5	40		TC528128B-10	° Toshiba	
256Kx4	70	CMOS	TTL	Fast Page			5	40	Includes 512X4 SAMs	MT43C4258-7	MicronSemi	
	80	CMOS	TTL		10	85	5	28		TC524256B-80	Toshiba	
	100	CMOS	TTL		10	70	5	28		TC524256B-10	Toshiba	40
256Kx16	60	CMOS	TTL	Fast Page			5	64	Includes 512x8 SAMs	MT42C256K16A1-6	MicronSemi	
					10	110	5	40		**TC524162-60**	**Toshiba (3810)**	
										TC524165-60	**Toshiba (3810)**	
										TC524262-60	**Toshiba (3809)**	
										TC524265-60	**Toshiba (3809)**	45
	70	CMOS	TTL	Fast Page			5	64	Includes 512x8 SAMs	MT42C256K16A1-7	MicronSemi	
					10	100	5	40		**TC524162-70**	**Toshiba (3810)**	
										TC524165-70	**Toshiba (3810)**	
						110	5	40		**TC524262-70**	**Toshiba (3809)**	
						100	5	40		**TC524265-70**	**Toshiba (3809)**	50

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	70	CMOS		Fast Page			5	28	Video	**V52C4256-60**	**Mosel-Vitelic (3697)**	
										V52C4256-70	**Mosel-Vitelic (3697)**	
										V52C4258-70	**Mosel-Vitelic (3697)**	
			TTL	Fast Page			5	40	Three Port	MT43C4257-7	MicronSemi	
					8	120	5	28	SAM Port: 512x4	MSM514252A-70	OKI	5
					100	8	5	40	With Dual 512x4 SAMs	MT43C4258A-7	MicronSemi	
	80	CMOS		Fast Page	50	125	5	28	Video	**V52C4256-80**	**Mosel-Vitelic (3697)**	
										V52C4258-80	**Mosel-Vitelic (3697)**	
			TTL	Fast Page	8	110	5	28	SAM Port: 512x4	MSM514252A-80	OKI	
					10	100	5	40	Includes 512x4 SAMs	MT43C4257-8	MicronSemi	10
						85	5	28		TC524258B-80	Toshiba	
										TC524259B-80	Toshiba	
					90	8	5	40	With Dual 512x4 SAMs	MT43C4258A-8	MicronSemi	
	100	CMOS					5	28		TC524258A-10	Toshiba	
				Fast Page	50	110	5	28	Video	**V52C4256-100**	**Mosel-Vitelic (3697)**	15
										V52C4258-100	**Mosel-Vitelic (3697)**	
			TTL	Fast Page	8	100	5	28	SAM Port: 512x4	MSM514252A-10	OKI	
					10	90	5	40	Includes 512x4 SAMs	MT43C4257-10	MicronSemi	
										MT43C4258-10	MicronSemi	
						70	5	28		TC524258B-10	Toshiba	20
										TC524259B-10	Toshiba	
	120	CMOS					5	28		TC524258A-12	Toshiba	
256Kx8	60	CMOS		Fast Page	8	95	5	40	Video	**V52C8254-60**	**Mosel-Vitelic (3697)**	
										V52C8255-60	**Mosel-Vitelic (3697)**	
										V52C8258-60	**Mosel-Vitelic (3697)**	25
				Hyper Page	8	95	5	40		**V52C8256-60**	**Mosel-Vitelic (3697)**	
			TTL	Fast Page			5	64	Includes 512x8 SAMs	MT43C256K8A1-6	MicronSemi	
	70	CMOS					5	40	Two Port (VRAM)	MT42C8254-7	MicronSemi	
				Fast Page	8	85	5	40	Video	**V52C8254-70**	**Mosel-Vitelic (3697)**	
										V52C8255-70	**Mosel-Vitelic (3697)**	30
										V52C8258-70	Mosel-Vitelic	
				Hyper Page	8	85	5	40		**V52C8256-70**	**Mosel-Vitelic (3697)**	
			TTL	Fast Page			5	64	Includes 512x8 SAMs	MT43C256K8A1-7	MicronSemi	
					3	110	5	40	512x8 SAM	MB818251-70	Fujitsu	
					10	170	5	40	Two Port	MT42C8255-7	MicronSemi	35
						160	5	40	Two Port	MT42C8256-7	MicronSemi	
						100	5	40		TC528257-70	Toshiba	
										TC528267-70	Toshiba	
	80						5	40	Two Port	MT42C8254-8	MicronSemi	
		CMOS		Fast Page	8	75	5	40	Video	**V52C8254-80**	**Mosel-Vitelic (3697)**	40
										V52C8255-80	**Mosel-Vitelic (3697)**	
										V52C8258-80	Mosel-Vitelic	
				Hyper Page	8	75	5	40		**V52C8256-80**	**Mosel-Vitelic (3697)**	
			TTL	Fast Page			5	64	Includes 512x8 SAMs	MT43C256K8A1-8	MicronSemi	
					3	100	5	40	512x8 SAM	MB818251-80	Fujitsu	45
					10	160	5	40	Two Port	MT42C8255-8	MicronSemi	
						145	5	40	Two Port	MT42C8256-8	MicronSemi	
						85	5	40		TC528257-80	Toshiba	
										TC528267-80	Toshiba	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
Dynamic—Video											
80Kx6	50	CMOS	TTL				5	28	Field Memory	M5M4C500L-5	Mitsubishi
	60	CMOS	TTL				5	28	Field Memory	M5M4C500L-6	Mitsubishi
	100	CMOS	TTL				5	28	Field Memory	M5M4C500L-10	Mitsubishi
256x8	70	CMOS	TTL	Fast Page	10	70	5	40	4096 bit data register, 512x8 bit serial read output circuit	μPD482234-70	NEC
				Hyper-page	10	195	5	40	4096-bit data register; 512x8 serial read output circuit	μPD482235-70	NEC
	80	CMOS	TTL	Fast Page	10	190	5	40	4096 bit data register, 512x8 bit serial read output circuit	μPD482234-80	NEC
				Hyper-page	10	190	5	40	4096-bit data register; 512x8-bit serial read output circuit	μPD482235-80	NEC
270Kx4	50	CMOS	TTL		20	100	5	28		LH64270-50	Sharp
2Kx8	28		TTL			90	5	28		HM63021-28	Hitachi
	34		TTL			90	5	28		HM63021-34	Hitachi
	45		TTL			90	5	28		HM63021-45	Hitachi
64Kx4	80	CMOS					5	24		M5M4C264-8	Mitsubishi
										V53C261-80	Mosel-Vitelic
	100	CMOS					5	24		M5M4C264-10	Mitsubishi
			TTL		7	70	5	24		HM53461-10	Hitachi
										HM53462-10	Hitachi
	120	CMOS					5	24		M5M4C264-12	Mitsubishi
			TTL		7	60	5	24		HM53461-12	Hitachi
										HM53462-12	Hitachi
	150	CMOS	TTL		7	50	5	24		HM53461-15	Hitachi
										HM53462-15	Hitachi
64Kx4	80	CMOS		Fast Page	6	70	5	24		GM53C261-80	GoldStar
			TTL	Fast Page		60	5	24	Two Port; 256x4 Serial Port	M5M4C264A	Mitsubishi
									Two Port; 256x4 Serial Port	M5M4C264A-8	Mitsubishi
	100	CMOS					5	24		**V53C261-10**	**Mosel-Vitelic (3697)**
				Fast Page	6	60	5	24		GM53C261-10	GoldStar
			TTL	Fast Page		50	5	24	Two Port; 256x4 Serial Port	M5M4C264A-10	Mitsubishi
					3	100	5	24	Two Port; 256x4 SAM	KM424C64-10	Samsung
				Page	5	120	5	24	Two Port; 256x4-bit Serial read output curcuit; 1024-bit data register	μPD42264-10	NEC
	120	CMOS					5			**V53C261-12**	**Mosel-Vitelic (3697)**
				Fast Page	6	50	5	24		GM53C261-12	GoldStar
			TTL	Fast Page		40	5	24	Two Port; 256x4 Serial Port	M5M4C264A-12	Mitsubishi
					3	85	5	24	Two Port; 256x4 SAM	KM424C64-12	Samsung
		NMOS	TTL	Page	12	155	5	24	Two Port; 256x4-bit Serial read output curcuit; 1024-bit data register	μPD41264-12	NEC
	150	NMOS	TTL	Page	12	130	5	24	Two Port; 256x4-bit Serial read output curcuit; 1024-bit data register	μPD41264-15	NEC
128Kx4	70	CMOS					5	24		M5M482128-7	Mitsubishi
	80	CMOS					5	24		M5M482128-8	Mitsubishi
	100	CMOS					5	24		M5M482128-10	Mitsubishi
128Kx8	80	CMOS	TTL		7	65	5	40		HM538123A-8	Hitachi
					10	90	5	40		TC528126B-80	Toshiba
		TTL					5			TMS48C121-80	• TI
	100		TTL		7	90	5	40		HM538121-10	Hitachi
										HM538121-11	Hitachi
		CMOS	TTL				5	40		TC528126B-10	Toshiba
					7	90	5	40		HM538122-10	Hitachi
										HM538122-11	Hitachi
						70	5	40		HM538123-10	Hitachi
						50	5	40		HM538123A-10	Hitachi
						90	5	40		HM583121-10	Hitachi
		TTL					5			TMS48C121-10	• TI

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Video (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8											(Cont'd)	
	120		TTL		7	80	5	40		HM538121-12	Hitachi	
		CMOS					5	40		TMS48C121-12	° TI	
				Fast Page	10	100	5	40		KM428C128-12	Samsung	
			TTL		7	80	5	40		HM538122-12	Hitachi	
						60	5	40		HM538123-12	Hitachi	5
	150		TTL		7	70	5	40		HM538121-15	Hitachi	
		CMOS	TTL		7	70	5	40		HM538122-15	Hitachi	
						50	5	40		HM538123-15	Hitachi	
128Kx8	60	CMOS	TTL	Fast Page	5	140	5	40	Two Port; 256x8 SAM	KM428C128-6	Samsung	
					65	170	5	40	With 256x8 SAM	MT42C8128-6	MicronSemi	10
	70	CMOS	TTL	Fast Page		85	5	40	Two Port; 256x8 Serial Port	M5M482128A-7	Mitsubishi	
	80	CMOS	TTL		10	125	5	40	Two Port; 256x8-bit Serial read output curcuit; 2048-bit data register	µPD42275-80	NEC	
				Fast Page		75	5	40	Two Port; 256x8 Serial Port	M5M482128A-8	Mitsubishi	
					5	120	5	40	Two Port; 256x8 SAM	KM428C128-8	Samsung	
					10	150	5	40	Split Read Transfer, Block Write, Persistent Masked Write	MT42C8128-8	MicronSemi	15
						90	5	40		TC528128B-80	Toshiba	
	100	CMOS					5	40		TC528126A-10	Toshiba	
										TC528128A-10	° Toshiba	
			TTL		10	110	5	40	Two Port; 256x8-bit Serial read output curcuit; 2048-bit data register	µPD42275-10	NEC	
				Fast Page		65	5	40	Two Port; 256x8 Serial Port	M5M482128A-10	Mitsubishi	20
					5	110	5	40	Two Port; 256x8 SAM	KM428C128-10	Samsung	
					10	75	5	40		TC528128B-10	Toshiba	
	120	CMOS	TTL		10	90	5	40	Two Port; 256x8-bit Serial read output curcuit; 2048-bit data register	µPD42275-12	NEC	
256Kx4	45	CMOS				60	5	18		HM53051-45	Hitachi	
	60	CMOS				60	5	18		HM53051-60	Hitachi	25
	80	CMOS	TTL		7	65	5	28		HM534251A-8	Hitachi	
										HM534253A-8	Hitachi	
								40		HM538121A-8	Hitachi	
					10	85	5	28		TC524256B-80	Toshiba	
	100	CMOS					5	28		MVM4256-10	Mosaic Semi	30
										MSM514252-10	OKI	
										TMS44C251-10	° TI	
			TTL		7	70	5	28		HM534251-10	Hitachi	
						60	5	28		HM534251A-10	Hitachi	
						70	5	28		HM534252-10	Hitachi	35
										HM534253-10	Hitachi	
						50	5	40		HM538121A-10	Hitachi	
								28		534253A-10	Hitachi	
					10	70	5	28		TC524256B-10	Toshiba	
	120	CMOS					5	28		MVM4256-12	Mosaic Semi	40
										MSM514252-12	OKI	
				Fast Page	10	100	5	28		KM424C257-12	Samsung	
			TTL		7	60	5	28		HM534251-12	Hitachi	
										HM534252-12	Hitachi	
										HM534253-12	Hitachi	45
		CMOS, Video					5	28		TMS44C251-12	° TI	
	150	CMOS					5	28		MVM4256-15	Mosaic Semi	
										TMS44C251-15	° TI	
			TTL		7	55	5	28		HM534251-15	Hitachi	
						50	5	28		HM534252-15	Hitachi	50
										HM534253-15	Hitachi	
256Kx8	70	CMOS					5			V53C851-70	Mosel-Vitelic	
	80	CMOS					5			V53C851-80	Mosel-Vitelic	
	100	CMOS					5			V53C851-100	Mosel-Vitelic	
			TTL	Fast Page	10	200	5	40		MVM8256X-10	† Mosaic Semi	55
	120	CMOS	TTL	Fast Page	10	180	5	40		MVM8256X-12	† Mosaic Semi	
	150	CMOS	TTL	Fast Page	10	160	5	40		MVM8256X-15	† Mosaic Semi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Video (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16	60	CMOS	CMOS/TTL	Fast Page			5	64	With 512x16 SAM	MT42C256K16C1-6	MicronSemi	
										MT42C256K16C2-6	MicronSemi	
			TTL	Fast Page	7	120	3.3	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482444-60L	ℓ NEC	
					10	130	5	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482444-60	NEC	
				Hyper Page	7	120	3.3	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482445-60L	ℓ NEC	5
					10	130	5	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482445-60	NEC	
	70		TTL		0.1	200	3.3	64	Two Port; 256x16 Serial Port	TP025161PG4B-70	ℓ IBM	
								70	Two Port; 256x16 Serial Port	TP025161PT3B-70	ℓ IBM	
										TP025171PT3B-70	ℓ IBM	
					15	250	5	64	Two Port; 256x16 Serial Port	TP025161MG4B-70	IBM	10
										TP02517MG4B-70	IBM	
							3.3	64	Two Port; 256x16 Serial Port	TP025171PG4B-70	ℓ IBM	
				Fast Page	0.1	200	3.3	64	Two Port; 256x16 Serial Port	TP025160PG4B-70	ℓ IBM	
								70	Two Port; 256x16 Serial Port	TP025160PT3B-70	ℓ IBM	
										TP025170PT3B-70	ℓ IBM	15
					15	250	5	64	Two Port; 256x16 Serial Port	TP025160MG4B-70	IBM	
										TP025170MG4B-70	IBM	
							3.3	64	Two Port; 256x16 Serial Port	TP025170PG4B-70	ℓ IBM	
		CMOS	CMOS/TTL	Fast Page			5	64	With 512x16 SAM	MT42C256K16C1-7	MicronSemi	
										MT42C256K16C2-7	MicronSemi	20
			TTL	Fast Page	7	100	3.3	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482444-70L	ℓ NEC	
					10	110	5	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482444-70	NEC	
				Hyper Page	7	100	3.3	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482445-70L	ℓ NEC	
					10	110	5	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482445-70	NEC	
	80		TTL		0.1	200	3.3	64	Two Port; 256x16 Serial Port	TP025161PG4B-80	ℓ IBM	25
								70	Two Port; 256x16 Serial Port	TP025161PT3B-80	ℓ IBM	
										TP025171PT3B-80	ℓ IBM	
					15	250	5	64	Two Port; 256x16 Serial Port	TP025161MG4B-80	IBM	
										TP02517MG4B-80	IBM	
							3.3	64	Two Port; 256x16 Serial Port	TP025171PG4B-80	ℓ IBM	30
				Fast Page	0.1	200	3.3	64	Two Port; 256x16 Serial Port	TP025160PG4B-80	ℓ IBM	
								70	Two Port; 256x16 Serial Port	TP025160PT3B-80	ℓ IBM	
										TP025170PT3B-80	ℓ IBM	
					15	250	5	64	Two Port; 256x16 Serial Port	TP025160MG4B-80	IBM	
										TP025170G4A-80	IBM	35
										TP025170MG4B-80	IBM	
							3.3	64	Two Port; 256x16 Serial Port	TP025170PG4B-80	ℓ IBM	
		CMOS					5	46		MH12816AJZ-8	Mitsubishi	
			CMOS/TTL	Fast Page			5	64	With 512x16 SAM	MT42C256K16C1-8	MicronSemi	
										MT42C256K16C2-8	MicronSemi	40
			TTL	Fast Page	7	80	3.3	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482444-80L	ℓ NEC	
					10	90	5	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482444-80	NEC	
				Hyper Page	7	100	3.3	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482445-80L	ℓ NEC	
					10	90	5	70	8192-bit Data Register, 512x16-bit serial read/write output circuit	µPD482445-80	NEC	
256Kx4	60	CMOS	TTL	Fast Page	5	140	5	28	Two Port; 512x4 SAM	KM424C256A-6	Samsung	45
										KM424C257-6	Samsung	
					65	170	5	28	With 512x4 SAM	MT42C4256-6	† MicronSemi	
	70	CMOS					5	24		M5M442256-7	Mitsubishi	
			TTL	Fast Page		85	5	28	Two Port; 512x4 Serial Port	M5M442256A-7	Mitsubishi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Dynamic—Video (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Mode of Operation	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source (Cont'd)	Line
256Kx4	80	CMOS					5	24		M5M442256-8	Mitsubishi	
			TTL		4	135	5	28	Two Port; 512x4-bit Serial read output curcuit; 2048-bit data register	µPD42274-80	NEC	
				Fast Page		75	5	28	Two Port; 512x4 Serial Port	M5M442256A-8	Mitsubishi	
					2	120	5	28	Two Port; 512x4 SAM	KM424C256A-8	Samsung	
					3	120	5	28	Two Port; 512x4 SAM	KM424C256-8	Samsung	5
					5	120	5	28	Two Port; 512x4 SAM	KM424C257-8	Samsung	
					10	85	5	28		TC524258B-80	Toshiba	
										TC524259B-80	Toshiba	
	100	CMOS					5	24		M5M442256-10	Mitsubishi	
								28		TC524256-10	Toshiba	10
										TC524258A-10	Toshiba	
			TTL	Fast Page		65	5	28	Two Port; 256x4 Serial Port	M5M442256A-10	Mitsubishi	
					2	110	5	28	Two Port; 512x4 SAM	KM424C256A-10	Samsung	
					3	100	5	28	Two Port; 512x4 SAM	KM424C256-10	Samsung	
					5	110	5	29	Two Port; 512x4 SAM	KM424C257-10	Samsung	15
					10	70	5	28		TC524258B-10	Toshiba	
										TC524259B-10	Toshiba	
	120	CMOS	TTL	Fast Page	3	85	5	28	Two Port; 512x4 SAM	KM424C256-12	Samsung	
		CMOS, Video					5	28		TC524256-12	Toshiba	
256Kx8	60	CMOS	CMOS/TTL		50	215	5	44	With 512x8 SAM	MT42C8257-6	MicronSemi	20
			TTL	Fast Page			5	64	Includes 512x8 SAMs	MT43C256K8A1-6	MicronSemi	
					10	130	5	40	Two Port; 512x8 SAM	KM428C256-6	Samsung	
					50	215	5	44	With 512x8 SAM	MT42C8256-6	MicronSemi	
	70	CMOS	CMOS/TTL		50	205	5	44	With 512x8 SAM	MT42C8257-7	MicronSemi	
			TTL	Fast Page			5	64	Includes 512x8 SAMs	MT43C256K8A1-7	MicronSemi	25
								40	Two Port; 256x8 Serial Port	M5M482256-7	Mitsubishi	
										M5M482257-7	Mitsubishi	
	80	CMOS	CMOS/TTL		45	190	5	44	With 512x8 SAM	MT42C8257-8	MicronSemi	
			TTL	Fast Page			5	64	Includes 512x8 SAMs	MT43C256K8A1-8	MicronSemi	
								40	Two Port; 256x8 Serial Port	M5M482256-8	Mitsubishi	30
										M5M482257-8	Mitsubishi	
					10	120	5	40	Two Port; 512x8 SAM	KM428C256-8	Samsung	
	100	CMOS					5	46		MH12816AJZ-10	Mitsubishi	
			TTL	Fast Page			5	40	Two Port; 256x8 Serial Port	M5M482256-10	Mitsubishi	
										M5M482257-10	Mitsubishi	35
					10	110	5	40	Two Port; 512x8 SAM	KM428C256-10	Samsung	
					110	200	5	40		MVM8256-10	Mosaic Semi	
										MVM8256I-10	Mosaic Semi	
										MVM8256M-10	† Mosaic Semi	
										MVM8256MB-10	† Mosaic Semi	40
	120	CMOS					5	46	(128Kx8)x2	MH12816AJZ-12	Mitsubishi	
			TTL	Fast Page	110	180	5	40		MVM8256-12	Mosaic Semi	
										MVM8256I-12	Mosaic Semi	
										MVM8256M-12	† Mosaic Semi	
										MVM8256MB-12	† Mosaic Semi	45
	150	CMOS	TTL	Fast Page	80	160	5	40		MVM8256-15	Mosaic Semi	
										MVM8256I-15	Mosaic Semi	
										MVM8256M-15	† Mosaic Semi	
					110	160	5	40		MVM8256MB-15	† Mosaic Semi	
1Mx36	15	CMOS		Fast Page	45	720		72	Static Column	DM1M36SJ-15	Ramtron	50
	20	CMOS		Fast Page	45	720		72	Static Column	DM1M36SJ-20	Ramtron	
1Mx4	15	CMOS	Separate	Fast Page	1	80		28	Static Column	DM2202J-15	Ramtron	
									Static Column, Write Per Bit	DM2212J-15	Ramtron	
	20	CMOS	Separate	Fast Page	1	80		28	Static Column, Write Per Bit	DM2212J-20	Ramtron	
	80	CMOS					5	64		MH25616V-8	Mitsubishi	55
	100	CMOS					5	64	(256Kx4)x4	MH25616V-10	Mitsubishi	
	120	CMOS					5	64	(256Kx4)x4	MH25616V-12	Mitsubishi	
1Mx44	20	CMOS	Separate	Fast Page	1	80		28	Static Column	DM2202J-20	Ramtron	
4Mx1	15	CMOS		Fast Page	1	80		28	Static Column	DM2200J-15	Ramtron	
	20	CMOS		Fast Page	1	80		28	Static Column	DM2200J-20	Ramtron	60

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose												
4x4	40	TTL					5	16		GD54LS670	† GoldStar	
										GD74LS670	GoldStar	
										SN54LS670	† Motorola	
										SN74LS170	Motorola	
										SN74LS670	Motorola	5
										DM54LS670	† National	
										DM74LS670	National	
										54LS170	† National	
										54LS670	† National	
										54170	† National	10
										74LS170	National	
										74LS670	National	
										74170	National	
										74LS170	SGS-Thomson	
										74LS670	SGS-Thomson	15
										SN54LS170	† TI	
										SN54LS670	°† TI	
										SN54170	† TI	
										SN74LS170	TI	
										SN74LS670	TI	20
										SN74170	TI	
	1500	CMOS					3–15	24		MC14580BC	Motorola	
4x8	200	CMOS			0.02	1.5	5	24		**TC4036B**	**Toshiba** **(3838)**	
										TC4039B	Toshiba	
8x2	50	TTL					5	24		SN74172	TI	25
8x8	10	BiCMOS	TTL		50	150	5	28		CY7B186-10C	Cypress	
	12	BiCMOS	TTL		50	150	5	28		CY7B186-12M	† Cypress	
16x4	5	ECL					–4.5	16		F100402	National	
	7	ECL					–4.5	24		F100145	National	
	25	CMOS					5	16		CY27S03A-25M	† Cypress	30
			TTL			100	5	16		CY27S03A-25M	† Cypress	
		TTL					5	16		AM27S07C	AMD	
										DM74S189A	National	
	30	TTL					5	16		AM27S07M	† AMD	
										DM54S189A	National	35
	35	TTL					5	16		AM27S02C	AMD	
										AM27S03C	AMD	
										DM74S189	National	
										DM74S289	National	
										N3101A	Philips	40
	40	TTL					5	18		DM75S68	National	
										DM75S68A	National	
										DM85S68	National	
	45	TTL					5	16		AM27S02M	† AMD	
										AM27S03M	† AMD	45
	50	TTL					5	16		DM54S189	† National	
								28		IDM29705C	National	
								16		S3101A	† Philips	
										54S189	† Rochester	
	53	TTL					5	28		IDM29705	† National	50
	60	TTL					5	16		DM8589	National	
										SN74LS189A	TI	
										SN74LS219A	TI	
	80	TTL					5	16		DM7589	† National	
	140	CMOS					5	16		MM54C989	† National	55
										MM74C989	National	
	650	CMOS					5	16		MM74C89	National	
16x4	6	ECL					–5.2	16		MC10H145	Motorola	
	9	ECL					–5.2	16		MCM10145	Motorola	
										F10145A	National	60
	15	CMOS				90	5	16		CY7C189-15C	Cypress	
										CY7C190-15C	Cypress	
	25	CMOS				90	5	16		CY27S03A-25C	Cypress	
										CY27S07A-25C	• Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16x4	25	CMOS				55	5	16		CY7C189-25C	Cypress	
						70	5	16		CY7C189-25M	† Cypress	
						55	5	16		CY7C190-25C	Cypress	
						70	5	16		CY7C190-25M	† Cypress	
	35	CMOS				90	5	16		CY74S189-35C	Cypress	5
	50	TTL					5	16		**SL54S189**	**Lansdale (3674)**	
	65	CMOS				38	5	16		CY27LS03-65M	† Cypress	
32x8	300	CMOS					10	18		HB1824	† Hughes	
										HC1824	Hughes	
					0.5	16	10	18		CDP1824	† Harris	10
	600	CMOS					10	18		HB1824C	† Hughes	
										HC1824C	Hughes	
					0.05	8	5	18		CDP1824C	† Harris	
										CDP1824C3	† Harris	
	610	CMOS			0.05	4	5	18		CDP1824C/3	Harris	15
					0.5	4	10	18		CDP1824/3	† Harris	
64x8	800	CMOS			0.05	10	5	22		CDP1826C	Harris	
64x9	45	TTL					5	28		93419	Rochester	
64x9	35	TTL					5	28		SL82S19	Lansdale	
	80	TTL					5	28		SL82S09	Lansdale	20
65Kx16	70	CMOS	LVTTL	Common	0.6	65	3.3	28		CXK5V16100-70LLX	ℓ Sony	
	100	CMOS	LVTTL	Common	0.6	50	3.3	28		CXK5V16100-10LLX	ℓ Sony	
68Kx16	60	CMOS				0.9	5	40		HC81610	‡ Honeywell	
75Kx1	85	CMOS					5	66		PUMA2S768-85	Mosaic Semi	
	100	CMOS					5	66		PUMA2S768-10	Mosaic Semi	25
	120	CMOS					5	66		PUMA2S768-12	Mosaic Semi	
128x8	100	CMOS					5	8		CDP68HC68R1	Harris	
	250	TTL					5	24		HB1823	† Hughes	
										HC1823	Hughes	
	250 ns *	NMOS					5	24		MCM68B10	Motorola	30
	360	CMOS		Common	0.27	5	5	24		CDP1823C/3	† Harris	
		NMOS					5	24		MCM68A10	Motorola	
	450	CMOS		Common	0.5	8	10	24		CDP1823	Harris	
							5	24		CDP1823C	Harris	
										CDP1823C3	Harris	35
		NMOS					5	24		HM46810	Hitachi	
										MCM6810	Motorola	
130Kx9	55	CMOS	TTL	Common	3	100	5	32		CXK591000-55LL	Sony	
	70	CMOS	TTL	Common	3	80	5	32		CXK591000-70LL	Sony	
	100	CMOS	TTL	Common	3	70	5	32		CXK591000-10LL	Sony	40
131Kx8	55	CMOS	TTL	Common	3	90	5	32		**CXK581000A-55LL**	**Sony (3788)**	
										CXK581000A-55SL	**Sony (3788)**	
	70	CMOS	TTL	Common	3	70	5	32		**CXK581000A-70LL**	**Sony (3788)**	
										CXK581000A-70SL	**Sony (3788)**	
	100	CMOS	TTL	Common	3	60	5	32		**CXK581000A-10LL**	**Sony (3788)**	45
										CXK581000A-10SL	**Sony (3788)**	
131Kx9	100	CMOS	TTL	Common	100	180	5	44	Separate Output Supply	CXK77910A-10	Sony	
	120	CMOS	TTL	Common	100	160	5	44	Separate Output Supply	CXK77910A-12	Sony	
	150	CMOS	TTL	Common	100	150	5	44	Separate Output Supply	CXK77910A-15	Sony	
224x1	0.12	CMOS					5	4	Includes 32-bit ROM	DS2224	Dallas	50
256x1	0.12	CMOS					5	3		DS2223	Dallas	
	50	TTL					5	16		N82S16	Philips	
	400	CMOS					3–15	16		MM54C200	ℓ‡ Micrel	
										MM54C200	ℓ† National	
										MM74C200	ℓ National	55
	1000	PMOS					5,–9	16		NCM1101Z	NCM	
256x4	2.5	ECL 100K				–30	–4.5			SY100422-2.5	Synergy	
	3	10K/10KH ECL					–4.5	24		CY10E422-3C	Aspen	
		100K ECL					–5.2	24		CY100E422-3C	Aspen	
							–4.2	24		CY100E422-3C	Cypress	60
	4	GaAs	TTL			20	5	22		VS12G422T-4	Vitesse	
	5	ECL 101K				–150	–5.2			SY101422L-5	Synergy	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256x4	5										(Cont'd)	
		GaAs	TTL			20	5	22		VS12G422T-5	Vitesse	
		10K/10KH ECL					–4.5	24		CY10E422-5C	Aspen	
		100K ECL					–5.2	24		CY100E422L-5C	Aspen	
	6						5	22		VS12G422TD-6	Vitesse	
		GaAs	TTL			20	5	22		VS12G422T-6	Vitesse	5
	7	100K ECL					–5.2	24		CY100E422L-7C	Aspen	
	8						5	22		VS12G422TD-8	Vitesse	
	10	ECL					–4.5	24		F100422	National	
							–5.2	24		F10422	National	
	25	CMOS	TTL	Separate		90	5	22		CY7C122-25M	°† Cypress	10
		NMOS					5	24		AM9122-25	AMD	
	35	CMOS					5	22		CY93422AC	° Cypress	
										P4C422-35M	† Performance	
			TTL	Separate		90	5	22		CY7C122-35M	°† Cypress	
		NMOS					5	24		AM91L22-35	AMD	15
										AM9122-35	AMD	
										AM9122-35M	† AMD	
		TTL					5	22		93422AC	National	
	40	TTL					5	22		AM93422	° AMD	
	45	CMOS					5	22		CY93L422AC	° Cypress	20
										CY93422AM	°† Cypress	
								16		CY93422C	° Cypress	
		ECL					–5.2	24		93L422AC	National	
										93422AM	† National	
		NMOS					5	24		AM91L22-45	AMD	25
										AM91L22-45M	† AMD	
		TTL					5	22		93422C	National	
	55	CMOS					5	22		CY93L422AM	°† Cypress	
		TTL					5	22		93L422AM	National	
	60	CMOS					5	22		CY93L422C	° Cypress	30
								16		CY93422M	°† Cypress	
		CMOS/SOS					5	22		MA5101SOS	GEC Plessey	
		TTL					5	22		AM93L422	° AMD	
										AM93422M	°† AMD	
										93L422C	National	35
										93422M	† National	
	75	CMOS					5	22		CY93L422M	°† Cypress	
		TTL					5	22		AM93L422M	°† AMD	
										93L422M	† National	
	150	CMOS					5	22		MWS5101AL2	Harris	40
				Separate	0.05	8	5	22		MWS5101	Harris	
	220	CMOS					5	22		HM6551B	Harris	
								18		HM6561B	Harris	
										IM65X61-1	Intel	
			TTL		0.01	4	5	22		HM6551B-9	Harris	45
				Common	0.01	4	5	18		HM6561B-9	Harris	
	250	CMOS					5	22		MWS5101L2	Harris	
				Separate	0.5	8	10	22		CDP1822	Harris	
			TTL	Separate	0.05	8	5	22		MWS5101A	Harris	
	300	CMOS					5	18		HM6561	Harris	50
			TTL		0.01	4	5	22		HM6551-9	Harris	
										HM6551/883	† Harris	
				Common	0.01	4	5	18		HM6561-9	Harris	
										HM6561/883	† Harris	
	350	CMOS					5	22		MWS5101DL3	† Harris	55
										MWS5101L3	Harris	
	400	CMOS					5	22		HB1822C	† Hughes	
				Separate	0.39	6.5	5	22		CDP1822C/3	† Harris	
					0.5	8	5	22		CDP1822C	† Harris	
										CDP1822C3	† Harris	60
	450	CMOS					5	22		LH5101-45	Sharp	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256x8		CMOS								PCF8570	Philips	
	100	CMOS					5	8		CDP68HC68R2	Harris	
	200	CMOS			0.2	60	5	24		RP5B02	Ricoh	
256x9	35	TTL					5	22		93479AC	National	
	45	TTL					5	22		93479AM	National	5
										93479C	National	
	60	TTL					5	22		93479M	National	
256x16	100				0.5	2	5	16		DS2404	Dallas	
256x1	40	TTL					5	16		**SL74LS301**	**Lansdale** **(3674)**	
										SL82LS16	Lansdale	10
	50	TTL					5	16		**SL74S301**	**Lansdale** **(3675)**	
										SL82S16	Lansdale	
	65	TTL					5	16		**SL54S301**	**Lansdale** **(3674)**	
	70	TTL					5	16		SL54LS301	Lansdale	
256x4	2.5	ECL 10K				−30	−5.2			SY10422-2.5	Synergy	15
		ECL 101K				−30	−5.2			SY101422-2.5	Synergy	
	3	ECL 10K				−30	−5.2			**SY10422-3**	**Synergy** **(3807)**	
		ECL 100K					−4.5			**SY100422-3**	**Synergy** **(3807)**	
		ECL 101K				−30	−5.2			**SY101422-3**	**Synergy** **(3807)**	
	3.5	100K ECL				−220	−4.2	24		CY100E422-3.5C	Cypress	20
	4	ECL 10K				−30	−5.2	24		**SY10422-4**	**Synergy** **(3807)**	
		ECL 100K				−30	−4.5	24		**SY100422-4**	**Synergy** **(3807)**	
		ECL 101K				−30	−5.2	24		**SY101422-4**	**Synergy** **(3807)**	
		ECL 10K				−150	−5.2			SY10422L-4	Synergy	
		ECL 100K				−150	−4.5			SY100422L-4	Synergy	25
		ECL 101K				−150	−5.2			SY101422L-4	Synergy	
		10K ECL				−220	−5.2	24		CY10E422-4C	Cypress	
	5	ECL 10K					−5.2			SY10422-5	Synergy	
						−150	−5.2			SY10422L-5	Synergy	
		ECL 100K				−150	−4.5			SYN100422L-5	Synergy	30
										SY100422-5	Synergy	
		ECL 101K					−5.2			SY101422-5	Synergy	
		10K ECL				−220	−5.2	24		CY10E422-5C	Cypress	
							5.2	24		CY10E422L-5C	Cypress	
							−5.2	24		CY10E422L-5M	† Cypress	35
										SY10L422-5	**Synergy** **(3807)**	
		100K ECL					−5.2	24		CY100E422-5C	Aspen	
							−4.2	24		CY100E422-5C	Cypress	
							−4.5	24		**SY100L422-5**	**Synergy** **(3807)**	
		101K ECL					−5.2	24		SY101L422-5	Synergy	40
		100K ECL					−4.5	24		CY100E422L-5C	Cypress	
	6	ECL 10K				−30	−5.2	24		SY10422-6	Synergy	
		ECL 100K				−30	−4.5	24	Also available in 28-pin PLCC	SY100422-6	Synergy	
		ECL 101K				−30	−5.2	24	Also available in 28-pin PLCC	SY101422-6	Synergy	
	7	CMOS	TTL	Separate		120	5	24		CY7C123-7C	Cypress	45
		ECL				−220	−5.2	24	100K ECL	μPB100422-7	NEC	
		ECL 10K					−5.2			SY10422-7	Synergy	
						−150	−5.2			SY10422L-7	Synergy	
		ECL 100K					−4.5			SY100422-7	Synergy	
						−150	−4.5			SY100422L-7	Synergy	50
		ECL 101K					−5.2			SY101422-7	Synergy	
						−150	−5.2			SY101422L-7	Synergy	
		10K ECL					−5.2	24		CY10E422L-7C	Cypress	
										CY10E422L-7M	† Cypress	
										SY10L422-7	**Synergy** **(3807)**	55

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256x4	7										(Cont'd)	
		100K ECL					–4.5	24		**SY100L422-7**	**Synergy (3807)**	
		101K ECL					–5.2	24		SY101L422-7	Synergy	
		100K ECL					–4.5	24		CY100E422L-7C	Cypress	
	9	CMOS	TTL	Separate		120	5	24		CY7C123-9C	Cypress	
	10	CMOS					5	22		P4C422-10C	Performance	5
			TTL	Separate		150	5	24		CY7C123-10M	† Cypress	
		ECL				–220	–5.2	24	100K ECL	µPB100422-10	NEC	
	12	CMOS					5	22		P4C422-12C	Performance	
			TTL	Separate		120	5	24		CY7C123-12C	Cypress	
						150	5	24		CY7C123-12M	† Cypress	10
	15	CMOS					5	22		P4C422-15C	Performance	
										P4C422-15M	† Performance	
			TTL	Separate		90	5	22		CY7C122-15C	° Cypress	
						150	5	24		CY7C123-15M	† Cypress	
	20	CMOS					5	22		P4C422-20M	† Performance	15
	25	CMOS					5	16		CY91L22-25C	Cypress	
										CY9122-25M	† Cypress	
								22		P4C422-25C	Performance	
										P4C422-25M	† Performance	
			TTL	Separate		60	5	22		CY7C122-25C	° Cypress	20
		NMOS				120	5	24		**AM9122-25**	**MSI/Scorpion (3598)**	
	35	CMOS				120	5	22		CY93422A-35C	Cypress	
										P93U422-35C	Performance	
			TTL	Separate		60	5	22		CY7C122-35C	° Cypress	
						90	5	22		P93U422-35M	† Performance	25
		NMOS				80	5	24		**AM91L22-35**	**MSI/Scorpion (3598)**	
						120	5	24		**AM9122-35**	**MSI/Scorpion (3598)**	
	45	CMOS				80	5	22		CY93L422A-45C	Cypress	
		NMOS				80	5	24		**AM91L22-45**	**MSI/Scorpion (3598)**	
	60	CMOS				80	5	22		CY93L422-60C	Cypress	30
	300	CMOS	TTL		0.01	25	5	22		**LH5101-30**	† **Sharp (3764)**	
					0.1	4	5	22		HS6551RH	‡ Harris	
256x8	40	TTL					5	22		SL8X350	Lansdale	
256x9	45	TTL					5	22		SL82S212	Lansdale	
512x9	15	ECL					–5.2	32		MB70801-15	Fujitsu	35
	25	CMOS					5	28		MK45H01-25	SGS-Thomson	
	35	CMOS					5	28		MK45H01-35	SGS-Thomson	
	50	CMOS					5	28		MK45H01-50	SGS-Thomson	
	65	CMOS					5	28		MK45H01-65	SGS-Thomson	
	120	CMOS					5	28		MK45H01-12	SGS-Thomson	40
512x8	20	CMOS	TTL	Common	60	190	5	36		µPD434008-20	NEC	
	25	CMOS	TTL	Common	60	190	5	36		µPD434008-25	NEC	
	130	CMOS	TTL		0.001	0.5	3	16		SAE81C54	ℓ Siemens	
512x9	20	ECL					–5.2	24		MB70802-20	Fujitsu	
1Kx1	30	TTL					5	16		AM93425AC	° AMD	45
										93415AC	National	
										93425AC	National	
	40	TTL					5	16		AM93425AM	°† AMD	
	45	TTL					5	16		AM93425C	° AMD	
										93415C	National	50
										93425C	National	
	50	TTL					5	16		93425AM	† National	
	60	TTL					5	16		93L415	National	
										93L415C	National	
										93L425C	National	55
										93415M	† National	
										93425M	† National	
	65	TTL					5	16		AM93425M	°† AMD	
	70	TTL					5	16		93L415M	National	
										93L425M	† National	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
											(Cont'd)	
1Kx1	180	CMOS					5	18		HM6518B	Harris	
			TTL		0.01	4	5	16		HM6508B-9	Harris	
										HM6508B/883	† Harris	
								18		HM6518/883	† Harris	
										HM6518B-9	Harris	5
	190	CMOS		Separate	0.26	5	5	16	Compatible with CDP1800 Series Microprocessors	CDP1821C/3	Harris	
	250	CMOS					5	16		HM6508/883	† Harris	
								18		HM6518	Harris	
			TTL		0.01	4	5	16		HM6508-9	Harris	
								18		HM6518-9	Harris	10
1Kx4	3	ECL 100K					-4.5	24		µPB100474-3	NEC	
	5	ECL				-250	-5.2	24	100K ECL	µPB100474A-5	NEC	
		10K/10KH ECL					-4.5	24		CY10E474-5C	Aspen	
										CY10E474L-5C	Aspen	
		100K ECL					-5.2	24		CY100E474-5C	Aspen	15
										CY100E474L-5C	Aspen	
	6	ECL				-250	-5.2	24	100K ECL	µPB100474A-6	NEC	
									10K ECL	µPB10474A-6	NEC	
	7	10K/10KH ECL					-4.5	24		CY10E474L-7C	Aspen	
		100K ECL					-5.2	24		CY100E474L-7C	Aspen	20
	20	CMOS					5	24		P4C150-20C	Performance	
		NMOS					5	24		AM9150-20	• AMD	
	25	CMOS					5	18		IMS1223-25	SGS-Thomson	
										IMS1223-25M	† SGS-Thomson	
		NMOS					5	24		AM9150-25	• AMD	25
	35	CMOS					5	18		IMS1223-35	SGS-Thomson	
										IMS1223-35M	† SGS-Thomson	
		NMOS					5	18		AM2148-35	AMD	
										AM2149-35	AMD	
								24		AM9150-35	• AMD	30
	45	CMOS					5	18		IMS1223-45M	† SGS-Thomson	
		NMOS					5	18		AM21L49-45	AMD	
										AM2148-45	AMD	
										AM2149-45	AMD	
								24		AM9150-45	• AMD	35
								18	Refurbished	2149-45	Krueger	
	55	NMOS					5	18		AM21L48-55	AMD	
										AM21L49-55	AMD	
										AM2148-55	AMD	
										AM2149-55	AMD	40
	70	CMOS					5	18		MA5114SOS	GEC Plessey	
		NMOS					5	18		AM21L48-70	AMD	
										AM21L49-70	AMD	
										AM2148-70	AMD	
										AM2149-70	AMD	45
										M2148H	† Intel	
										NMC2148H	National	
	120	CMOS	TTL	Common	0.025	7	5	18		HM6514S-9	Harris	
	150	CMOS	TTL		20	1000	5	18	Refurbished	21C14-150	Krueger	
		NMOS					5	18		M2114AL-3	•† Intel	50
	200	CMOS	TTL		0.1	8	5	18		MWS5114-3	† Harris	
					20	120	5	20	Refurbished	21C14-200	Krueger	
				Common	0.025	7	5	18		HM6514B-9	Harris	
										HM6514B/883	† Harris	
		NMOS					5	18		AM9114E	• AMD	55
										M2114A-4	•† Intel	
										M2114AL-4	•† Intel	
	250	CMOS					5	18		SRM2114C-5	S-MOS	
			TTL		0.1	8	5	18		MWS5114-2	† Harris	
		NMOS					5	18		M2114A-5	•† Intel	60
	300	CMOS	TTL		0.25	8	5	18		MWS5114-1	† Harris	
				Common	0.025	7	5	18		HM6514-9	Harris	
					0.05	7	5	18		HM6514/883	† Harris	

(Continued)

† Mil Temp Range (–55° to 125°C)　‡ High Rad Resistance　*Typical Value　•Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx4	300										(Cont'd)	
		NMOS					5	18		AM91L14C	° AMD	
										AM9114C	° AMD	
	450	CMOS	TTL		20	120	5	20		21C14-450	Krueger	
		NMOS					5	18		AM9114B	° AMD	
	1000	CMOS					5	18		LH5114L	Sharp	5
1Kx8	100						5	48		IDT7130LA-100	° IDT	
	120	CMOS					5	48		IDT7130LA-120	° IDT	
1Kx9	25	CMOS					5	28		MK45H02-25	SGS-Thomson	
	50	CMOS					5	28		MK45H02-50	SGS-Thomson	
	65	CMOS					5	28		MK45H02-65	SGS-Thomson	10
	120	CMOS					5	28		MK45H02-12	SGS-Thomson	
1Kx1	35	NMOS	TTL			180	5	18		**AM2149-35**	**MSI/Scorpion (3598)**	
	45	NMOS	TTL			125	5	18		**AM21L48-45**	**MSI/Scorpion (3598)**	
										AM21L49-45	**MSI/Scorpion (3598)**	
						180	5	18		**AM2149-45**	**MSI/Scorpion (3598)**	15
	55	NMOS	TTL			125	5	18		**AM21L48-55**	**MSI/Scorpion (3598)**	
										AM21L49-55	**MSI/Scorpion (3598)**	
						180	5	18		**AM2149-55**	**MSI/Scorpion (3598)**	
	70	NMOS	TTL			125	5	18		**AM21L48-70**	**MSI/Scorpion (3598)**	
										AM21L49-70	**MSI/Scorpion (3598)**	20
						180	5	18		**AM2149-70**	**MSI/Scorpion (3598)**	
	225	CMOS	TTL		0.2	7	5	18		HS6514RH	‡ Harris	
	300	CMOS	TTL		0.1	4	5	16		HS6508RH	‡ Harris	
1Kx4	2.5	ECL 10K				–30	–5.2			SY10474-2.5	Synergy	
		ECL 100K				–30	–4.5			SY100474-2.5	Synergy	25
		ECL 101K				–30	–5.2			SY101474-2.5	Synergy	
	3	ECL				–330	–5.2	24	100K ECL	µPB100474E-3	NEC	
									ECL 101K	µPB101474E-3	NEC	
						–330	–5.2	24	10K ECL	µPB10474-3	NEC	
										µPB10474E-3	NEC	30
		ECL 10K					–5.2			**SY10474-3**	**Synergy (3807)**	
		ECL 100K					–4.5			**SY100474-3**	**Synergy (3807)**	
		ECL 101K					–5.2			**SY101474-3**	**Synergy (3807)**	
	3.5	100K ECL					–4.5	24		CY100E474-3.5C	Cypress	
	4	ECL				–330	–5.2	24	100K ECL	µPB100474E-4	NEC	35
									10K ECL	µPB10474-4	NEC	
										µPB10474E-4	NEC	
		ECL 10K				–30	–5.2	24		**SY10474-4**	**Synergy (3807)**	
		ECL 100K				–30	–4.5	24		**SY100474-4**	**Synergy (3807)**	
		ECL 101K				–30	–5.2	24		**SY101474-4**	**Synergy (3807)**	40
		ECL 10K				–180	–5.2			SY10474L-4	Synergy	
		ECL 100K				–180	–4.5			SY100474L-4	Synergy	
		ECL 101K				–180	–5.2			SY101474L-4	Synergy	
		10K ECL					–5.2	24		CY10E474-4C	Cypress	
		10K/10KH ECL					–4.5	24		CY10E474-4C	Aspen	45
	4.5	ECL				–450	–5.2	24	100K ECL	µPB100474-4.5	NEC	
	5	ECL				–250	–5.2	24	10K ECL	µPB10474A-5	NEC	
		ECL 10K					–5.2			SY10474-5	Synergy	
						–180	–5.2			SY10474L-5	Synergy	
		ECL 100K					–4.5			SY100474-5	Synergy	50
						–180	–4.5			SY100474L-5	Synergy	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx4	5										(Cont'd)	
		ECL 101K					–5.2			SY101474-5	Synergy	
						–180	–5.2			SY101474L-5	Synergy	
		10K ECL					–5.2	24		CY10E474-5C	Cypress	
										CY10E474L-5M	† Cypress	
										SY10L474-5	**Synergy** (3807)	5
		100K ECL					–4.5	24		CY100E474-5C	Cypress	
		101K ECL					–5.2	24		SY101L474-5	Synergy	
		10K/KH ECL					–5.2	24		CY10E474L-5C	Cypress	
		100K ECL					–4.5	24		CY100E474L-5C	Cypress	
										SY100L474-5	**Synergy** (3807)	10
	6	CMOS					3.3	24		P3C3148-6C	Performance	
		ECL				–450	–5.2	24	100K ECL	μPB100474-6	NEC	
						–350	–4.5	28	100K ECL	μPB100476LL-6	NEC	
							–5.2	28	10K ECL	μPB10476LL-6	NEC	
		ECL 10K				–30	–5.2	24	Also available in 28-pin PLCC	SY10474-6	Synergy	15
		ECL 100K				–30	–4.5	24		SY100474-6	Synergy	
		ECL 101K				–30	–5.2	24		SY101474-6	Synergy	
	7	CMOS					3.3	24		P3C3148-7C	Performance	
		ECL 10K					–5.2			SY10474-7	Synergy	
						–180	–5.2			SY10474L-7	Synergy	20
		ECL 100K					–4.5			SY100474-7	Synergy	
						–180	–4.5			SY100474L-7	Synergy	
		ECL 101K					–5.2			SY101474-7	Synergy	
						–180	–5.2			SY101474L-7	Synergy	
		10K ECL					–5.2	24		CY10E474L-7C	Cypress	25
										CY10E474L-7M	† Cypress	
										SY10L474-7	**Synergy** (3807)	
		100K ECL					–4.5	24		CY100E474L-7C	Cypress	
										SY100L474-7	**Synergy** (3807)	
		101K ECL					–5.2	24		SY101L474-7	Synergy	30
	8	CMOS					3.3	24		P3C3148-8C	Performance	
		ECL				–220	–5.2	24	100K ECL	μPB100474-8	NEC	
									10K ECL	μPB10474-8	NEC	
	10	CMOS					5	18		P4C148-10C	Performance	
										P4C149-10C	Performance	35
								24		P4C150-10C	Performance	
		ECL				–220	–5.2	24	100K ECL	μPB100474-10	NEC	
									10K ECL	μPB10474-10	NEC	
	12	CMOS					5	18		P4C148-12C	Performance	
										P4C149-12C	Performance	40
								24		P4C150-12C	Performance	
	15	CMOS					5	18		P4C148-15C	Performance	
										P4C149-15C	Performance	
								24		P4C150-15C	Performance	
			TTL	Separate		90	5	24		CY7C150-15C	° Cypress	45
		ECL				–220	–5.2	24	100K ECL	μPB100474-15	NEC	
									10K ECL	μPB10474-15	NEC	
	20	CMOS					5	18		P4C148-20C	Performance	
										P4C149-20C	Performance	
		NMOS					5	24		**AM9150-20**	**MSI/Scorpion** (3598)	50
	25	CMOS					5	18		P4C148-25C	Performance	
										P4C149-25C	Performance	
								24		P4C150-25C	Performance	
			TTL			90	5	18		CY7C149-25C	° Cypress	
					15	90	5	18		CY7C148-25C	° Cypress	55
				Separate		90	5	24		CY7C150-25C	° Cypress	
						100	5	24		CY7C150-25M	°† Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx4	25	NMOS					5	24			(Cont'd)	
										AM91L50-25	**MSI/Scorpion (3598)**	
										AM9150-25	**MSI/Scorpion (3598)**	
	35	CMOS					5	18		CY2149-35M	† Cypress	
			TTL			120	5	18		CY21L48-35C	Cypress	
										CY21L49-35C	Cypress	5
						140	5	18		CY2148-35C	Cypress	
										CY2149-35C	Cypress	
						80	5	18		CY7C149-35C	° Cypress	
						110	5	18		CY7C149-35M	°† Cypress	
					10	80	5	18		CY7C148-35C	Cypress	10
						110	5	18		CY7C148-35M	°† Cypress	
				Separate		100	5	24		CY7C150-35M	°† Cypress	
		NMOS					5	18	Refurbished	**2148-35**	**Krueger (3663)**	
										2149-35	**Krueger (3663)**	
								24		**AM91L50-35**	**MSI/Scorpion (3598)**	15
										AM9150-35	**MSI/Scorpion (3598)**	
			TTL			180	5	18		**AM2148-35**	**MSI/Scorpion (3598)**	
		100K ECL					–5.2	24		CY100E474-35C	Aspen	
	45	CMOS					5	18		CY2148-45M	† Cypress	
			TTL			120	5	18		CY21L48-45C	Cypress	20
										CY21L49-45C	Cypress	
						140	5	18		CY2148-45C	Cypress	
										CY2149-45C	Cypress	
										CY2149-45M	† Cypress	
						80	5	18		CY7C149-45C	° Cypress	25
						110	5	18		CY7C149-45M	°† Cypress	
					10	80	5	18		CY7C148-45C	° Cypress	
						110	5	18		CY7C148-45M	°† Cypress	
		NMOS					5	18		AM21L48-45	AMD	
									Refurbished	**2148-45**	**Krueger (3663)**	30
								24		**AM91L50-45**	**MSI/Scorpion (3598)**	
										AM9150-45	**MSI/Scorpion (3598)**	
			TTL			180	5	18		**AM2148-45**	**MSI/Scorpion (3598)**	
	55	CMOS	TTL			120	5	18		CY21L48-55C	Cypress	
										CY21L49-55C	Cypress	35
						140	5	18		CY2148-55C	Cypress	
										CY2148-55M	† Cypress	
										CY2149-55C	Cypress	
										CY2149-55M	† Cypress	
		NMOS	TTL			180	5	18		**AM2148-55**	**MSI/Scorpion (3598)**	40
	70	NMOS					5	18	Refurbished	**2148-70**	**Krueger (3663)**	
										2149-70	**Krueger (3663)**	
			TTL			180	5	18		**AM2148-70**	**MSI/Scorpion (3598)**	
	150	CMOS	TTL		0.005	20	5	18		**LH5114-15**	**Sharp (3764)**	
		NMOS					5	18	Refurbished	**2114-150**	**Krueger (3663)**	45
	200	CMOS	TTL		1	6	5	18		CMM5114A	‡ Harris	
		NMOS					5	18	Refurbished	**2114-200**	**Krueger (3663)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
Static—General Purpose											**(Cont'd)**
1Kx4	200	NMOS									(Cont'd)
						80				**AM91L14-20**	**MSI/Scorpion (3598)**
										AM9114-20	**MSI/Scorpion (3598)**
	220	CMOS					5	18		HS6514RRH	‡ Harris
	300	NMOS				80				**AM91L14-30**	**MSI/Scorpion (3598)**
										AM9114-30	**MSI/Scorpion (3598)**
	450	NMOS					5	18	Refurbished	**2114-450**	**Krueger (3663)**
						80				**AM91L14-45**	**MSI/Scorpion (3598)**
										AM9114-45	**MSI/Scorpion (3598)**
1Kx5	25	CMOS					5	20		MK4505S-25	SGS-Thomson
	33	CMOS					5	20		MK4505S-33	SGS-Thomson
	50	CMOS					5	20		MK4505S-50	SGS-Thomson
1Kx64	120	CMOS	TTL			200	5	28		MU9C1480-12	Music
	150	CMOS	TTL			200	5	28		MU9C1480-15	Music
1Kx8	45	CMOS	TTL		45	120	5	48		CY7C130-45M	† Cypress
	55	CMOS	TTL		35	90	5	48		CY7C130-55C	Cypress
					45	120	5	48		CY7C130-55M	† Cypress
		NMOS	TTL				5	48		**AM2130-55**	**MSI/Scorpion (3598)**
										AM2140-55	MSI/Scorpion
	70	NMOS	TTL				5	48		**AM2130-70**	**MSI/Scorpion (3598)**
										AM2140-70	MSI/Scorpion
	90	CMOS			75	120	5	48		MS6130L-90	Mosel-Vitelic
	100	NMOS	TTL				5	48		**AM2130-10**	**MSI/Scorpion (3598)**
										AM2140-10	MSI/Scorpion
	120	NMOS					5	24	Refurbished	**4801-1**	**Krueger (3663)**
			TTL				5	48		**AM2130-12**	**MSI/Scorpion (3598)**
										AM2140-12	MSI/Scorpion
	150	NMOS					5	24	Refurbished	**4801-2**	**Krueger (3663)**
	200	NMOS					5	24	Refurbished	**4801-3**	**Krueger (3663)**
	250	NMOS					5	24	Refurbished	**4801-4**	**Krueger (3663)**
1Kx9	35	CMOS					5	28		MK45H02-35	SGS-Thomson
2Kx2	5	GaAs	100K ECL			50	5	28	Self-Timed RAM with Purge	VS12G478-5	Vitesse
	6	GaAs	100K ECL			50	5	28	Self-Timed RAM with Purge	VS12G478-6	Vitesse
	7	GaAs	100K ECL			50	5	28	Self-Timed RAM with Purge	VS12G478-7	Vitesse
2Kx8	10	CMOS					5	24		ATT7C116-10	AT&T
			TTL	Common	50	150	5	24		MT5C1608-10	MicronSemi
	12	CMOS					5	24		ATT7C116-12	AT&T
			TTL	Common	50	140	5	24		MT5C1608-12	MicronSemi
	15	CMOS					5	24		ATT7C116-15	AT&T
			TTL		0.1	115	5	24		IDT6116LA-15	°‡ IDT
					2	125	5	24		IDT6116SA-15	‡ IDT
				Common	45	125	5	24		MT5C1608-15	MicronSemi
	20	CMOS					5	24		ATT7C116-20	AT&T
										L6116-20	† LogicDev
			TTL		0.1	100	5	24		IDT6116LA-20	°‡ IDT
					0.9	120	5	24		IDT6116LA-20B	IDT
					2	110	5	24		IDT6116SA-20	‡ IDT
						120	5	24		IDT6116SA-20B	IDT
				Common	40	110	5	24		MT5C1608-20	MicronSemi
	25	BiCMOS					5	24		TMS6716-25	TI
		CMOS					5	24		L6116-25	† LogicDev
			TTL		0.1	90	5	24		IDT6116LA-25	°‡ IDT
					0.9	105	5	24		IDT6116LA-25B	°‡ IDT

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8	25	CMOS	TTL								(Cont'd)	
					2	100	5	24		IDT6116SA-25	‡ IDT	
					10	110	5	24		IDT6116SA-25B	‡ IDT	
				Common	30	100	5	24		MT5C1608-25	MicronSemi	
	30	CMOS					5	24		IDT6116LA-30	° IDT	
										IDT6116LA-30B	°‡ IDT	5
										IDT6116SA-30	IDT	
										IDT6116SA-30B	‡ IDT	
	35	CMOS					5	52		IDT71321LA-35	‡ IDT	
								48		IDT7142LA-35	° IDT	
								24		L6116-35	† LogicDev	10
										V61C16-35	Mosel-Vitelic	
			TTL		0.1	75	5	24		IDT6116LA-35	° IDT	
					0.9	85	5	24		IDT6116LA-35B	°† IDT	
					2	80	5	24		IDT6116SA-35	IDT	
					10	90	5	24		IDT6116SA-35B	† IDT	15
					20	100	5	24		CY6116A-35M	† Cypress	
						120	5	24		CY7C128-35C	Cypress	
		NMOS					5	24		MCM2018AN35	Motorola	
	45	CMOS					5	52		IDT71321LA-45	‡ IDT	
										IDT71321SA-45	‡ IDT	20
										IDT71321SA-45B	‡ IDT	
								48		IDT71322L-45	‡ IDT	
										IDT71322S-45	‡ IDT	
										IDT7142LA-45	° IDT	
								52		IDT71421SA-45B	‡ IDT	25
								24		V61C16-45	Mosel-Vitelic	
										V61C16-45L	Mosel-Vitelic	
										P4C116-45M	† Performance	
			TTL		0.1	75	5	24		IDT6116LA-45	° IDT	
					0.9	85	5	24		IDT6116LA-45B	°† IDT	30
					2	80	5	24		IDT6116SA-45	IDT	
					10	90	5	24		IDT6116SA-45B	† IDT	
					20	120	5	24		CY7C128-45C	Cypress	
						130	5	24		CY7C128-45M	† Cypress	
		NMOS					5	24		MCM2018AN45	Motorola	35
	55	CMOS					5	24		HM65162S	Harris	
								48		IDT7132SA-55	° IDT	
								52		IDT71321LA-55	‡ IDT	
										IDT71321SA-55	‡ IDT	
										IDT71321SA-55B	‡ IDT	40
								48		IDT7142LA-55	° IDT	
								24		V61C16-55	Mosel-Vitelic	
										V61C16-55L	Mosel-Vitelic	
										LH5115-55	Sharp	
			TTL		0.1	70	5	24		HM65162S-9	Harris	45
					0.9	85	5	24		IDT6116LA-55B	°‡ IDT	
					10	90	5	24		IDT6116SA-55B	† IDT	
					20	90	5	24		CY7C128-55C	Cypress	
						100	5	24		CY7C128-55M	† Cypress	
		NMOS					5	24		MCM2018AN55	Motorola	50
	70	CMOS					5	24		HM65162B	Harris	
								48		IDT7132SA-70	° IDT	
										IDT7142LA-70	° IDT	
								24		V61C16-70	Mosel-Vitelic	
								20		V61C16-70L	Mosel-Vitelic	55
								24		LH5115-70	Sharp	
			TTL		0.05	70	5	24		HM65162B-9	Harris	
					0.9	85	5	24		IDT6116LA-70B	°‡ IDT	
					10	100	5	24		HM6116L-70	Hualon Micro	
						90	5	24		IDT6116SA-70B	† IDT	60
		NMOS					5	24		AM9128-70	° AMD	
	80	CMOS	TTL		10	100	5	24		HM6116L-80	Hualon Micro	
	85	CMOS	TTL	Common	0.05	60	5	24		HY6116A-85	Hyundai	
	90						5	48		IDT7132SA-90	° IDT	
		CMOS					5	24		MS6516L-90C	Mosel-Vitelic	65
										MS6516S-90C	Mosel-Vitelic	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
2Kx8	90	CMOS									(Cont'd)
			TTL		0.05	70	5	24		HM65162-9	Harris
					0.1	70	5	24		HM65162/883	† Harris
					0.9	70	5	24		HM65162C-9	Harris
						85	5	24		IDT6116LA-90B	°‡ IDT
					10	100	5	24		HM6116L-90	Hualon Micro
						90	5	24		IDT6116SA-90B	† IDT
		2-Port					5	48		IDT7142LA-90	° IDT
	100	CMOS					5	24		HS65T162RH	‡ Harris
										HS65T162RRH	‡ Harris
										MS6516L-10	Mosel-Vitelic
										MS6516S-10	Mosel-Vitelic
										SRM2016C-10	S-MOS
					0.05	60	5	24		GM76C28-10	GoldStar
			TTL		0.001	40	5	24		LH5117-10	Sharp
										LH5117H-10	Sharp
					10	100	5	24		HM6116L-100	Hualon Micro
				Common	3	40	5	24		5116L-10	Intel
		NMOS					5	24		AM9128-10	° AMD
	120	CMOS					5	24		MA6116SOS	GEC Plessey
										HM6516B/883	† Harris
										HM65162C	Harris
										HM6116-2	° Hitachi
										SRM2016C-12	S-MOS
										LH5116-12	Sharp
					0.05	50	5	24		GM76C28-12	GoldStar
			TTL		0.05	10	5	24		HM6516B-9	Harris
					0.9	85	5	24		IDT6116LA-120B	°† IDT
					10	90	5	24		IDT6116SA-120B	† IDT
					15	100	5	24		HM6116L-120	Hualon Micro
				Common	3	40	5	24		5116L-12	Intel
										5116S-12	Intel
		NMOS					5	24		AM9128-12M	°† AMD
	150	CMOS					5	24		HM6116-3	° Hitachi
										MK6116-15	° SGS-Thomson
										MK6116L-15	° SGS-Thomson
										LH5116-15	Sharp
					6	50	5	24		DS1642-15	Dallas
			TTL		0.9	85	5	24		IDT6116LA-150B	°† IDT
					10	90	5	24		IDT6116SA-150B	† IDT
					15	100	5	24		HM6116L-150	Hualon Micro
		NMOS					5	24		AM9128-15M	°† AMD
										ETL2128-3	SGS-Thomson
	200	CMOS					5	24		HM6116-4	° Hitachi
								28	Refurbished	48C02-20	Krueger
										MK48C02-20	SGS-Thomson
								24		MK6116-20	° SGS-Thomson
										MK6116L-20	° SGS-Thomson
			TTL		0.1	10	5	24		HM6516-9	Harris
										HM6516/883	† Harris
		NMOS					5	24		AM9128-20	° AMD
										AM9128-20M	°† AMD
										ETL2128-4	SGS-Thomson
	250	CMOS					3	24		DS2016	Dallas
							5	28		48C02-25	Krueger
										MK48C02-25	SGS-Thomson
			TTL		15	100	5	24		HM6116L-250	Hualon Micro
		NMOS					5	24		ETL2128-5	SGS-Thomson
2Kx9	5	ECL 10K				500	−5.2			SY10492-5	Synergy
		ECL 101K				500	−5.2			SY10192-5	Synergy
	6	ECL 10K				450	−5.2			SY10492-6	Synergy
	7	ECL 10K				300	−5.2			SY10492-7	Synergy
	25	CMOS					5	28		MK45H03-25	SGS-Thomson
	35	CMOS					5	28		MK45H03-35	SGS-Thomson

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx9											(Cont'd)	
	50	CMOS					5	28		MK45H03-50	SGS-Thomson	
	65	CMOS					5	28		MK45H03-65	SGS-Thomson	
	120	CMOS					5	28		MK45H03-12	SGS-Thomson	
2Kx16	45	CMOS					5	44		MAP168-45	Waferscale	
	55	CMOS					5	68		IDT7133L-55	°‡ IDT	5
										IDT7133S-55	°‡ IDT	
										IDT7143L-55	°‡ IDT	
										IDT7143S-55	°‡ IDT	
								44		MAP168-55	Waferscale	
	70	CMOS					5	68		IDT7133L-70	°‡ IDT	10
										IDT7133S-70	°‡ IDT	
										IDT7143L-70	°‡ IDT	
										IDT7143S-70	°‡ IDT	
2Kx32	85	CMOS					5	132		μPD43608	NEC	
2Kx16	45	CMOS					5	44		MAP168-45	Waferscale	15
2Kx8	8	CMOS	TTL	Common	55	160	5	24		MT5C1608-8	MicronSemi	
	15	CMOS					5	24		P4C116-15C	Performance	
			TTL		40	120	5	24		CY7C128A-15C	° Cypress	
	20	CMOS					5	24		P4C116-20C	Performance	
										P4C116-20M	† Performance	20
			TTL		40	100	5	24		CY6116A-20C	Cypress	
										CY7C128A-20C	Cypress	
						125	5	24		CY7C128A-20M	°† Cypress	
	25	CMOS					5	24		P4C116-25C	Performance	
										P4C116-25M	† Performance	25
			TTL		20	100	5	24		CY6116A-25C	Cypress	
						125	5	24		CY6116A-25M	† Cypress	
						100	5	24		CY7C128A-25C	Cypress	
					40	125	5	24		CY6117A-25M	† Cypress	
										CY7C128A-25M	°† Cypress	30
	35	CMOS					5	52		IDT71321SA-35	‡ IDT	
								24		P4C116-35C	Performance	
										P4C116-35M	† Performance	
			TTL		20	120	5	24		CY6116-35C	Cypress	
						130	5	24		CY6116-35M	† Cypress	35
						100	5	24		CY6116A-35C	Cypress	
										CY6117A-35M	† Cypress	
										CY7C128A-35C	° Cypress	
										CY7C128A-35M	°† Cypress	
		HMOS			20	135	5	24		MCM2018A-35	Motorola	40
	45	CMOS	TTL		20	120	5	24		CY6116-45C	Cypress	
						130	5	24		CY6116-45M	† Cypress	
						100	5	24		CY6116A-45C	Cypress	
										CY6116A-45M	† Cypress	
										CY6117A-45M	† Cypress	45
										CY7C128A-45M	°† Cypress	
			TTL/CMOS	Common	0.2	7	5	24		HC6216SHCC	‡ Honeywell	
		HMOS			20	135	5	24		MCM2018A-45	Motorola	
	55	CMOS	TTL		20	100	5	24		CY6116A-55C	Cypress	
										CY6116A-55M	† Cypress	50
										CY6117A-55M	† Cypress	
						80	5	24		CY7C128A-55C	° Cypress	
						100	5	24		CY7C128A-55M	°† Cypress	
					35	90	5	48		CY7C142-55C	Cypress	
					45	120	5	48		CY7C142-55M	† Cypress	55
	70	NMOS			30	140	5	24		**AM9128-70**	**MSI/Scorpion (3598)**	
	80	CMOS			0.2	100	5	24		HS65C162RRH	‡ Harris	
			TTL		10	55	5	28		**LH5168H-80L**	**Sharp (3764)**	
	90	NMOS			30	180	5	24		**AM9128-90**	**MSI/Scorpion (3598)**	
	100	CMOS					5	24		HY6116AL-10	Hyundai	60
										MS6516L-100C	Mosel-Vitelic	
										MS6516S-100C	Mosel-Vitelic	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8	100	CMOS									(Cont'd)	
			TTL		0.001	40	5	24		**LH5116-10**	**Sharp (3764)**	
										LH5116H-10	**Sharp (3764)**	
					0.002	40	5	24		**LH5118-10**	**Sharp (3764)**	
										LH5118H-10	**Sharp (3764)**	
					0.05	60	5	24		HY6116A-10	Hyundai	5
					2	90	5	24		**MS6516-100**	**Mosel-Vitelic (3697)**	
					10	55	5	28		**LH5168-10L**	**Sharp (3764)**	
										LH5168H-10L	**Sharp (3764)**	
				Common	0.001	25	5	24		LH5116	Sharp	
						50	5	24		**LH5118**	**Sharp (3764)**	10
		NMOS					5	24	Refurbished	**2128-100**	**Krueger (3663)**	
					15	120	5	24		**AM9128-10**	**MSI/Scorpion (3598)**	
	120	CMOS					5	24		HY6116AL-12	Hyundai	
									Refurbished	**6116-120**	**Krueger (3663)**	
										6116LP-120	**Krueger (3663)**	15
										MK48T02-12	SGS-Thomson	
										MK48T12-12	SGS-Thomson	
					3	80	5	24		MK48Z02-12	SGS-Thomson	
										MK48Z12-12	SGS-Thomson	
					6	50	5	24		DS1642-12	Dallas	20
			TTL		0.05	60	5	24		HY6116A-12	Hyundai	
		NMOS					5	24	Refurbished	**2128-120**	**Krueger (3663)**	
					30	150	5	24		**AM9128-12**	**MSI/Scorpion (3598)**	
	150	CMOS					5	24		HY6116AL-15	Hyundai	
									Refurbished	**6116-150**	**Krueger (3663)**	25
										6116LP-150	**Krueger (3663)**	
										MK48T02-15	SGS-Thomson	
										MK48T12-15	SGS-Thomson	
					3	80	5	24		MKI48Z02-15	SGS-Thomson	
										MKI48Z12-15	SGS-Thomson	30
								32		MK48C02A-15	SGS-Thomson	
										MK48C12A-15	SGS-Thomson	
								24		MK48Z02-15	SGS-Thomson	
										MK48Z12-15	SGS-Thomson	
			TTL		0.05	60	5	24		HY6116A-15	Hyundai	35
		NMOS					5	24	Refurbished	**2128-150**	**Krueger (3663)**	
					30	150	5	24		**AM9128-15**	**MSI/Scorpion (3598)**	
	200	CMOS					5	24	Refurbished	**6116-200**	**Krueger (3663)**	
										6116LP-200	**Krueger (3663)**	
										MK48T02-20	SGS-Thomson	40
										MK48T12-20	SGS-Thomson	
					3	80	5	24		MKI48Z02-20	SGS-Thomson	
										MKI48Z12-20	SGS-Thomson	
								32		MK48C02A-20	SGS-Thomson	
										MK48C12A-20	SGS-Thomson	45
								24		MK48Z02-20	SGS-Thomson	
										MK48Z12-20	SGS-Thomson	
		NMOS					5	24	Refurbished	**2128-200**	**Krueger (3663)**	
					30	150	5	24		**AM9128-20**	**MSI/Scorpion (3598)**	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8											(Cont'd)	
	250	CMOS					5	24		MK48T02-25	SGS-Thomson	
										MK48T12-25	SGS-Thomson	
										MK48T12B-25	SGS-Thomson	
					3	80	5	24		MKI48Z02-25	SGS-Thomson	
										MKI48Z12-25	SGS-Thomson	5
								32		MK48C02A-25	SGS-Thomson	
										MK48C12A-25	SGS-Thomson	
								24		MK48Z02-25	SGS-Thomson	
										MK48Z12-25	SGS-Thomson	
	1000	CMOS			0.001	10	3	24		**LH5116S-1000**	ℓ **Sharp (3764)**	10
2Kx9	5	ECL 101K				500	–5.2			**SY101492-5**	**Synergy (3807)**	
	6	ECL 101K				450	–5.2			**SY101492-6**	**Synergy (3807)**	
	7	ECL 101K				300	–5.2			SY101492-7	Synergy	
2560	500	CMOS	TTL		0.00025	50	5	14	Serial	S2510A	Seiko Instr	
4Kx1	25	CMOS					5	18		IMS1203-25	SGS-Thomson	15
										IMS1203-25M	† SGS-Thomson	
	35	CMOS					5	18		IMS1203-35	SGS-Thomson	
										IMS1203-35M	† SGS-Thomson	
		NMOS					5	18		AM2147-35	AMD	
										ET2147H-1	SGS-Thomson	20
	45	NMOS					5	18		AM21L47-45	AMD	
										AM2147-45	AMD	
										M2147H-2	† Intel	
										ET2147H-2	SGS-Thomson	
	55	NMOS					5	18		AM21L47-55	AMD	25
										AM2147-55	AMD	
										M2147H-3	† Intel	
										NMC2147H-4	National	
										ETL2147H-3	SGS-Thomson	
										ET2147H-3	SGS-Thomson	30
	70	CMOS					5	18		MA5104SOS	GEC Plessey	
										HM6147H	Hitachi	
		NMOS					5	18		AM21L47-70	AMD	
										AM2147-70	AMD	
										M2147H	† Intel	35
										ETL2147	SGS-Thomson	
	120	CMOS	TTL		0.025	7	5	18		HM6504S-9	Harris	
										HM6504S/883	† Harris	
	200	CMOS	TTL		0.025	7	5	18		HM6504B-9	Harris	
										HM6504B/883	† Harris	40
	300	CMOS	TTL		0.025	7	5	18		HM6504-9	Harris	
					0.05	7	5	18		HM6504/883	† Harris	
		NMOS					5	18		AM90L44C	AMD	
										AM9044CM	† AMD	
	450	CMOS					5	18		LH5104-4	Sharp	45
4Kx4	4	ECL 10K				–30	–5.2			SY10484-4	Synergy	
	7	ECL 10K/10KH					–5.2	28		CY10E484-7C	Aspen	
		ECL 100K					–4.5	28		CY100E484-7C	Aspen	
							–5.2	28		CY101E484-7C	Aspen	
	10	CMOS					5	24		ATT7C168-10	AT&T	50
										ATT7C170-10	AT&T	
			TTL				5	20		IDT6168LA-10	IDT	
								22		IDT61970L-10	IDT	
					20	120	5	20		IDT6168SA-10	IDT	
								22		IDT61970S-10	IDT	55
				Common	50	150	5	20		MT5C1604-10	MicronSemi	
								22		MT5C1605-10	MicronSemi	
		ECL 10K/10KH					–5.2	28		CY10E484-10C	Aspen	
		ECL 100K					–4.5	28		CY100E484-10C	Aspen	
							–5.2	28		CY101E484-10C	Aspen	60
	12	CMOS					5	24		ATT7C168-12	AT&T	
										ATT7C170-12	AT&T	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	12	CMOS					5			(Cont'd)		
								22		IDT6187S-12	IDT	
			TTL				5	20		IDT6168LA-12	IDT	
										IDT6168LA-12B	IDT	
								22		IDT61970L-12	IDT	
										IDT61970L-12B	IDT	5
								24		IDT71681LA-12B	IDT	
										IDT71682LA-12B	IDT	
					20	110	5	20		IDT6168SA-12	IDT	
						120	5	20		IDT6168SA-12B	IDT	
						110	5	22		IDT61970S-12	IDT	10
						120	5	22		IDT61970S-12B	IDT	
								24		IDT71681SA-12B	IDT	
										IDT71681SA-15B	IDT	
										IDT71682SA-12B	IDT	
				Common			5	20		P4C168-12	Performance	15
					45	140	5	20		MT5C1604-12	MicronSemi	
								22		MT5C1605-12	MicronSemi	
	15	CMOS					5	24		ATT7C168-15	AT&T	
										ATT7C170-15	AT&T	
								20		L7C168-15	† LogicDev	20
								22		L7C170-15	† LogicDev	
								24		L7C171-15	† LogicDev	
										L7C172-15	† LogicDev	
			TTL				5	20		IDT6168LA-15	‡ IDT	
										IDT6168LA-15B	IDT	25
						90	5	22		IDT6178S-15	° IDT	
						110	5	22		IDT6178S-15B	°† IDT	
										IDT61970L-15	IDT	
										IDT61970L-15B	† IDT	
								24		IDT71681LA-15B	IDT	30
										IDT71682LA-15B	IDT	
					15	110	5	20		MCM6269-15	Motorola	
					20	110	5	20		IDT6168SA-15	‡ IDT	
						120	5	20		IDT6168SA-15B	IDT	
						110	5	22		IDT61970S-15	IDT	35
						120	5	22		IDT61970S-15B	† IDT	
								24		IDT71682SA-15B	IDT	
				Common	40	120	5	20		MT5C1604-15	MicronSemi	
								22		MT5C1605-15	MicronSemi	
	20	CMOS					5	24		ATT7C168-20	AT&T	40
										ATT7C170-20	AT&T	
								20		L7C168-20	† LogicDev	
								22		L7C170-20	† LogicDev	
								24		L7C171-20	† LogicDev	
										L7C172-20	† LogicDev	45
										MCM62350-20	Motorola	
										P4C1681-20M	† Performance	
								20		MK41H68-20	† SGS-Thomson	
										MK41H69-20	† SGS-Thomson	
								22		MK41H80-20	SGS-Thomson	50
			TTL			90	5	22		IDT6178S-20	° IDT	
						110	5	22		IDT6178S-20B	°† IDT	
										IDT6178S-25B	IDT	
					0.5	70	5	20		IDT6168LA-20	IDT	
								22		IDT61970L-20	IDT	55
								24		IDT71681LA-20	IDT	
										IDT71682LA-20	°‡ IDT	
					5	80	5	20		IDT6168LA-20B	‡ IDT	
								22		IDT61970L-20B	† IDT	
								24		IDT71681LA-20B	IDT	60
						100	5	24		IDT71682LA-20B	IDT	
					20	90	5	20		IDT6168SA-20	IDT	
						100	5	20		IDT6168SA-20B	‡ IDT	
						90	5	22		IDT61970S-20	IDT	
						100	5	22		IDT61970S-20B	† IDT	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	20	CMOS	TTL		20						(Cont'd)	
						90	5	24		IDT71681SA-20	‡ IDT	
						100	5	24		IDT71681SA-20B	IDT	
						90	5	24		IDT71682SA-20	°‡ IDT	
						100	5	24		IDT71682SA-20B	IDT	
				Common	40	110	5	20		MT5C1604-20	MicronSemi	5
								22		MT5C1605-20	MicronSemi	
	22	CMOS					5	20		MCM4180-22	° Motorola	
										MCM62351-22	° Motorola	
	25	CMOS					5	20		L7C168-25	† LogicDev	
								22		L7C170-25	† LogicDev	10
								24		L7C171-25	† LogicDev	
										L7C172-25	† LogicDev	
								22		MCM4180-25	° Motorola	
								24		MCM62351-25	° Motorola	
										P4C1681-25M	† Performance	15
								20		IMS1423-25	SGS-Thomson	
										MK41H68-25	† SGS-Thomson	
										MK41H69-25	† SGS-Thomson	
								22		MK41H78-25	SGS-Thomson	
										MK41H79-25	SGS-Thomson	20
										MK41H80-25	SGS-Thomson	
			TTL			90	5	20		CY7C168-25C	° Cypress	
										CY7C169-25C	° Cypress	
								22		CY7C170-25C	° Cypress	
								24		CY7C171-25C	Cypress	25
										CY7C172-25C	Cypress	
								22		IDT6178S-25	IDT	
					0.05	70	5	20		IDT6168LA-25	IDT	
								22		IDT61970L-25	IDT	
								24		IDT71681LA-25	IDT	30
										IDT71682LA-25	° IDT	
					0.3	80	5	20		IDT6168LA-25B	† IDT	
								22		IDT61970L-25B	† IDT	
								24		IDT71681LA-25B	‡ IDT	
										IDT71682LA-25B	°‡ IDT	35
					2	90	5	20		IDT6168SA-25	IDT	
								22		IDT61970S-25	IDT	
								24		IDT71681SA-25	IDT	
										IDT71682SA-25	° IDT	
					10	100	5	20		IDT6168SA-25B	† IDT	40
								24		IDT71681SA-25B	‡ IDT	
										IDT71682SA-25B	°‡ IDT	
				Common	30	100	5	20		MT5C1604-25	MicronSemi	
								22		MT5C1605-25	MicronSemi	
		TTL					5	20		MB81C68A	Fujitsu	45
	30	CMOS					5	24		MCM62351-30	Motorola	
	35	CMOS					5	20		L7C168-35	† LogicDev	
								22		L7C170-35	† LogicDev	
								24		L7C171-35	† LogicDev	
										L7C172-35	† LogicDev	50
								20		V61C68-35L	Mosel-Vitelic	
								24		P4C1681-35M	† Performance	
								20		IMS1423-35	SGS-Thomson	
										IMS1423-35M	† SGS-Thomson	
										MK41H68-35	† SGS-Thomson	55
										MK41H69-35	† SGS-Thomson	
								22		MK41H78-35	SGS-Thomson	
										MK41H79-35	SGS-Thomson	
										MK41H80-35	SGS-Thomson	
			TTL			90	5	20		CY7C168-35C	° Cypress	60
										CY7C168-35M	† Cypress	
										CY7C169-35C	° Cypress	
										CY7C169-35M	°† Cypress	
								22		CY7C170-35C	° Cypress	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
4Kx4	35	CMOS	TTL								(Cont'd)	
						120	5	22		CY7C170-35M	°† Cypress	
						90	5	24		CY7C171-35C	Cypress	
										CY7C171-35M	† Cypress	
										CY7C172-35C	Cypress	
										CY7C172-35M	† Cypress	5
					0.05	80	5	20		IDT6168LA-35	IDT	
						70	5	22		IDT61970L-35	IDT	
								24		IDT71681LA-35	IDT	
										IDT71682LA-35	° IDT	
					0.3	80	5	20		IDT6168LA-35B	† IDT	10
								22		IDT61970L-35B	† IDT	
								24		IDT71681LA-35B	† IDT	
										IDT71682LA-35B	°† IDT	
					2	90	5	20		IDT6168SA-35	IDT	
								22		IDT61970S-35	IDT	15
								24		IDT71681SA-35	IDT	
										IDT71682SA-35	° IDT	
					10	100	5	20		IDT6168SA-35B	† IDT	
								22		IDT61970S-35B	† IDT	
								24		IDT71681SA-35B	† IDT	20
										IDT71682SA-35B	°† IDT	
		NMOS					5	20		AM2168-35	° AMD	
			TTL		30	120	5	20	Refurbished	2168-35	Krueger	
	40	CMOS	TTL			70	5	20		CY7C169-40C	° Cypress	
										CY7C169-40M	°† Cypress	25
	45	CMOS					5	24		L7C172-45	† LogicDev	
								20		V61C68-45	Mosel-Vitelic	
										V61C68-45L	Mosel-Vitelic	
										MCM1423-45	Motorola	
								24		P4C1681-45M	† Performance	30
								20		IMS1423-45	SGS-Thomson	
										IMS1423-45M	† SGS-Thomson	
			TTL			70	5	20		CY7C168-45C	° Cypress	
										CY7C168-45M	°† Cypress	
						90	5	22		CY7C170-45C	° Cypress	35
						120	5	22		CY7C170-45M	°† Cypress	
						70	5	24		CY7C171-45C	Cypress	
										CY7C171-45M	† Cypress	
										CY7C172-45C	Cypress	
										CY7C172-45M	† Cypress	40
								22		IDT61970L-45	IDT	
										IDT61970S-45	IDT	
					0.05	70	5	24		IDT71681LA-45	IDT	
										IDT71682LA-45	° IDT	
					0.3	80	5	20		IDT6168LA-45B	† IDT	45
								22		IDT61970L-45B	† IDT	
								24		IDT71681LA-45B	† IDT	
										IDT71682LA-45B	°† IDT	
					2	90	5	24		IDT71681SA-45	IDT	
										IDT71682SA-45	° IDT	50
					10	100	5	20		IDT6168SA-45B	† IDT	
								22		IDT61970S-45B	† IDT	
								24		IDT71681SA-45B	† IDT	
										IDT71682SA-45B	°† IDT	
		NMOS					5	20		AM2168-45	° AMD	55
			TTL		30	120	5	20	Refurbished	2168-45	Krueger	
	55	CMOS					5	20		V61C68-55	Mosel-Vitelic	
										V61C68-55L	Mosel-Vitelic	
										IMS1423-55M	† SGS-Thomson	
			TTL		0.3	80	5	20		IDT6168LA-55B	† IDT	60
								22		IDT61970L-55B	† IDT	
								24		IDT71681LA-55B	† IDT	
										IDT71682LA-55B	°† IDT	
					10	100	5	20		IDT6168SA-55B	† IDT	
								22		IDT61970S-55B	† IDT	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	55	CMOS	TTL		10	100	5				(Cont'd)	
								24		IDT71681SA-55B	† IDT	
										IDT71682SA-55B	°† IDT	
		NMOS					5	20		AM2168-55	° AMD	
	70	CMOS					5	20		V61C68-70	Mosel-Vitelic	
			TTL		0.3	80	5	20		IDT6168LA-70B	† IDT	5
								24		IDT71681LA-70B	† IDT	
										IDT71682LA-70B	°† IDT	
					10	100	5	20		IDT6168SA-70B	† IDT	
								24		IDT71682SA-70B	°† IDT	
					19	100	5	24		IDT71681SA-70B	† IDT	10
		NMOS					5	20		AM2168-70	° AMD	
			TTL		30	120	5	20	Refurbished	2168-70	Krueger	
	85	CMOS	TTL				5	24		IDT71681LA-85B	IDT	
										IDT71681SA-85B	† IDT	
										IDT71682LA-85B	°† IDT	15
										IDT71682SA-85B	°† IDT	
					0.3	80	5	20		IDT6168LA-85B	† IDT	
					10	100	5	20		IDT6168SA-85B	‡ IDT	
	100	CMOS	TTL				5	24		IDT71681LA-100B	† IDT	
										IDT71681SA-100B	† IDT	20
										IDT71682LA-100B	°† IDT	
										IDT71682SA-100B	°† IDT	
					0.3	80	5	20		IDT6168LA-100B	† IDT	
					10	100	5	20		IDT6168SA-100B	† IDT	
	25	CMOS	TTL		10	100	5	22		IDT61970S-25B	† IDT	25
4Kx8	40	CMOS					5	44		MAP168-40	Waferscale	
	45	CMOS					5	52		IDT71342L-45	‡ IDT	
										IDT71342S-45	‡ IDT	
								44		MAP168-45	Waferscale	
		2-port					5	68		IDT7134L-45	° IDT	30
	55	CMOS					5	68		IDT7134L-55	° IDT	
								52		IDT71342L-55	‡ IDT	
										IDT71342S-55	‡ IDT	
								44		MAP168-55	Waferscale	
	70	CMOS					5	68		IDT7134L-70	° IDT	35
								52		IDT71342L-70	‡ IDT	
										IDT71342S-70	‡ IDT	
4Kx9	25	CMOS					5	28		MK45H04-25	SGS-Thomson	
	35	CMOS					5	28		MK45H04-35	SGS-Thomson	
	50	CMOS					5	28		MK45H04-50	SGS-Thomson	40
	65	CMOS					5	28		MK45H04-65	SGS-Thomson	
	120	CMOS					5	28		MK45H04-12	SGS-Thomson	
4Kx10	25	CMOS					5	44		MCM62963-25	Motorola	
4Kx12	18	CMOS		Separate		180	5	44		MCM6274-18	Motorola	
										MCM6274A-18	Motorola	45
	20	CMOS		Separate		170	5	44		MCM6274-20	Motorola	
										MCM6274A-20	Motorola	
	25	CMOS					5	44		MCM62973-25	° Motorola	
										MCM62974-25	°† Motorola	
	30	CMOS					5	44		MCM62973-30	° Motorola	50
										MCM62974-30	° Motorola	
4Kx16	25	CMOS					5	40		IDT7186L-25	IDT	
										IDT7186S-25	IDT	
			TTL		15	130	5	40		IDT71586S-25	IDT	
	35	CMOS					5	48		IDT71502L-35	‡ IDT	55
										IDT71502S-35	‡ IDT	
								40		IDT7186L-35	IDT	
										IDT7186L-35B	† IDT	
										IDT7186S-35	IDT	
										IDT7186S-35B	† IDT	60
			TTL		15	130	5	40		IDT71586S-35	IDT	
					20	150	5	40		IDT71586S-35B	† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx16											(Cont'd)	
	45	CMOS					5	48		IDT71502L-45	‡ IDT	
										IDT71502S-45	‡ IDT	
								40		IDT7186L-45	‡ IDT	
										IDT7186L-45B	‡ IDT	
										IDT7186S-45	‡ IDT	5
										IDT7186S-45B	‡ IDT	
			TTL		15	130	5	40		IDT71586S-45	IDT	
					20	150	5	40		IDT71586S-45B	† IDT	
	55	CMOS					5	48		IDT71502L-55	‡ IDT	
										IDT71502L-55B	‡ IDT	10
										IDT71502S-55	‡ IDT	
										IDT71502S-55B	‡ IDT	
								40		IDT7186L-55	‡ IDT	
										IDT7186L-55B	‡ IDT	
										IDT7186S-55	‡ IDT	15
										IDT7186S-55B	‡ IDT	
			TTL		20	150	5	40		IDT71586S-55B	† IDT	
	70	CMOS					5	48		IDT71502L-70B	‡ IDT	
										IDT71502S-70B	‡ IDT	
								40		IDT7186L-70B	‡ IDT	20
										IDT7186S-70B	‡ IDT	
4Kx1	5	10K ECL					–5.2	18		CY10E470-5C	Cypress	
		100K ECL					–4.5	18		CY100E470-5C	Cypress	
	6	CMOS					3.3	20		P3C3147-6C	ℓ Performance	
	7	CMOS					3.3	20		P3C3147-7C	ℓ Performance	25
		10K ECL					–5.2	18		CY10E470-7C	Cypress	
		100K ECL					–4.5	18		CY100E470-7C	Cypress	
	8	CMOS					3.3	20		P3C3147-8C	ℓ Performance	
	10	CMOS					5	18		P4C147-10C	Performance	
		ECL				–220	–5.2	18	100K ECL	μPB100470-10	NEC	30
									10K ECL	μPB10470-10	NEC	
	12	CMOS					5	18		P4C147-12C	Performance	
	15	CMOS					5	18		P4C147-15C	Performance	
		ECL				–220	–5.2	18	100K ECL	μPB100470-15	NEC	
									10K ECL	μPB10470-15	NEC	35
	20	CMOS					5	18		P4C147-20C	Performance	
		NMOS				70	5			**AM90L44-20**	**MSI/Scorpion (3598)**	
										AM9044-20	**MSI/Scorpion (3598)**	
	25	CMOS					5	18		P4C147-25C	Performance	
			TTL		15	90	5	18		CY7C147-25C	° Cypress	40
		NMOS				70	5			**AM90L44-25**	**MSI/Scorpion (3598)**	
										AM9044-25	**MSI/Scorpion (3598)**	
	30	NMOS				70	5			**AM90L44-30**	**MSI/Scorpion (3598)**	
										AM9044-30	**MSI/Scorpion (3598)**	
	35	CMOS	TTL		10	80	5	18		CY7C147-35C	° Cypress	45
						110	5	18		CY7C147-35M	°† Cypress	
					25	125	5	18		CY2147-35C	Cypress	
		NMOS					5	18	Refurbished	**2147-35**	**Krueger (3663)**	
			TTL		30	180	5	18		**AM2147-35**	**MSI/Scorpion (3598)**	
	45	CMOS					5	18		IMS1203-45M	† SGS-Thomson	50
			TTL		10	80	5	18		CY7C147-45C	° Cypress	
						110	5	18		CY7C147-45M	°† Cypress	
					25	125	5	18		CY2147-45C	Cypress	
						140	5	18		CY2147-45M	† Cypress	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
4Kx1	45										(Cont'd)	
		NMOS					5	18	Refurbished	**2147-45**	**Krueger (3663)**	
						70	5			**AM90L44-45**	**MSI/Scorpion (3598)**	
										AM9044	MSI/Scorpion	
						70	5			**AM9044-45**	**MSI/Scorpion (3598)**	
			TTL		15	125	5	18		**AM21L47-45**	**MSI/Scorpion (3598)**	5
					30	180	5	18		**AM2147-45**	**MSI/Scorpion (3598)**	
	55	CMOS					5	18		CY21L47-55C	Cypress	
			TTL		25	125	5	18		CY2147-55C	Cypress	
						140	5	18		CY2147-55M	† Cypress	
		NMOS					5	18	Refurbished	**2147-55**	**Krueger (3663)**	10
			TTL		15	125	5	18		**AM21L47-55**	**MSI/Scorpion (3598)**	
					30	180	5	18		**AM2147-55**	**MSI/Scorpion (3598)**	
	70	NMOS					5	18	Refurbished	**2147-70**	**Krueger (3663)**	
			TTL		15	125	5	18		**AM21L47-70**	**MSI/Scorpion (3598)**	
					20	160	5	18		**AM2147-70**	**MSI/Scorpion (3598)**	15
	120	NMOS			10	55	5			AM21L41-12	MSI/Scorpion	
	150	NMOS			5	40	5			AM21L41-15	MSI/Scorpion	
	180	CMOS					5	18		HS6504RRH	‡ Harris	
			TTL		0.2	7	5	18		HS6504RH	‡ Harris	
	200	CMOS				4.5	5	18		CMM5104	‡ Harris	20
		NMOS			5	40	5			AM21L41-20	MSI/Scorpion	
	250	NMOS			5	40	5			AM21L41-25	MSI/Scorpion	
4Kx10	20	CMOS					5	44		MCM62963-20	Motorola	
	30	CMOS		Separate	30	150	5	44		MCM62963-30	Motorola	
						140	5	44		MCM62963A-30	Motorola	25
4Kx12	18	CMOS		Separate		180	5	44		MCM62974A-18	Motorola	
					30	170	5	44		MCM62973-18	Motorola	
										MCM62973A-18	Motorola	
	20	CMOS					5	44		MCM62974-20	° Motorola	
				Separate		170	5	44		MCM62974A-20	Motorola	30
					30	160	5	44		MCM62973-20	° Motorola	
										MCM62973A-20	Motorola	
	25	CMOS		Separate		160	5	44		MCM62975-25	Motorola	
										MCM62975A-25	Motorola	
	30	CMOS		Separate		150	5	44		MCM62975-30	Motorola	35
										MCM62975A-30	Motorola	
4Kx18	25	CMOS					5	52		QS88182-25	Quality Semi	
4Kx4	3.5	ECL 10K				–30	–5.2			SY10484-3.5	Synergy	
		ECL 100K				–30	–4.5			SY100484-3.5	Synergy	
		ECL 101K				–30	–5.2			SY101484-3.5	Synergy	40
	4	BiCMOS				–300	–5.2	101K ECL		HM101484H-4	Hitachi	
		ECL 100K				–30	–4.5			SY100484-4	Synergy	
		ECL 101K				–30	–5.2			SY101484-4	Synergy	
		10K ECL				–320	–5.2	28		CY10E484-4C	Cypress	
		100K ECL				–320	–4.5	28		CY100E484-4C	Cypress	45
							–5.2	28		CY101E484-4C	Cypress	
	4.5	BiCMOS				–300	–5.2	101K ECL		HM101484H-4.5	Hitachi	
		ECL 10K				–350	–5.2			**SY10484-4.5**	**Synergy (3807)**	
		ECL 100K				–350	–4.5			**SY100484-4.5**	**Synergy (3807)**	
		ECL 101K				–350	–5.2			**SY101484-4.5**	**Synergy (3807)**	50
	5	ECL				–320	–5.2	28	10K ECL	µPB10A484-5	NEC	
						–160	–5.2	28	100K ECL	µPB100A484-5	NEC	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	5	ECL									(Cont'd)	
						−260	−5.2	28	100K ECL	µPB100484A-5	NEC	
									10K ECL	µPB10484A-5	NEC	
		ECL 10K					−5.2			**SY10484-5**	**Synergy (3807)**	
		ECL 100K					−4.5			**SY100484-5**	**Synergy (3807)**	
		ECL 101K					−5.2			**SY101484-5**	**Synergy (3807)**	5
		10K ECL				−320	−5.2	28		CY10E484-5C	Cypress	
		100K ECL				−320	−4.5	28		CY100E484-5C	Cypress	
							−5.2	28		CY101E484-5C	Cypress	
	6	ECL 10K				−30	−5.2	28		**SY10484-6**	**Synergy (3807)**	
		ECL 100K				−30	−4.5	28		**SY100484-6**	**Synergy (3807)**	10
		ECL 101K				−30	−5.2	28		**SY101484-6**	**Synergy (3807)**	
	7	ECL				−320	−5.2	28	10K ECL	µPB10A484-7	NEC	
						−160	−5.2	28	100K ECL	µPB100A484-7	NEC	
						−240	−5.2	28	100K ECL	µPB100484A-7	NEC	
									10K ECL	µPB10484A-7	NEC	15
		ECL 10K				−180	−5.2			SY10484L-7	Synergy	
		ECL 100K				−180	−4.5			SY100484L-7	Synergy	
		ECL 101K				−180	−5.2			SY101484L-7	Synergy	
		10K ECL					−5.2	28		CY10E484L-7	Cypress	
						−200	−5.2	28		CY10E484L-7C	Cypress	20
										CY10E484L-7M	† Cypress	
										SY10L484-7	**Synergy (3807)**	
		100K ECL				−200	−4.5	28		CY100E484L-7C	Cypress	
							−5.2	28		CY101E484L-7C	Cypress	
							−4.5	28		**SY100L484-7**	**Synergy (3807)**	25
		101K ECL					−5.2	28		SY101L484-7	Synergy	
	8	CMOS	TTL	Common	55	160	5	24		MT5C1604-8	MicronSemi	
		ECL 10K					−5.2			SY10484-8	Synergy	
						−180	−5.2			SY10484L-8	Synergy	
		ECL 100K					−4.5			SY100484-8	Synergy	30
						−180	−4.5			SY100484L-8	Synergy	
		ECL 101K					−5.2			SY101484-8	Synergy	
						−180	−5.2			SY101484L-8	Synergy	
		10K ECL					−5.2	28		**SY10L484-8**	**Synergy (3807)**	
		100K ECL					−4.5	28		**SY100L484-8**	**Synergy (3807)**	35
							−5.2	28		SY101L484-8	Synergy	
	10	CMOS	TTL		15	110	5	20		MCM6269-10	Motorola	
		ECL				−260	−5.2	28	100K ECL	µPB100484-10	NEC	
									10K ECL	µPB10484-10	NEC	
		ECL 10K					−5.2			SY10484-10	Synergy	40
						−180	−5.2			SY10484L-10	Synergy	
		ECL 100K					−4.5			SY100484-10	Synergy	
						−180	−4.5			SY100484L-10	Synergy	
		ECL 101K					−5.2			SY101484-10	Synergy	
						−180	−5.2			SY101484L-10	Synergy	45
		10K ECL					−5.2	28		CY10E484L-10	Cypress	
						−200	−5.2	28		CY10E484L-10C	Cypress	
										CY10E484L-10M	† Cypress	
										SY10L484-10	**Synergy (3807)**	
		100K ECL				−200	−4.5	28		CY100E484L-10C	Cypress	50
							−5.2	28		CY101E484L-10C	Cypress	
							−4.5	28		**SY100L484-10**	**Synergy (3807)**	
		101K ECL					−5.2	28		SY101L484-10	Synergy	
	12	CMOS					5	24		P4C1681-12C	Performance	
										P4C1682-12C	Performance	55

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	12	CMOS					5				(Cont'd)	
								22		P4C170-12C	Performance	
			TTL		15	110	5	20		MCM6269-12	Motorola	
				Common			5	20		P4C169-12	Performance	
	15	CMOS					5	20		P4C168-15C	Performance	
								24		P4C1681-15C	Performance	5
										P4C1682-15C	Performance	
								20		P4C169-15C	Performance	
								22		P4C170-15C	Performance	
			TTL			115	5	20		CY7C168A-15C	° Cypress	
										CY7C169A-15C	° Cypress	10
								22		CY7C170A-15C	° Cypress	
				Separate		115	5	24		CY7C171A-15C	Cypress	
										CY7C172A-15C	Cypress	
		ECL				–240	–5.2	28	100K ECL	μPB100484-15	NEC	
									10K ECL	μPB10484-15	NEC	15
	20	CMOS					5	20		P4C168-20C	Performance	
								24		P4C1681-20C	Performance	
										P4C1682-20C	Performance	
								20		P4C169-20C	Performance	
								22		P4C170-20C	Performance	20
			TTL			90	5	20		CY7C168A-20C	° Cypress	
										CY7C168A-20M	°† Cypress	
										CY7C169A-20C	° Cypress	
										CY7C169A-20M	°† Cypress	
								22		CY7C170A-20C	° Cypress	25
								24		MK41S80-20	SGS-Thomson	
					15	110	5	20		MCM6269-20	Motorola	
					20	110	5	20		MCM6268-20	° Motorola	
								22		MCM6270-20	° Motorola	
				Separate		80	5	24		CY7C171A-20C	Cypress	30
						90	5	24		CY7C171A-20M	† Cypress	
						80	5	24		CY7C172A-20C	Cypress	
						90	5	24		CY7C172A-20M	† Cypress	
	25	CMOS				90	5	22		CY7C170A-25C	° Cypress	
						120	5	22		CY7C170A-25M	°† Cypress	35
								20		P4C168-25C	Performance	
								24		P4C1681-25C	Performance	
										P4C1682-25C	Performance	
								20		P4C169-25C	Performance	
								22		P4C170-25C	Performance	40
			TTL			70	5	20		CY7C168A-25C	° Cypress	
						80	5	20		CY7C168A-25M	°† Cypress	
						70	5	20		CY7C169A-25C	° Cypress	
						80	5	20		CY7C169A-25M	°† Cypress	
								24		MK41S80-25	SGS-Thomson	45
					15	110	5	20		MCM6269-25	Motorola	
					20	110	5	20		MCM6268-25	° Motorola	
								22		MCM6270-25	Motorola	
				Separate		70	5	24		CY7C171A-25C	Cypress	
						80	5	24		CY7C171A-25M	† Cypress	50
						70	5	24		CY7C172A-25C	Cypress	
						80	5	24		CY7C172A-25M	† Cypress	
	35	CMOS					5	20		P4C168-35C	Performance	
								24		P4C1681-35C	Performance	
										P4C1682-35C	Performance	55
								20		P4C169-35C	Performance	
								22		P4C170-35C	Performance	
			TTL			70	5	20		CY7C168A-35C	° Cypress	
										CY7C168A-35M	°† Cypress	
										CY7C169A-35C	° Cypress	60
										CY7C169A-35M	°† Cypress	
						90	5	22		CY7C170A-35C	° Cypress	
					15	110	5	20		MCM6269-35	Motorola	
					20	110	5	20		MCM6268-35	° Motorola	
								22		MCM6270-35	Motorola	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	35	CMOS	TTL								(Cont'd)	
				Separate		70	5	24		CY7C171A-35C	Cypress	
										CY7C171A-35M	† Cypress	
										CY7C172A-35C	Cypress	
										CY7C172A-35M	† Cypress	
		NMOS	TTL				5	20		**AM2168-35**	**MSI/Scorpion (3598)**	5
			TTL				5	20		MB81C68	Fujitsu	
	40	NMOS	TTL				5	20		**AM2169-40**	**MSI/Scorpion (3598)**	
	45	CMOS					5	20	Refurbished	**6168H-45**	**Krueger (3663)**	
			TTL			70	5	20		CY7C168A-45M	°† Cypress	
					20	80	5	20		MCM6268-45	Motorola	10
				Separate		70	5	24		CY7C171A-45M	† Cypress	
										CY7C172A-45M	† Cypress	
		NMOS					5	20		**AM2168-45**	**MSI/Scorpion (3598)**	
	50	NMOS	TTL				5	20		**AM2169-50**	**MSI/Scorpion (3598)**	
	55	CMOS					5	20	Refurbished	**6168H-55**	**Krueger (3663)**	15
			TTL		20	80	5	20		MCM6268-55	Motorola	
		NMOS	TTL				5	20		**AM2168-55**	**MSI/Scorpion (3598)**	
	70	NMOS	TTL				5	20		**AM2168-70**	**MSI/Scorpion (3598)**	
										AM2169-70	**MSI/Scorpion (3598)**	
8Kx8	8	CMOS	TTL	Common	55	160	5	28		MT5C6408-8	MicronSemi	20
	10	BiCMOS										
			TTL			170	5	28		IDT71B64S-10	IDT	
		CMOS					5	28		ATT7C185-10	AT&T	
			TTL				5	28		CY7C186-10C	Cypress	
				Common	50	150	5	28		MT5C6408-10	MicronSemi	
	12	BiCMOS					5	28		CY7B186-12C	Aspen	25
			TTL			170	5	28		IDT71B64S-12	IDT	
						190	5	28		IDT71B64S-12B	† IDT	
		CMOS					5	28		ATT7C185-12	AT&T	
			TTL				5	28		CY7C186-12C	Cypress	
					40	180	5	28		CY7C186A-12M	† Cypress	30
				Common	45	140	5	28		MT5C6408-12	MicronSemi	
	15	BiCMOS					5	28		CY7B185-15C	Aspen	
										CY7B185-15M	† Aspen	
										CY7B186-15C	Aspen	
										CY7B186-15M	† Aspen	35
			TTL			150	5	28		IDT71B64S-15	IDT	
						170	5	28		IDT71B64S-15B	† IDT	
		CMOS					5	28		ATT7C185-15	AT&T	
										AT3864-15	ATMEL	
			TTL				5	28		CY7C186-15C	Cypress	40
					15	110	5	28		IDT7164S-15	IDT	
					40	170	5	28		CY7C186A-15M	† Cypress	
				Common	50	130	5	28		MT5C6408-15	MicronSemi	
	20	BiCMOS										
			TTL			170	5	28		IDT71B64S-20B	† IDT	
		CMOS					5	28		ATT7C185-20	AT&T	45
										CY7C186A-20C	° Cypress	
										L7C185-20	† LogicDev	
										M5M5180-20	Mitsubishi	
										P4C164-20M	† Performance	
										MK48H98-20	SGS-Thomson	50
					40	135	5	28		CY7C186A-20M	°† Cypress	
			TTL		0.2	90	5	28		IDT7164L-20	IDT	
					1	100	5	28		IDT7164L-20B	IDT	
					5		5	28		HM6265L-20	Hualon Micro	
					15	100	5	28		IDT7164S-20	IDT	55

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	20	CMOS	TTL								(Cont'd)	
					20	110	5	28		IDT7164S-20B	† IDT	
					35	110	5	28		MT5C6408-20	MicronSemi	
						130	5	28		MCM6264-20	° Motorola	
				Common	30	100	5	28		5164-20	Intel	
						120	5	28		M5M5178B-20	Mitsubishi	5
	25	CMOS					5	28		CY7C186A-25C	° Cypress	
										L7C185-25	† LogicDev	
										V63C64-25	Mosel-Vitelic	
										P4C164-25C	Performance	
					40	125	5	28		CY7C186A-25M	°† Cypress	10
			Latched Address				5	28		M5M5180-25	Mitsubishi	
			TTL		0.2	80	5	28		IDT7164L-25	IDT	
					1	100	5	28		IDT7164L-25B	IDT	
					15	90	5	28		IDT7164S-25	IDT	
					20	110	5	28		IDT7164S-25B	† IDT	15
				Common	30	100	5	28		5164-25	Intel	
		TTL					5	32		MT5C6408-25	MicronSemi	
	30	CMOS					5	28		IDT71C65L-30	‡ IDT	
										IDT71C65S-30	‡ IDT	
										V63C64-30	Mosel-Vitelic	20
										MCM6264-30	Motorola	
										MK48H98-30	SGS-Thomson	
			TTL				5	28		IDT7165L-30	°‡ IDT	
					0.2	80	5	28		IDT7164L-30	°‡ IDT	
					1	90	5	28		IDT7164L-30B	IDT	25
					15	90	5	28		IDT7164S-30	°‡ IDT	
						110	5	28		IDT7165S-30	°‡ IDT	
					20	100	5	28		IDT7164S-30B	† IDT	
				Common	30	100	5	28		5164-30	Intel	
	35	CMOS					5	28		CY7C186A-35C	° Cypress	30
										EDI8808CA35B	† EDI	
										MB81C78A-35	Fujitsu	
										MB81C79A-35	Fujitsu	
										IDT71C65L-35	‡ IDT	
										IDT71C65L-35B	‡ IDT	35
										IDT71C65S-35	‡ IDT	
										IDT71C65S-35B	‡ IDT	
										IDT7164S-35	°‡ IDT	
										IDT7174S-35	IDT	
										IDT7174S-35B	† IDT	40
										L7C185-35	† LogicDev	
										V63C64-35	Mosel-Vitelic	
										V63C64-35L	Mosel-Vitelic	
										P4C164-35M	† Performance	
										MK48H74-35	SGS-Thomson	45
					30	125	5	28		CY7C186A-35M	°† Cypress	
			TTL				5	28		IDT7165L-35B	°† IDT	
					0.2	80	5	28		IDT7164L-35	°‡ IDT	
						90	5	28		IDT7165L-35	° IDT	
					1	90	5	28		IDT7164L-35B	°† IDT	50
					5		5	28		HM6265L-35	Hualon Micro	
					15	110	5	28		IDT7165S-35	° IDT	
					20	100	5	28		IDT7164S-35B	† IDT	
						125	5	28		IDT7165S-35B	°† IDT	
					30	110	5	28		MCM6264-35	Motorola	55
				Common	30	100	5	28		5164-35	Intel	
		TTL					5	28		MB81C78A	Fujitsu	
	40	CMOS					5	28		MK48H98-40	SGS-Thomson	
		CMOS/SOS					5	28		MAS9264	GEC Plessey	
	45	CMOS					5	28		CY7C186A-45C	° Cypress	60
										EDI8808CA45B	† EDI	
										MB81C78A-45	Fujitsu	
										MB81C79A-45	Fujitsu	
								58		IDT7M134S-45	‡ IDT	
										IDT7M144S-45	‡ IDT	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	45	CMOS					5				(Cont'd)	
								28		IDT71C65L-45	‡ IDT	
										IDT71C65L-45B	‡ IDT	
										IDT71C65S-45	‡ IDT	
										IDT71C65S-45B	‡ IDT	
										IDT7164L-45	°‡ IDT	5
										IDT7164S-45	°‡ IDT	
										IDT7174S-45	IDT	
										IDT7174S-45B	† IDT	
										MS6264AL-45C	Mosel-Vitelic	
										V63C64-45	Mosel-Vitelic	10
										V63C64-45L	Mosel-Vitelic	
										MCM6264-45	Motorola	
										P4C164-45M	† Performance	
										MK48H74-45	SGS-Thomson	
					30	125	5	28		CY7C186A-45M	°† Cypress	15
			TTL		0.2	90	5	28		IDT7164L-45B	°† IDT	
										IDT7165L-45	° IDT	
					1	110	5	28		IDT7165L-45B	°† IDT	
					5	80	5	28		HM6265L-45	Hualon Micro	
					15	100	5	28		IDT7164S-45B	† IDT	20
						110	5	28		IDT7165S-45	° IDT	
					20	125	5	28		IDT7165S-45B	°† IDT	
	55	CMOS					5	28		CY7C186A-55C	° Cypress	
										EDI8808CA55B	† EDI	
										EDI8810H55B	† EDI	25
										EDI8810L55B	† EDI	
										IDT71C65L-55	‡ IDT	
										IDT71C65L-55B	‡ IDT	
										IDT71C65S-55	‡ IDT	
										IDT71C65S-55B	‡ IDT	30
										IDT7165S-55	° IDT	
										IDT7174S-55B	† IDT	
										MS6264AL-55C	Mosel-Vitelic	
										V63C64-55	Mosel-Vitelic	
										V63C64-55L	Mosel-Vitelic	35
										6164-55	† Motorola	
										MK48H74-55	SGS-Thomson	
					30	125	5	28		CY7C186A-55M	°† Cypress	
			TTL		1	90	5	28		IDT7164L-55B	°‡ IDT	
						110	5	28		IDT7165L-55B	°† IDT	40
					5	70	5	28		HM6265L-55	Hualon Micro	
					20	100	5	28		IDT7164S-55B	† IDT	
						125	5	28		IDT7165S-55B	°† IDT	
				0.2	90		5	28		IDT7165L-55	° IDT	
			TTL/CMOS		0.2	145	5	28		UT7164-55	UTMC	45
	60	CMOS					5	58		IDT7M144S-60	‡ IDT	
	70	CMOS					5	28		EDH8808ACL-70MHR	† EDI	
										EDI8808CA70B	† EDI	
										IDT7165L-70	° IDT	
										IDT7165L-70B	°‡ IDT	50
										IDT7165S-70	° IDT	
										IDT7165S-70B	°‡ IDT	
										MS6264AL-70C	Mosel-Vitelic	
										6164-70	† Motorola	
				Common	0.05	50	5	28		HY6264ALL-70	Hyundai	55
			TTL		1	90	5	28		IDT7164L-70B	°† IDT	
					5	60	5	28		HM6265L-70	Hualon Micro	
					20	100	5	28		IDT7164S-70B	°† IDT	
				Common	2	70	5	28		HY6264-70	Hyundai	
					3	40	5	28		5164L-07	Intel	60
										5164S-07	Intel	
	85	CMOS					5	28		IDT7165L-85B	°‡ IDT	
										IDT7165S-85B	°‡ IDT	
				C	0.1	50	5	28		HY6264AL-85	Hyundai	
				Common	0.05	50	50	28		HY6264ALL-85	Hyundai	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	85	CMOS								(Cont'd)		
			TTL		1	90	5	28		IDT7164L-85B •†	IDT	
					5	60	5	28		HM6265L-85	Hualon Micro	
					20	100	5	28		IDT7164S-85B •†	IDT	
				Common	2	50	5	28		HY6264A-85	Hyundai	
		TTL					5	28		LC3664A-85	Sanyo	5
										LC3664AL-85	Sanyo	
	90	CMOS					5	28		SRM2264C-90	S-MOS	
	100						5	28		AT3864L-10	ATMEL	
		CMOS					5	28		AT3864-10	ATMEL	
										EDH8808ACL-10MHR †	EDI	10
										MB8464A-10	Fujitsu	
										MB8464A-10L	Fujitsu	
										MB8464A-10LL	Fujitsu	
										HM6264-10 •	Hitachi	
										HM6264L-10 •	Hitachi	15
										MCM60L64-10	Motorola	
										MSM5165-10	OKI	
										SRM2264C-10	S-MOS	
										LH5164D-10L	Sharp	
										TMS6264-10	TI	20
										TMS6264L-10	TI	
			TTL				5	28		IDT7164L-100B •†	IDT	
										IDT7164S-100B •†	IDT	
					0.02	60	5	28		MSM5165ALL-10	OKI	
					3	60	5	28		MSM5165AL-10	OKI	25
					5		5	28		HM6265L-100	Hualon Micro	
				Common	3	40	5	28		5164L-10	Intel	
										5164S-10	Intel	
			TTL/CMOS		0.5	120	5	28		CXK5864-100	Sony	
		TTL					5	28		LC3664A	Sanyo	30
										LC3664A-100	Sanyo	
										LC3664AL	Sanyo	
										LC3664AL-100	Sanyo	
	120						5	28		AT3864L-12	ATMEL	
		CMOS					5	28		AT3864-12	ATMEL	35
										EDH8808ACL-12MHR †	EDI	
										HM6264A-12 •	Hitachi	
										HM6264AL-12 •	Hitachi	
										MCM60L64-12	Motorola	
										MSM5165L-12	OKI	40
										SRM2264C-12	S-MOS	
										TMS6264-12	TI	
										TMS6264L-12	TI	
					6	55	5	28		DS1643-12	Dallas	
				Common	0.05	50	5	28		HY6264ALL-12	Hyundai	45
			TTL				5	28		IDT7164L-120B •†	IDT	
										IDT7164S-120B •†	IDT	
					0.02	55	5	28		MSM5165ALL-12	OKI	
					3	55	5	28		MSM5165AL-12	OKI	
					5		5	28		HM6265L-120	Hualon Micro	50
		TTL					5	28		LC3664A	Sanyo	
										LC3664A-120	Sanyo	
										LC3664AL	Sanyo	
										LC3664AL-120	Sanyo	
										LC3664A	TI	55
	150						5	28		AT3864L-15	ATMEL	
		CMOS					5	28		EDH8808ACL-15MHR †	EDI	
										EDI8810H150B †	EDI	
										EDI8810150B †	EDI	
										HM65642 †	Harris	60
										HM65642B †	Harris	
										HM6264A-15 •	Hitachi	
										HM6264AL-15 •	Hitachi	
										MSM5165L-15	OKI	
										SRM2064C-15	S-MOS	65

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   •Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device		Source
8Kx8	150	CMOS					5	28				(Cont'd)
										TMS6264-15		TI
										TMS6264L-15		TI
					0.1	40	5	28	Low Power	GM76C88L-15		GoldStar
					6	55	5	28		DS1643-15		Dallas
			TTL				5	28		IDT7164L-150B	°†	IDT
										IDT7164S-150B	°†	IDT
					3	40	5	28		AT3864L-15MB	†	ATMEL
						50	5	28		MSM5165AL-15		OKI
					5		5	28		HM6265L-150		Hualon Micro
				Common	2	50	5	28		HY6264A-15		Hyundai
			TTL/CMOS		0.25	20	5	28		HM65642/883	†	Harris
					5	20	5	28		HM65642-9		Harris
	200	CMOS					5	28		EDH8808ACL-20MHR	†	EDI
										HM65642C	†	Harris
										HM6264A-20	°	Hitachi
										HM6264AL-20	°	Hitachi
			TTL				5	28		IDT7164L-200B	°†	IDT
										IDT7164S-200B	°†	IDT
					3	35	3	28		AT38LV64-20C	ℓ	ATMEL
	250	CMOS					3	28		DS2064		Dallas
							5	28		MK48Z09B-25		SGS-Thomson
8Kx9	12	BiCMOS										
			TTL			170	5	28		IDT71B569S-12		IDT
						180	5	28		IDT71B69S-12		IDT
	15	BiCMOS										
			TTL			170	5	28		IDT71B569S-15		IDT
						190	5	28		IDT71B569S-15B	†	IDT
						180	5	28		IDT71B69S-15		IDT
										IDT71B69S-15B	†	IDT
		CMOS					5	28		M5M5179-15		Mitsubishi
		TTL					5	28		M5M5179A-15		Mitsubishi
	20	BiCMOS										
			TTL			150	5	28		IDT71B569S-20		IDT
						170	5	28		IDT71B569S-20B	†	IDT
						180	5	28		IDT71B69S-20		IDT
						190	5	28		IDT71B69S-20B	†	IDT
		CMOS					5	28		M5M5179-20		Mitsubishi
										MK48H99-20		SGS-Thomson
			TTL		0.2	80	5	28	High Speed	IDT71569L-20		IDT
										IDT7169L-20		IDT
					15	90	5	28	High Speed	IDT71569S-20		IDT
										IDT7169S-20		IDT
					35	130	5	28		MCM6265-20	°	Motorola
				Common	30	120	5	28		M5M5179B-20		Mitsubishi
	25	CMOS					5	28		M5M5179-25		Mitsubishi
										MK45H08-25		SGS-Thomson
			TTL		0.2	80	5	28	High Speed	IDT71569L-25		IDT
										IDT7169L-25		IDT
					1	90	5	28	High Speed	IDT71569L-25B		IDT
						100	5	28	High Speed	IDT7169L-25B	†	IDT
					15	90	5	28	High Speed	IDT71569S-25		IDT
										IDT7169S-25		IDT
					20	100	5	28	High Speed	IDT71569S-25B		IDT
						110	5	28	High Speed	IDT7169S-25B	†	IDT
					30	120	5	28		MCM6265-25	°	Motorola
	30	CMOS					5	28		MK48H99-30		SGS-Thomson
	35	CMOS					5	28		EDI8908C35B	†	EDI
										EDI8908L35B	†	EDI
										EDI8908P35B	†	EDI
										MK45H08-35		SGS-Thomson
			TTL		0.2	80	5	28	High Speed	IDT7169L-35		IDT
					1	90	5	28	High Speed	IDT71569L-35B		IDT
										IDT7169L-35B	†	IDT

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   •Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx9	35	CMOS	TTL								(Cont'd)	
					15	90	5	28	High Speed	IDT7169S-35	IDT	
					20	100	5	28	High Speed	IDT71569S-35B	IDT	
										IDT7169S-35B	† IDT	
		TTL					5	28		MB81C79A	Fujitsu	
	40	CMOS					5	28		MK48H99-40	SGS-Thomson	5
	45	CMOS					5	28		EDI8908C45B	† EDI	
			TTL		1	90	5	28	High Speed	IDT7169L-45B	† IDT	
					20	100	5	28	High Speed	IDT7169S-45B	† IDT	
	50	CMOS					5	28		MK45H08-50	SGS-Thomson	
	55	CMOS					5	28		EDI8908C55B	† EDI	10
			TTL		1	90	5	28	High Speed	IDT7169L-55B	† IDT	
					20	100	5	28	High Speed	IDT7169S-55B	† IDT	
	65	CMOS					5	28		MK45H08-65	SGS-Thomson	
	70	CMOS					5	28		EDI8908C70B	† EDI	
										EDI8908L70B	EDI	15
										EDI8908P70B	† EDI	
	120	CMOS					5	28		MK45H08-12	SGS-Thomson	
8Kx16	45	CMOS	TTL/CMOS		0.1	180	5	52		CXK59288-45	Sony	
8Kx20	15	BiCMOS					5	68	For use with R3000	µPD46741-15	NEC	
	20	BiCMOS					5	68	For use with R3000	µPD46741-20	NEC	20
	30	CMOS	TTL		15	185	5	52		MCM62820-30	° Motorola	
8Kx16	30	CMOS	TTL		0.1	180	5	52		CXK7701-30	Sony	
	35	CMOS	TTL		0.1	180	5	52		CXK7701-35	Sony	
	45	CMOS	TTL/CMOS		0.1	180	5	52		CXJ7701-45	Sony	
	55	CMOS	TTL/CMOS	Common	6	160	5	40		UT6M628-55	‡ UTMC	25
	70	CMOS	TTL/CMOS	Common	6	160	5	40		UT6M628-70	‡ UTMC	
	85	CMOS	TTL/CMOS	Common	6	160	5	40		UT6M628-85	‡ UTMC	
8Kx20	17	CMOS	TTL		15	280	5	52		MCM62820A-17	Motorola	
	23	CMOS	TTL		15	240	5	52		MCM62820-23	° Motorola	
										MCM62820A-23	Motorola	30
8Kx24	20	CMOS	TTL		15	260	5	52		MCM56824A-20	Motorola	
	25	CMOS	TTL		15	250	5	52		MCM56824-25	° Motorola	
						220	5	52		MCM56824A-25	Motorola	
	35	CMOS	TTL		15	180	5	52		MCM56824-35	° Motorola	
										MCM56824A-35	Motorola	35
8Kx8	8	BiCMOS	TTL		120	185	5	28		MCM6764A-8	Motorola	
	9	BiCMOS	TTL		50	150	5	28		CY7B185-9C	Cypress	
	10	BiCMOS	TTL		45	145	5	28		CY7B185-10C	Cypress	
					10	155	5	28		TC55B88-10	Toshiba	
					30	155	5	28		TC55B88-10	Samsung	40
					60	155	5	28		CY7B185-10M	† Cypress	
					110	175	5	28		MCM6764A-10	Motorola	
		CMOS					5	28		MSM88-10	Mosaic Semi	
				Common	0.05	50	5	28		HY6264ALL-10	Hyundai	
			TTL	Common	40	140	5	28		M628008-10	SGS-Thomson	45
	12	BiCMOS					5	28		CY7B185-12C	Aspen	
					40	140	5	28		CY7B185-12C	Cypress	
										CY7B186-12C	Cypress	
			TTL		10	155	5	28		TC55B88-12	Toshiba	
					30	155	5	28		TC55B88-12	Samsung	50
					55	150	5	28		CY7B185-12M	† Cypress	
		CMOS					5	28		MSM88-12	Mosaic Semi	
			TTL		25	145	5	28		IS61C64AH-12	ISSI	
					40	140	5	28		CY7C185-12C	Cypress	
					45	150	5	28		MCM6264C-12	Motorola	55
				Common			5	28		P4C164-12	Performance	
					40	140	5	28		M628008-12	SGS-Thomson	
	15	BiCMOS			40	135	5	28		CY7B185-15C	Cypress	
										CY7B186-15C	Cypress	
					50	145	5	28		CY7B185-15M	† Cypress	60
										CY7B186-15M	† Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	15										(Cont'd)	
		CMOS					5	28		M5M5178B-15	Mitsubishi	
								32		MSM88-15	Mosaic Semi	
								28		P4C164-15C	Performance	
			TTL		0.2	100	5	28		IDT7164L-15	IDT	
					20	135	5	28		IS61C64AH-L15	ISSI	5
					25	135	5	28		TC5588-15	Toshiba	
					40	130	5	28		CY7C185-15C	Cypress	
						170	5	28		CY7C185A-15M	† Cypress	
						140	5	28		MCM6264-15	° Motorola	
										MCM6264C-15	Motorola	10
				Common	20	120	5	28		µPD4368-15	NEC	
					25	120	5	28		CXK5866-15	Sony	
					35	130	5	28		KM6865B-15	Samsung	
					40	120	5	28		M628008-15	SGS-Thomson	
	20	CMOS					5	28		M5M5178A-20	Mitsubishi	15
										MS6264A-20	**Mosel-Vitelic (3697)**	
										MS6264A-35	**Mosel-Vitelic (3697)**	
										P4C164-20C	Performance	
					20	110	5	28		CY7C185-20C	° Cypress	
						120	5	28		CY7C186-20C	Cypress	20
					40	135	5	28		CY7C185A-20M	°† Cypress	
			TTL		20	120	5	28		IS61C64AH-20	ISSI	
					25	115	5	28		TC5588-20	Toshiba	
					35	130	5	28		MCM6264C-20	Motorola	
				Common	20	120	5	28		µPD4368-20	NEC	25
					25	90	5	28		CXK5863A-20	Sony	
						100	5	28		CXK5866-20	Sony	
					30	120	5	28		M5M5180A-20	Mitsubishi	
					35	120	5	28		KM6865B-20	Samsung	
					40	120	5	28		M628008-20	SGS-Thomson	30
	25	CMOS					5	28		**MS6264A-25**	**Mosel-Vitelic (3697)**	
										MS6264AL-25	Mosel-Vitelic	
										P4C164-25M	† Performance	
										P4C164L-25M	† Performance	
					20	100	5	28		CY7C185-25C	° Cypress	35
										CY7C186-25C	° Cypress	
					40	125	5	28		CY7C185A-25M	°† Cypress	
			TTL		6	90	3	28		IS61EV64-25	ℓ ISSI	
							3.3	28		IS61LV64-25	ℓ ISSI	
					20	110	5	28		IS61C64AH-25	ISSI	40
					25	115	5	28		TC5588-25	Toshiba	
					30	120	5	28		MCM6264-25	Motorola	
										MCM6264C-25	Motorola	
				Common			3.3	28		M5M5178B-25V	Mitsubishi	
					25	90	5	28		CXK5863-25	Sony	45
										CXK5863A-25	Sony	
										CXK5863B-25	Sony	
					30	120	5	28		M5M5178A-25	Mitsubishi	
										M5M5180A-25	Mitsubishi	
					35	110	5	28		KM6865B-25	Samsung	50
			TTL/CMOS		0.02	0.45	5	36		HC6364/2SHCC	‡ Honeywell	
	30	CMOS	TTL		6	80	3	28		IS61EV64-30	ℓ ISSI	
							3.3	28		IS61LV64-30	ℓ ISSI	
				Common	25	90	5	28		CXK5863-30	Sony	
										CXK5863A-30	Sony	55
										CXK5863B-30	Sony	
	35	CMOS					5	28		MS6264AL-35C	Mosel-Vitelic	
										P4C164L-35M	† Performance	
					20	100	5	28		CY7C185-35C	° Cypress	
										CY7C186-35C	° Cypress	60
					30	125	5	28		CY7C185A-35M	°† Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	35	CMOS									(Cont'd)	
			TTL				5	24		MK48S74-35	SGS-Thomson	
					6	70	3	28		IS61EV64-35	ℓ ISSI	
							3.3	28		IS61LV64-35	ℓ ISSI	
					25	115	5	28		TC5588-35	Toshiba	
										TC5589-35	Toshiba	5
					30	110	5	28		MCM6264C-35	Motorola	
				Common			5	28		M5M5178A-35	Mitsubishi	
							3.3	28		M5M5178B-35V	ℓ Mitsubishi	
					25	90	5	28		CXK5863-35	Sony	
										CXK5863B-35	Sony	10
	45	CMOS					5	28		P4C164L-45M	† Performance	
					20	100	5	28		CY7C186-45C	° Cypress	
					30	125	5	28		CY7C185A-45M	°† Cypress	
			TTL/CMOS			0.45	5	36		HX6364	‡ Honeywell	
	50	CMOS			4	90	5	28		HS65647RH	‡ Harris	15
	55	CMOS					5	28		CY7C186-55C	° Cypress	
										MSM88-55	Mosaic Semi	
										UT67164-55	‡ **UTMC (3845)**	
	70	CMOS					5	28		MSM88-70	Mosaic Semi	
					3	125	5	28		MK48Z08-70	SGS-Thomson	20
										MK48Z09-70	SGS-Thomson	
										MK48Z18-70	SGS-Thomson	
										MK48Z19-70	SGS-Thomson	
				Common	0.1	50	5	28		HY6264AL-70	Hyundai	
			TTL		2	55	5	28		KM6264B-7	Samsung	25
										KM6264B-7L	Samsung	
					3	85	5	28		MS6264L-70C	Mosel-Vitelic	
						50	5	28		LH5268ALL-70L	Sharp	
					15	90	5	28		**MS6264-70C**	**Mosel-Vitelic (3697)**	
				Common	2	50	5	28		HY6264A-70	Hyundai	30
										CXK5864B-70L	Sony	
										CXK5864B-70LL	Sony	
										CXK5864C-70LL	Sony	
			TTL/CMOS		2	120	5	28		CXK5864-70	Sony	
	80	CMOS	TTL		3	60	5	28		MS6264C-80	Mosel-Vitelic	35
					10	55	5	28		**LH5168-80L**	**Sharp (3764)**	
	85	CMOS					5	32		MSM88-85	Mosaic Semi	
	100	CMOS					5	28	Refurbished	**6264-100**	**Krueger (3663)**	
										6264LP-100	**Krueger (3663)**	
										BR6265	ROHM	40
					3	80	5	28		MKI48Z18-10	SGS-Thomson	
										MK48T18-10	SGS-Thomson	
						125	5	28		MK48Z08-10	SGS-Thomson	
										MK48Z09-10	SGS-Thomson	
										MK48Z18-10	SGS-Thomson	45
										MK48Z19-10	SGS-Thomson	
				Common	0.1	50	5	28		HY6264AL-10	Hyundai	
			TTL		0.01	45	5	28		**MS6265-100**	**Mosel-Vitelic (3697)**	
					0.1	50	3.3	28		**MS6264N-10**	ℓ **Mosel-Vitelic (3697)**	
					2	45	5	28		KM6264B-10	Samsung	50
										KM6264B-10L	Samsung	
					3	35	5	28		AT3864L-10C	ATMEL	
										AT3864L-10I	ATMEL	
						60	5	28	Three State	MS6264C-10	Mosel-Vitelic	
						85	5	28		MS6264L-100C	Mosel-Vitelic	55
						50	5	28		**LH5268ALL-100L**	**Sharp (3764)**	
					15	90	5	28		**MS6264-10C**	**Mosel-Vitelic (3697)**	
				Common	2	50	5	28		HY6264A-10	Hyundai	
										CXK5864B-10L	Sony	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	100	CMOS	TTL	Common	2	50	5	28			(Cont'd)	
										CXK5864B-10LL	Sony	
										CXK5864C-10LL	Sony	
	120	CMOS					5	28	Refurbished	**6264-120**	**Krueger (3663)**	
										6264LP-120	**Krueger (3663)**	
				Common	0.1	50	5	28		HY6264AL-12	Hyundai	5
			TTL		3	35	5	28		AT3864L-12C	ATMEL	
										AT3864L-12I	ATMEL	
				Common	2	50	5	28		HY6264A-12	Hyundai	
										CXK5864B-12L	Sony	
										CXK5864B-12LL	Sony	10
	150	CMOS					5	28	Refurbished	**6264-150**	**Krueger (3663)**	
										6264LP-150	**Krueger (3663)**	
					3	80	5	28		MK48T18-15	SGS-Thomson	
			TTL		3	35	5	28		AT3864L-15C	ATMEL	
										AT3864L-15I	ATMEL	15
						40	5	28		AT3864L-15M	ATMEL	
						60	5	28	Three State	MS6264C-15	Mosel-Vitelic	
	200	CMOS	TTL		5	20	3	28		**LH5168Z8**	ℓ **Sharp (3764)**	
	260	CMOS	TTL		5	20	3	28		**LH5168Z9**	ℓ **Sharp (3764)**	
	500	CMOS	TTL		5	20	5	28		**LH5168SH**	**Sharp (3764)**	20
							3	28		**LH5168ST**	**Sharp (3764)**	
					10	50	5	28		LH5168SH-50	Sharp	
8Kx9	8	BiCMOS	TTL		120	185	5	28		MCM6765A-8	Motorola	
	10	BiCMOS	TTL		110	175	5	28		MCM6765A-10	Motorola	
	12	CMOS	TTL		45	150	5	28		MCM6265C-12	Motorola	25
	15	CMOS	TTL		25	135	5	28		TC5589-15	Toshiba	
					40	140	5	28		MCM6265-15	• Motorola	
										MCM6265C-15	Motorola	
				Common	20	120	5	28		µPD4369-15	NEC	
					25	120	5	28		CXK5972-15	Sony	30
					30	120	5	28		M5M5179B-15	Mitsubishi	
	20	CMOS					5	28		P4C163-20C	Performance	
			TTL		25	115	5	28		TC5589-20	Toshiba	
					35	150	5	28		CY7C182-20C	Cypress	
						130	5	28		MCM6265C-20	Motorola	35
				Common	20	120	5	28		µPD4369-20	NEC	
					25	100	5	28		CXK5972-20	Sony	
					30	120	5	28		M5M5179A-20	Mitsubishi	
	25	CMOS					5	28		P4C163-25C	Performance	
										P4C163-25M	† Performance	40
										P4C163L-25M	† Performance	
										CXK5971-25	Sony	
					35	140	5	28		CY7C182-25C	Cypress	
			TTL		25	115	5	28		TC5589-25	Toshiba	
					30	120	5	28		MCM6265C-25	Motorola	45
				Common	25	90	5	28		CXK5971A-25	Sony	
					30	120	5	28		M5M5179A-25	Mitsubishi	
	30	CMOS					5	28		CXK5971-30	Sony	
			TTL	Common	25	90	5	28		CXK5971A-30	Sony	
	35	CMOS					5	28		P4C163-35C	Performance	50
										P4C163-35M	† Performance	
										P4C163L-35M	† Performance	
										CXK5971-35	Sony	
					35	140	5	28		CY7C182-35C	Cypress	
			TTL		30	110	5	28		MCM6265-35	Motorola	55
										MCM6265C-35	Motorola	
				Common	25	120	5	28		M5M5179-35	Mitsubishi	
						90	5	28		CXK5971A-35	Sony	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx9											(Cont'd)	
	45	CMOS					5	28		P4C163-45M	† Performance	
										P4C163L-45M	† Performance	
					35	140	5	28		CY7C182-45C	Cypress	
			TTL	Common	25	120	5	28		M5M5179-45	Mitsubishi	
	55	CMOS	TTL	Common	25	120	5	28		M5M5179-55	Mitsubishi	5
12Kx8	45	CMOS			15	100	5	28		MS6397-45	Mosel-Vitelic	
	70	CMOS			15	100	5	28		MS6397-70	Mosel-Vitelic	
	100	CMOS			15	100	5	28		MS6397-10	Mosel-Vitelic	
16Kx1	8	CMOS	TTL	Common	55	160	5	24		MT5C1601-8	MicronSemi	
	10	CMOS					5	20		ATT7C167-10	AT&T	10
			TTL	Common	50	150	5	20		MT5C1601-10	MicronSemi	
	12	CMOS					5	20		ATT7C167-12	AT&T	
										L7C167-12	† LogicDev	
			TTL				5	20		IDT6167LA-12	°‡ IDT	
					10	90	5	20		IDT6167SA-12	°‡ IDT	15
				Common	45	140	5	20		MT5C1601-12	MicronSemi	
	15	CMOS					5	20		ATT7C167-15	AT&T	
										IS61C67-15	ISSI	
										L7C167-15	† LogicDev	
			TTL		0.9	55	5	20		IDT6167LA-15	°‡ IDT	20
					2	60	5	20		IDT6167LA-15B	IDT	
					5	90	5	20		IDT6167SA-15	°‡ IDT	
					10	90	5	20		IDT6167SA-15B	IDT	
				Common	40	120	5	20		MT5C1001-15	MicronSemi	
								24		MT5C1601-15	MicronSemi	25
	20	CMOS					5	20		ATT7C167-20	AT&T	
										IS61C67-20	ISSI	
										L7C167-20	† LogicDev	
										MK41H66-20	† SGS-Thomson	
										MK41H67-20	† SGS-Thomson	30
			TTL		0.9	55	5	20		IDT6167LA-20	° IDT	
					2	60	5	20		IDT6167LA-20B	°‡ IDT	
					5	90	5	20		IDT6167SA-20	° IDT	
					10	90	5	20		IDT6167SA-20B	°‡ IDT	
				Common	40	110	5	20		MT5C1601-20	MicronSemi	35
	25	CMOS					5	20		IS61C67-25	ISSI	
										L7C167-25	† LogicDev	
										MK41H66-25	† SGS-Thomson	
										MK41H67-25	† SGS-Thomson	
			TTL			60	5	20		CY7C167-25C	Cypress	40
					0.05	55	5	20		IDT6167LA-25	° IDT	
					2	60	5	20		IDT6167LA-25B	°† IDT	
					5	90	5	20		IDT6167SA-25	° IDT	
					10	90	5	20		IDT6167SA-25B	°† IDT	
		TTL					5	20		MT5C1601-25	MicronSemi	45
	35	CMOS					5	20		L7C167-35	† LogicDev	
										V61C67-35	Mosel-Vitelic	
										IMS1403-35	SGS-Thomson	
										IMS1403-35LM	† SGS-Thomson	
										IMS1403-35M	SGS-Thomson	50
								20		MK41H66-35	† SGS-Thomson	
										MK41H67-35	† SGS-Thomson	
			TTL			60	5	20		CY7C167-35C	Cypress	
					0.05	55	5	20		IDT6167LA-35	° IDT	
					0.9	60	5	20		IDT6167LA-35B	°† IDT	55
					5	90	5	20		IDT6167SA-35	° IDT	
					10	90	5	20		IDT6167SA-35B	°† IDT	
		NMOS					5	20		AM2167-35	AMD	
			TTL		20	120	5	20	Refurbished	2167-35	Krueger	
	40						5	20		MAS9167	GEC Plessey	60
		CMOS					5	20		V61C67-40	Mosel-Vitelic	
	45	CMOS					5	20		HM6267-45	Hitachi	
									Refurbished	6167H-45	Krueger	
										V61C67-45	Mosel-Vitelic	
										IMS1403-45	SGS-Thomson	65
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx1	45	CMOS					5				(Cont'd)	
										IMS1403-45LM	† SGS-Thomson	
										IMS1403-45M	SGS-Thomson	
			TTL			50	5	20		CY7C167-45C	Cypress	
										CY7C167-45M	† Cypress	
					0.9	60	5	20		IDT6167LA-45B	°† IDT	5
					10	90	5	20		IDT6167SA-45B	°† IDT	
		NMOS					5	20		AM2167-45	AMD	
			TTL		20	120	5	20	Refurbished	2167-45	Krueger	
	55	CMOS					5	20		HM65262C	Harris	
									Refurbished	6167H-55	Krueger	10
										IMS1403-55LM	† SGS-Thomson	
			TTL		0.9	60	5	20		IDT6167LA-55B	°† IDT	
					10	90	5	20		IDT6167SA-55B	°† IDT	
		NMOS					5	20		AM2167-55	AMD	
	70	CMOS					5	20		HM65262B	Harris	15
										V61C67-70	Mosel-Vitelic	
			TTL		0.05	50	5	20		HM65262B-9	Harris	
					0.9	60	5	20		IDT6167LA-70B	°† IDT	
					10	90	5	20		IDT6167SA-70B	† IDT	
					20	60	5	20	Refurbished	6167-70	Krueger	20
		NMOS					5	20		AM2167-70	AMD	
			TTL		20	120	5	20	Refurbished	2167-70	Krueger	
	80	TTL					5	24		HC6167	‡ Honeywell	
	85	CMOS					5	20		HM65262	Harris	
			TTL		0.05	50	5	20		HM65262-9	Harris	25
										HM65262/883	† Harris	
					0.9	50	5	20		HM65262C-9	Harris	
						60	5	20		IDT6167LA-85B	°† IDT	
					10	90	5	20		IDT6167SA-85B	°† IDT	
	100	CMOS	TTL		0.9	60	5	20		IDT6167LA-100B	°† IDT	30
					10	90	5	20		IDT6167SA-100B	°† IDT	
					20	60	5	20	Refurbished	6167-100	Krueger	
	120	CMOS					5	24		MA6167SOS	GEC Plessey	
16Kx4	7	BiCMOS					−5.2	28		SC5494-7	Silicon Conn	
		ECL 10K/10KH					−5.2	28		CY10E494-7C	Aspen	35
		10K/10KH ECL					−5.2	28		CY101E494-7C	Aspen	
	8	BiCMOS					−4.5	28		IDT100494	IDT	
							−5.2	28		SC5494-8	Silicon Conn	
			TTL				5	28		CY7B160-8C	Cypress	
						200	5	24		IDT61B98S-8	IDT	40
								22		IDT71B88S-8	IDT	
								24		IDT71B98S-8	IDT	
		CMOS	TTL	Common	55	160	5	24		MT5C6405-8	MicronSemi	
				Separate	55	160	5	24		MT5C6404-8	MicronSemi	
		ECL 10K					−5.2	28		IDT10494S-8	IDT	45
		ECL 100K					−4.5	28		IDT100494S-8	IDT	
		100K ECL				−180	−4.5	28		CY100E494-8C	Cypress	
	10	BiCMOS					5	28		CY7B161-10C	Aspen	
										CY7B162-10C	Aspen	
								22		CY7B164-10C	Aspen	50
								28		CY7B160-10C	Cypress	
							−4.5	28		IDT100494	IDT	
										IDT100494S10C	IDT	
							−5.2	28		IDT10494S10C	IDT	
										SC5494-10	Silicon Conn	55
			TTL			180	5	24		IDT61B98S-10	IDT	
						190	5	24		IDT61B98S-10B	† IDT	
						180	5	22		IDT71B88S-10	IDT	
						190	5	22		IDT71B88S-10B	† IDT	
						180	5	24		IDT71B98S-10	IDT	60
						190	5	24		IDT71B98S-10B	† IDT	
					40	130	5	28		CY7B160-10M	Cypress	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	10										(Cont'd)	
		CMOS					5	28		ATT7C162-10	AT&T	
								22		ATT7C164-10	AT&T	
										ATT7C166-10	AT&T	
			TTL	Common	50	150	5	22		MT5C6404-10	MicronSemi	
								24		MT5C6405-10	MicronSemi	5
					60	145	5	22		QS8888-10	Quality Semi	
				Separate	20	160	5	28		CY7C162-10C	Cypress	
					40	160	5	28		CY7C161-10C	Cypress	
		ECL 10K					–5.2	28		IDT10494S-10	IDT	
								32		IDT10496LL-13	IDT	10
										IDT10496RL-13	IDT	
								28		NM10494-10	National	
		ECL 10K/10KH					–5.2	28		CY10E494-10C	Aspen	
		ECL 100K					–4.5	28		IDT100494S-10	IDT	
								32		IDT100496LL-13	IDT	15
										IDT100496RL-13	IDT	
		10K/10KH ECL					–5.2	28		CY101E494-10C	Aspen	
		100K ECL				–180	–4.5	28		CY100E494-10C	Cypress	
	12	BiCMOS					5	28		CY7B160-12C	Aspen	
										CY7B161-12C	Aspen	20
										CY7B162-12C	Aspen	
								22		CY7B164-12C	Aspen	
								28		CY7B160-12C	Cypress	
										CY7B160-12M	† Cypress	
			TTL			160	5	24		IDT61B98S-12	IDT	25
						170	5	24		IDT61B98S-12B	† IDT	
						160	5	22		IDT71B88S-12	IDT	
						170	5	22		IDT71B88S-12B	† IDT	
						160	5	24		IDT71B98S-12	IDT	
						170	5	24		IDT71B98S-12B	† IDT	30
		CMOS					5	28		ATT7C162-12	AT&T	
								22		ATT7C164-12	AT&T	
										ATT7C166-12	AT&T	
			TTL		40	170	5	24		CY7C164A-12M	† Cypress	
										CY7C166A-12M	† Cypress	35
				Common			5	22		P4C188-12	Performance	
					45	140	5	22		MT5C6404-12	MicronSemi	
								24		MT5C6405-12	MicronSemi	
					60	135	5	22		QS8888-12	Quality Semi	
					70	155	5	24		QS8888-12B	† Quality Semi	40
				Separate	40	160	5	28		CY7C162-12C	Cypress	
						170	5	28		CY7C162A-12M	† Cypress	
		ECL 10K					–5.2	28		IDT10497S-12	IDT	
								32		IDT10498S-12	IDT	
								28		NM10494-12	National	45
		ECL 10K/10KH					–5.2	28		CY10E494L-12C	Aspen	
		ECL 100K					–4.5	28		IDT100497S-12	IDT	
										IDT100498S-12	IDT	
		100K ECL					–5.2	28		CY100E494L-12C	Aspen	
	15	BiCMOS					5	28		CY7B160-15C	Aspen	50
										CY7B160-15M	† Aspen	
										CY7B161-15M	† Aspen	
										CY7B162-15M	† Aspen	
								22		CY7B164-15M	† Aspen	
								24		CY7B166-15M	† Aspen	55
								28		CY7B160-15C	Cypress	
										CY7B160-15M	† Cypress	
							–4.5	28		IDT100494	IDT	
										IDT100494S15C	IDT	
							–5.2	28		IDT10494S15B	† IDT	60
										IDT10494S15C	IDT	
							5	22		TMS6788-15	TI	
								24		TMS6789-15	TI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	15	BiCMOS									(Cont'd)	
			TTL			170	5	24		IDT61B98S-15B	† IDT	
								22		IDT71B88S-15B	† IDT	
								24		IDT71B98S-15B	† IDT	
		CMOS					5	28		ATT7C162-15	AT&T	
								22		ATT7C164-15	AT&T	5
										ATT7C166-15	AT&T	
								28		IS61C62-15	ISSI	
								24		IS61C88S-15	ISSI	
										M5M5188-15	Mitsubishi	
								22		MCM6288B-15	° Motorola	10
								24		MCM6290B-15	° Motorola	
								28		VT6285HL-15	VLSI Tech	
			TTL				5	28		IDT71982L-15	°‡ IDT	
					1.5	70	5	24		IDT6198L-15	‡ IDT	
						75	5	22		IDT7188L-15	°‡ IDT	15
								24		IDT7198L-15	°‡ IDT	
								28		IDT71981L-15	‡ IDT	
					20	110	5	24		IDT6198S-15	‡ IDT	
						90	5	22		IDT7188S-15	°‡ IDT	
								24		IDT7198S-15	°‡ IDT	20
								28		IDT71981S-15	‡ IDT	
										IDT71982S-15	°‡ IDT	
					40	140	5	22		MCM6290-15	° Motorola	
					60	125	5	24		QS8886-15	Quality Semi	
				Common	40	120	5	22		MT5C6404-15	MicronSemi	25
								24		MT5C6405-15	MicronSemi	
					60	125	5	24		QS8888-15	Quality Semi	
					70	145	5	24		QS8888-15B	† Quality Semi	
				Separate	40	160	5	28		CY7C161A-15M	Cypress	
										CY7C162A-15M	† Cypress	30
		ECL 10K					−5.2	28		IDT10494S-15	IDT	
										IDT10494S-15B	† IDT	
										IDT10497S-15	IDT	
										IDT10498S-15	IDT	
										NM10494-15	National	35
		ECL 100K					−4.5	28		IDT100494S-15	IDT	
										IDT100497S-15	IDT	
										IDT100498S-15	IDT	
										NM100494-15	National	
	18	ECL 100K					−4.5	28		NM100494-18	National	40
	19	CMOS					5	24		IDT6198L-19	IDT	
										IDT6198S-19	IDT	
	20	BiCMOS					5	22		TMS6788-20	TI	
								24		TMS6789-20	TI	
		CMOS					5	28		ATT7C162-20	AT&T	45
								22		ATT7C164-20	AT&T	
										ATT7C166-20	AT&T	
								28		IS61C62-20	ISSI	
										L7C161-20	† LogicDev	
										L7C162-20	† LogicDev	50
								22		L7C164-20	† LogicDev	
								24		L7C165-20	† LogicDev	
										L7C166-20	† LogicDev	
										M5M5188-20	Mitsubishi	
										P4C198-20M	† Performance	55
			TTL		0.5	70	5	24		IDT6198L-20	‡ IDT	
								22		IDT7188L-20	°‡ IDT	
								24		IDT7198L-20	°‡ IDT	
								28		IDT71981L-20	‡ IDT	
										IDT71982L-20	°‡ IDT	60
					1.5	80	5	24		IDT6198L-20B	† IDT	
								22		IDT7188L-20B	† IDT	
								24		IDT7198L-20B	† IDT	
								28		IDT71981L-20B	† IDT	
										IDT71982L-20B	† IDT	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	20	CMOS	TTL								(Cont'd)	
					15	100	5	24		IDT6198S-20	‡ IDT	
						110	5	22		IDT7188S-20	°‡ IDT	
								24		IDT7198S-20	°‡ IDT	
								28		IDT71981S-20	‡ IDT	
										IDT71982S-20	°‡ IDT	5
					25	110	5	24		IDT6198S-20B	† IDT	
								22		IDT7188S-20B	† IDT	
								24		IDT7198S-20B	† IDT	
								28		IDT71981S-20B	† IDT	
										IDT71982S-20B	† IDT	10
					60	120	5	24		QS8886-20	Quality Semi	
				Common	15	100	5	28		51C98-20	Intel	
					40	120	5	22		MT5C6404-20	MicronSemi	
								24		MT5C6405-20	MicronSemi	
					60	120	5	24		QS8888-20	Quality Semi	15
					70	140	5	24		QS8888-20B	† Quality Semi	
		ECL 10K					−5.2	28		IDT10494S-20B	† IDT	
	25	BiCMOS					5	22		TMS6788-25	TI	
								24		TMS6789-25	TI	
		CMOS					5	22		HM6788	Hitachi	20
								28		IDT61592L-25	IDT	
										IDT61592S-25	IDT	
										IDT61593L-25	IDT	
										IDT61593S-25	IDT	
										IDT61594L-25	IDT	25
										IDT61594S-25	IDT	
										IDT61595L-25	IDT	
										IDT61595S-25	IDT	
										IS61C62-25	ISSI	
										L7C161-25	† LogicDev	30
										L7C162-25	† LogicDev	
								22		L7C164-25	† LogicDev	
								24		L7C165-25	† LogicDev	
										L7C166-25	† LogicDev	
										M5M5188-25	Mitsubishi	35
										M5M5189-25	Mitsubishi	
								22		F1620	National	
										F1620-25	National	
										F1621	National	
								24		F1621-25	National	40
										F1624	National	
										F1624-25	National	
										P4C198-25M	† Performance	
										CXK5464A-25	Sony	
										CXK5465-25	Sony	45
			TTL		0.5	70	5	24		IDT6198L-25	‡ IDT	
								22		IDT7188L-25	°‡ IDT	
								24		IDT7198L-25	°‡ IDT	
						85	5	28		IDT71981L-25	‡ IDT	
										IDT71982L-25	°‡ IDT	50
					1.5	80	5	24		IDT6198L-25B	† IDT	
								22		IDT7188L-25B	°‡ IDT	
								24		IDT7198L-25B	°‡ IDT	
						110	5	28		IDT71981L-25B	‡ IDT	
										IDT71982L-25B	°‡ IDT	55
					15	100	5	24		IDT6198S-25	‡ IDT	
								22		IDT7188S-25	°‡ IDT	
								24		IDT7198S-25	° IDT	
								28		IDT71981S-25	IDT	
										IDT71982S-25	‡ IDT	60
					20	110	5	24		IDT6198S-25B	† IDT	
						105	5	22		IDT7188S-25B	°‡ IDT	
								24		IDT7198S-25B	°‡ IDT	
						125	5	28		IDT71981S-25B	‡ IDT	
										IDT71982S-25B	°‡ IDT	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	25	CMOS	TTL								(Cont'd)	
					25	100	5	24		M5M5188A-25	Mitsubishi	
										M5M5189A-25	Mitsubishi	
					40	120	5	22		MCM6288B-25	Motorola	
										MCM6290B-25	Motorola	
					60	110	5	24		QS8886-25	Quality Semi	5
					70	135	5	24		QS8883-25B	† Quality Semi	
				Common	1	120	5	24		LH5267A-25	Sharp	
					5	150	5	24		LH52251A-25	Sharp	
					15	100	5	28		51C98-25	Intel	
					30	110	5	22		MT5C6404-25	MicronSemi	10
								24		MT5C6405-25	MicronSemi	
					60	110	5	24		QS8888-25	Quality Semi	
					70	130	5	24		QS8888-25B	† Quality Semi	
	30	BiCMOS					5	22		TMS6788-30	TI	
								24		TMS6789-30	TI	15
		CMOS					5	28		IDT61592L-30B	† IDT	
										IDT61592S-30B	† IDT	
										IDT61593L-30B	† IDT	
										IDT61593S-30B	† IDT	
										IDT61594L-30B	† IDT	20
										IDT61594S-30B	† IDT	
										IDT61595L-30B	† IDT	
										IDT61595S-30B	† IDT	
								24		IDT6198L-30	‡ IDT	
										IDT6198L-30B	† IDT	25
										IDT6198S-30	‡ IDT	
										IDT6198S-30B	† IDT	
								22		IDT7188L-30	° IDT	
										IDT7188L-30B	°‡ IDT	
										IDT7188S-30	° IDT	30
										IDT7188S-30B	°† IDT	
								24		IDT7198L-30	° IDT	
										IDT7198L-30B	°† IDT	
										IDT7198S-30	° IDT	
										IDT7198S-30B	°† IDT	35
								28		IDT71981L-30	IDT	
										IDT71981L-30B	† IDT	
										IDT71981S-30	IDT	
										IDT71981S-30B	† IDT	
										IDT71982L-30	° IDT	40
										IDT71982L-30B	°† IDT	
										IDT71982S-30	° IDT	
										IDT71982S-30B	† IDT	
								22		MCM6288-30	° Motorola	
								28		MCM6294-30	Motorola	45
								22		1620-30	† National	
										1621-30	† National	
								24		1624-30	† National	
										1625-30	† National	
										CXK5464A-30	Sony	50
										CXK5465-30	Sony	
			TTL	Common	15	100	5	28		51C98-30	Intel	
	35	CMOS					5	22		EDI8416C35B	† EDI	
								24		EDI8417C35B	† EDI	
								28		L7C161-35	† LogicDev	55
										L7C162-35	† LogicDev	
								22		L7C164-35	† LogicDev	
								24		L7C165-35	† LogicDev	
										L7C166-35	† LogicDev	
										M5M5188-35	Mitsubishi	60
										M5M5189-35	Mitsubishi	
								22		MCM62188-35	Motorola	
										MCM6295-35	Motorola	
										F1620-35	† National	
										F1620M	† National	65

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   •Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	35	CMOS					5				(Cont'd)	
								24		F1621-35	National	
								22		F1621M	† National	
								24		F1624-35	National	
										F1624M	† National	
								22		1620-35	† National	5
										1621-35	† National	
								24		1624-35	† National	
										1625-35	† National	
										P4C198-35M	† Performance	
								28		P4C1982-35C	Performance	10
								24		CXK5464A-35	Sony	
										CXK5465-35	Sony	
										CXK5465P-35	Sony	
				TTL	0.5	85	5	24		IDT6198L-35	‡ IDT	
			TTL		0.5	80	5	22		IDT7188L-35	° IDT	15
						85	5	24		IDT7198L-35	° IDT	
								28		IDT71981L-35	IDT	
										IDT71982L-35	° IDT	
					1.5	95	5	24		IDT6198L-35B	† IDT	
										IDT7198L-35B	°† IDT	20
								28		IDT71981L-35B	† IDT	
										IDT71982L-35B	°† IDT	
					15	100	5	24		IDT6198S-35	‡ IDT	
								22		IDT7188S-35	° IDT	
								24		IDT7198S-35	° IDT	25
								28		IDT71981S-35	IDT	
										IDT71982S-35	IDT	
					20	110	5	24		IDT6198S-35B	† IDT	
						95	5	22		IDT7188L-35B	°† IDT	
						110	5	22		IDT7188S-35B	°† IDT	30
								24		IDT7198S-35B	† IDT	
								28		IDT71981S-35B	† IDT	
										IDT71982S-35B	°† IDT	
					40	110	5	22		MCM6290B-35	Motorola	
				Common	1	120	5	24		LH5267A-35	Sharp	35
					5	150	5	24		LH52251A-35	Sharp	
					70	130	5	24		QS8888-35B	† Quality Semi	
	45	CMOS					5	28		CY7C161A-45C	° Cypress	
								22		CY7C164A-45C	Cypress	
										CY7C166A-45C	Cypress	40
										EDI8416C45B	† EDI	
								24		EDI8417C45B	† EDI	
										IDT6198L-45	‡ IDT	
										IDT6198S-45	‡ IDT	
								22		IDT7188L-45	° IDT	45
										IDT7188S-45	° IDT	
								24		IDT7198L-45	° IDT	
										IDT7198S-45	° IDT	
								28		IDT71981L-45	IDT	
										IDT71981S-45	IDT	50
										IDT71982L-45	° IDT	
										IDT71982S-45	° IDT	
								24		M5M5188-45	Mitsubishi	
										M5M5189-45	Mitsubishi	
								22		F1620-45	National	55
								24		F1621-45	National	
										F1624-45	National	
								22		1620-45	† National	
										1621-45	† National	
								24		1624-45	† National	60
										1625-45	† National	
								22		MSM5188-45	OKI	
								24		P4C198-45M	† Performance	
								22		IMS1620-45	° SGS-Thomson	
										IMS1620-45M	°† SGS-Thomson	65
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	45	CMOS					5			(Cont'd)		
								24		IMS1624-45	SGS-Thomson	
								28		IMS1624-45M	† SGS-Thomson	
			TTL		1.5	95	5	24		IDT6198L-45B	† IDT	
								22		IDT7188L-45B	°† IDT	
								24		IDT7198L-45B	°† IDT	5
								28		IDT71981L-45B	† IDT	
					20	110	5	24		IDT6198S-45B	† IDT	
								22		IDT7188S-45B	°† IDT	
								24		IDT7198S-45B	IDT	
								28		IDT71981S-45B	† IDT	10
						95	5	28		IDT71982L-45B	°† IDT	
						110	5	28		IDT71982S-45B	°† IDT	
					30	100	5	22		CY7C164A-45M	† Cypress	
										CY7C166A-45M	† Cypress	
				Common	1	120	5	24		LH5267A-45	Sharp	15
					5	150	5	24		LH52251A-45	Sharp	
					20	90	5	22		μPD4362-45	° NEC	
								24		μPD4363-45	NEC	
				Separate	30	100	5	28		CY7C161A-45M	°† Cypress	
	55	CMOS					5	22		EDI8416C55B	† EDI	20
										EDI8417C55B	† EDI	
								24		M5M5188-55	Mitsubishi	
										M5M5189-55	Mitsubishi	
								22		1620-55	† National	
										1621-55	† National	25
								24		1624-55	† National	
										1625-55	† National	
								22		MSM5188-55	OKI	
								24		P4C198-55M	† Performance	
								28		P4C1982L-55M	† Performance	30
								22		IMS1620-55	° SGS-Thomson	
										IMS1620-55M	°† SGS-Thomson	
								24		IMS1624-55	SGS-Thomson	
								28		IMS1624-55M	† SGS-Thomson	
			TTL		1.5	95	5	24		IDT6198L-55B	† IDT	35
								22		IDT7188L-55B	°† IDT	
								24		IDT7198L-55B	°† IDT	
								28		IDT71981L-55B	† IDT	
										IDT71982L-55B	°† IDT	
					20	110	5	24		IDT6198S-55B	† IDT	40
								22		IDT7188S-55B	°† IDT	
								24		IDT7198S-55B	°† IDT	
								28		IDT71981S-55B	† IDT	
										IDT71982S-55B	°† IDT	
				Common	20	90	5	22		μPD4362-55	° NEC	45
								24		μPD4363-55	NEC	
	70	CMOS					5	22		1620-70	† National	
										1621-70	† National	
								24		1624-70	† National	
										1625-70	† National	50
								22		MSM5188-70	OKI	
										IMS1620-70M	°† SGS-Thomson	
								24		IMS1624-70	SGS-Thomson	
								28		IMS1624-70M	† SGS-Thomson	
			TTL		1.5	95	5	24		IDT6198L-70B	† IDT	55
								22		IDT7188L-70B	°† IDT	
								24		IDT7198L-70B	°† IDT	
								28		IDT71981L-70B	† IDT	
										IDT71982L-70B	°† IDT	
					20	110	5	24		IDT6198S-70B	† IDT	60
								22		IDT7188S-70B	°† IDT	
								24		IDT7198S-70B	°† IDT	
								28		IDT71981S-70B	† IDT	
										IDT71982S-70B	°† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
16Kx4	70	CMOS	TTL	Common	20	90	5	22		µPD4362-70	° NEC	
								24		µPD4363-70	NEC	
	85	CMOS	TTL		1.5	95	5	24		IDT6198L-85B	† IDT	
								22		IDT7188L-85B	°† IDT	
								24		IDT7198L-85B	°† IDT	5
								28		IDT71981L-85B	† IDT	
										IDT71982L-85B	°† IDT	
					20	110	5	24		IDT6198S-85B	† IDT	
								22		IDT7188S-85B	°† IDT	
								24		IDT7198S-85B	°† IDT	10
								28		IDT71981S-85B	† IDT	
										IDT71982S-85B	°† IDT	
16Kx8	45	CMOS					5	58		IDT7M135S-45	°‡ IDT	
										IDT7M145S-45	‡ IDT	
	60	CMOS					5	58		IDT7M145S-60	‡ IDT	15
16Kx10	15	BiCMOS					5	52	For use with R3000	µPD46710-15	NEC	
	20	BiCMOS					5	52	For use with R3000	µPD46710-20	NEC	
16Kx16	17	CMOS					5	52		EDI2816017C	EDI	
										EDI28165C17C	EDI	
										MT5C2516-17	MicronSemi	20
										MCM62990FN17	Motorola	
										MCM62995FN17	Motorola	
	18	CMOS	TTL	Common		350	5	52		CY7C157A-18C	Cypress	
	20	CMOS					5	52		MCM62990FN20	Motorola	
										MCM62995FN20	Motorola	25
				Common	80	360	5	52		MCM62995-20	Motorola	
	24	CMOS		Common	70	290	5	52		MCM62157-24	Motorola	
	25	CMOS					5	52		EDI28160C25C	EDI	
				Common	80	360	5	52		MCM62995-25	Motorola	
	35	CMOS					5	36		EDH816H16C-35C	EDI	30
	45	CMOS					5	36		EDH816H16C-45C	EDI	
	50						5	40		IDT8M656S-50	IDT	
	60						5	40		IDT8M656S-60	IDT	
	70						5	40		IDT8M656S-70	IDT	
	85						5	40		IDT8M656S-85	IDT	35
16Kx25	25	CMOS					5	52		EDI28165C25C	EDI	
16Kx32	30	CMOS					5	88		IDT7MC4032-30	‡ IDT	
16Kx1	6	ECL 10K					-5.2			**SY10480-6**	**Synergy (3807)**	
		ECL 100K				-30	-4.5			**SY100480-6**	**Synergy (3807)**	
		ECL 101K					-5.2			**SY101480-6**	**Synergy (3807)**	40
	8	ECL 10K					-5.2			**SY10480-8**	**Synergy (3807)**	
		ECL 100K					-4.5			**SY100480-8**	**Synergy (3807)**	
		ECL 101K					-5.2			**SY101480-8**	**Synergy (3807)**	
	10	ECL				-260	-5.2	20	100K ECL	µPB100480-10	NEC	
									10K ECL	µPB10480-10	NEC	45
		ECL 10K					-5.2			**SY10480-10**	**Synergy (3807)**	
		ECL 100K					-4.5			**SY100480-10**	**Synergy (3807)**	
		ECL 101K					-5.2			**SY101480-10**	**Synergy (3807)**	
	15	CMOS	TTL			90	5	20		CY7C167A-15C	Cypress	
		ECL				-240	-5.2	20	100K ECL	µPB100480-15	NEC	50
									10K ECL	µPB10480-15	NEC	
	20	CMOS	TTL			80	5	20		CY7C167A-20C	Cypress	
										CY7C167A-20M	† Cypress	
	25	CMOS	TTL			60	5	20		CY7C167A-25C	Cypress	
						70	5	20		CY7C167A-25M	† Cypress	55
	35	CMOS	TTL			60	5	20		CY7C167A-35C	Cypress	
										CY7C167A-35M	† Cypress	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
16Kx1	35	NMOS			20	120	5	20		**AM2167-35**	(Cont'd) **MSI/Scorpion (3598)**
	45	CMOS	TTL			50	5	20		CY7C167A-45M	† Cypress
		NMOS			20	120	5	20		**AM2167-45**	**MSI/Scorpion (3598)**
	55	NMOS			20	120	5	20		**AM2167-55**	**MSI/Scorpion (3598)**
	70	NMOS			20	120	5	20		**AM2167-70**	**MSI/Scorpion (3598)**
	85	CMOS					5	20		HS65C262RRH	‡ Harris
	105	CMOS	TTL			5	5	24		CMM6167	‡ Harris
	150	CMOS			0.2	6	5	20		HS65C262RH	‡ Harris
					0.5	6	5	20		HS65T262RRH	‡ Harris
16Kx16	12	CMOS		Common	50	350	5	52		MCM62990A-12 MCM62995A-12	Motorola Motorola
			TTL	Common	50	350	5	52	5V or 3.3V supplies for output buffers	MCM62996-12	Motorola
	15	CMOS		Common	50	330	5	52		MCM62990A-15 MCM62995A-15	Motorola Motorola
					70	310	5	52		MCM62157-15	Motorola
			TTL	Common	50	330	5	52	5V or 3.3V supplies for output buffers	MCM62996-15	Motorola
	17	CMOS		Common	70	300	5	52		MCM62157-17	Motorola
					80	360	5	52		MCM62990-17 MCM62995-17	Motorola Motorola
	20	CMOS		Common	50	320	5	52		MCM62990A-20 MCM62995A-20	Motorola Motorola
					80	360	5	52		MCM62990-20	Motorola
			TTL	Common		325	5	52		CY7C157A-20C	Cypress
					50	320	5	52	5V or 3.3V supplies for output buffers	MCM62996-20	Motorola
	24	CMOS	TTL	Common		300	5	52		CY7C157A-24C	Cypress
	25	CMOS		Common	50	310	5	52		MCM62990A-25 MCM62995A-25	Motorola Motorola
					80	360	5	52		MCM62990-25	Motorola
			TTL	Common	50	310	5	52	5V or 3.3V supplies for output buffers	MCM62996-25	Motorola
	33	CMOS	TTL	Common		250	5	52		CY7C157A-33C	Cypress
16Kx4	5	ECL 10K					−5.2			**SY10494-5**	**Synergy (3807)**
		ECL 100K					−4.5			**SY100494-5**	**Synergy (3807)**
		ECL 101K					−5.2			**SY101494-5**	**Synergy (3807)**
	6	ECL 10K				−30	−5.2	28		**SY10494-6**	**Synergy (3807)**
		ECL 100K				−30	−4.5	28		**SY100494-6**	**Synergy (3807)**
		ECL 101K				−30	−5.2	28		**SY101494-6**	**Synergy (3807)**
	7	ECL 100K				−30	−4.5	28		**SY100494-7** **SY10494-7**	**Synergy (3807)** **Synergy (3807)**
		ECL 101K				−30	−5.2	28		**SY101494-7**	**Synergy (3807)**
		ECL 10K				−180	−5.2			SY10494L-7	Synergy
		ECL 100K				−180	−4.5			SY100494L-7	Synergy
		ECL 101K				−180	−5.2			SY101494L-7	Synergy
		10K ECL					−5.2	28		SY10L494-7	Synergy
		100K ECL					−4.5	28		SY100L494-7	Synergy
		101K ECL					−5.2	28		SY101L494-7	Synergy
	8	BiCMOS				180	−5.2	28		HM10494-8	Hitachi
			TTL		50	140	5	22		CY7B164-8C	Cypress
								28		CY7B166-8C	Cypress

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	8	BiCMOS	TTL								(Cont'd)	
				Separate	50	140	5	28		CY7B161-8C	Cypress	
										CY7B162-8C	Cypress	
		ECL 10K				−180	−5.2			SY10494L-8	Synergy	
		ECL 100K				−180	−4.5			SY100494L-8	Synergy	
		ECL 101K				−180	−5.2			SY101494L-8	Synergy	5
		10K ECL					−5.2	28		SY10L494-8	Synergy	
		100K ECL					−4.5	28		SY100L494-8	Synergy	
		101K ECL					−5.2	28		SY101L494-8	Synergy	
	10	BiCMOS					5	24		CY7B166-10C	Aspen	
						180	−5.2	28		HM10494-10	Hitachi	10
			TTL		10	120	5	24		TC55B417-10	Toshiba	
					30	120	5	24		TC55B417-10	Samsung	
					40	130	5	22		CY7B164-10C	Cypress	
								24		CY7B166-10C	Cypress	
					60	145	5	22		CY7B164-10M	† Cypress	15
								28		CY7B166-10M	† Cypress	
				Separate			5	28		CY7B161-10M	† Cypress	
					40	130	5	28		CY7B161-10C	Cypress	
										CY7B162-10C	Cypress	
					60	145	5	28		CY7B162-10M	† Cypress	20
		CMOS	TTL		50	120	5	24		MCM6290C-10	Motorola	
				Common	40	160	5	24		M624016-10	SGS-Thomson	
										M624017-10	SGS-Thomson	
		ECL 10K				−180	−5.2			SY10494L-10	Synergy	
		ECL 100K				−180	−4.5			SY100494L-10	Synergy	25
		ECL 101K				−180	−5.2			SY101494L-10	Synergy	
		10K ECL					−5.2	28		SY10L494-10	Synergy	
		100K ECL					−4.5	28		SY100L494-10	Synergy	
		101K ECL					−5.2	28		SY101L494-10	Synergy	
	12	BiCMOS				180	−5.2	28		HM10494-12	Hitachi	30
			TTL		10	120	5	24		TC55B417-12	Toshiba	
					30	120	5	24		TC55B417-12	Samsung	
					40	120	5	22		CY7B164-12C	Cypress	
								24		CY7B166-12C	Cypress	
					55	140	5	22		CY7B164-12M	† Cypress	35
								24		CY7B166-12M	† Cypress	
				Separate	40	120	5	28		CY7B161-12C	Cypress	
										CY7B162-12C	Cypress	
					55	140	5	28		CY7B161-12M	† Cypress	
										CY7B162-12M	† Cypress	40
		CMOS	TTL		35	140	5	24	Output Enable	KM6466B-12	Samsung	
					40	160	5	24		CY7C164-12C	Cypress	
										CY7C166-12C	Cypress	
					45	150	5	22		MCM6288-12	° Motorola	
						120	5	22		MCM6288C-12	Motorola	45
						150	5	22		MCM6290-12	° Motorola	
						120	5	24		MCM6290C-12	Motorola	
				Common	20	130	5	24		µPD4362B-12	NEC	
										µPD4363B-12	NEC	
					40	160	5	24		M624016-12	SGS-Thomson	50
										M624017-12	SGS-Thomson	
				Separate	15	125	5	28		P4C1981-12C	Performance	
					40	160	5	28		CY7C161-12C	Cypress	
				15	15	125	5	24		P4C198-12C	Performance	
	15	BiCMOS	TTL		50	135	5	22		CY7B164-15M	† Cypress	55
								24		CY7B166-15M	† Cypress	
				Separate	50	135	5	28		CY7B161-15M	† Cypress	
										CY7B162-15M	† Cypress	
		CMOS					5	24		M5M5189-15	Mitsubishi	
								22		P4C188-15C	Performance	60
								24		P4C198-15C	Performance	
								28		P4C1981-15C	Performance	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
16Kx4	15	CMOS									(Cont'd)
			TTL		1	130	5	22		KM6465B-15	Samsung
					20	190	5	24		IS61C66-15	ISSI
					25	120	5	22		TC55416-15H	Toshiba
								24		TC55417-15H	Toshiba
					30	120	5	24		M5M5188B-15	Mitsubishi
										M5M5189B-15	Mitsubishi
					35	160	5	24		CY7C164A-15M	† Cypress
										CY7C166A-15M	† Cypress
						130	5	24	Output Enable	KM6466B-15	Samsung
					40	115	5	22		CY7C164-15C	Cypress
										CY7C166-15C	Cypress
						140	5	22		MCM6288-15	• Motorola
						120	5	22		MCM6288C-15	Motorola
								24		MCM6290C-15	Motorola
				Common	20	120	5	24		µPD4362B-15	NEC
										µPD4363B-15	NEC
					40	160	5	24		M624016-15	SGS-Thomson
										M624017-15	SGS-Thomson
					85	150	5	22		CXK5466-15	Sony
								24		CXK5467-15	Sony
				Separate	40	115	5	28		CY7C161-15C	• Cypress
										CY7C162-15C	• Cypress
	20	CMOS					5	24		M5M5189-20	Mitsubishi
								22		P4C188-20C	Performance
								24		P4C198-20C	Performance
										P4C1981-20C	Performance
										P4C1982-20C	Performance
				Separate		140	5	28		MCM6294-20	Motorola
					55	140	5	28		MCM6293-20	Motorola
			TTL		1	120	5	22		KM6465B-20	Samsung
					20	170	5	24		IS61C66-20	ISSI
					25	100	5	22		TC55416-20H	Toshiba
								24		TC55417-20H	Toshiba
					30	120	5	24		M5M5188B-20	Mitsubishi
										M5M5189B-20	Mitsubishi
					35	110	5	22		MCM6288C-20	Motorola
								24		MCM6290C-20	Motorola
						120	5	24	Output Enable	KM6466B-20	Samsung
					40	80	5	22		CY7C164-20C	Cypress
						100	5	22		CY7C164A-20M	† Cypress
						80	5	24		CY7C166-20C	Cypress
						100	5	22		CY7C166A-20M	† Cypress
						120	5	22		MCM6288B-20	• Motorola
										MCM6290B-20	• Motorola
				Common	20	110	5	24		µPD4362B-20	NEC
										µPD4363B-20	NEC
					40	160	5	24		M624016-20	SGS-Thomson
										M624017-20	SGS-Thomson
					85	140	5	22		CXK5466-20	Sony
								24		CXK5467-20	Sony
				Separate	40	80	5	28		CY7C161-20C	• Cypress
						100	5	28		CY7C161A-20M	•† Cypress
						80	5	28		CY7C162-20C	• Cypress
						100	5	28		CY7C162A-20M	•† Cypress
	25	CMOS					5	22	Refurbished	**6288-25**	**Krueger (3663)**
										MCM6288-25	• Motorola
								24		MCM6290-25	• Motorola
								22		P4C188-25C	Performance
								24		P4C198-25C	Performance
								28		P4C1981-25C	Performance
										P4C1982-25C	Performance
				Separate		140	5	28		MCM6294-25	Motorola
										MCM6295-25	Motorola

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx4	25	CMOS		Separate							(Cont'd)	
					55	140	5	28		MCM6293-25	Motorola	
			TTL		1	120	5	24		MS6267A-25	Mosel-Vitelic	
						110	5	22		KM6465B-25	Samsung	
					20	70	5	22		CY7C164-25C	Cypress	
								24		CY7C166-25C	Cypress	5
					25	100	5	22		TC55416-25H	Toshiba	
								24		TC55417-25H	Toshiba	
					30	120	5	24		M5M5188B-25	Mitsubishi	
										M5M5189B-25	Mitsubishi	
						110	5	22		MCM6288C-25	Motorola	10
								24		MCM6290C-25	Motorola	
					35	110	5	24	Output Enable	KM6466B-25	Samsung	
					40	100	5	22		CY7C164A-25M	† Cypress	
										CY7C166A-25M	† Cypress	
				Separate	20	70	5	28		CY7C161-25C	° Cypress	15
										CY7C162-25C	° Cypress	
					40	100	5	28		CY7C161A-25M	°† Cypress	
										CY7C162A-25M	°† Cypress	
	30	CMOS					5	22	Refurbished	**6288-30**	**Krueger (3663)**	
								24		MCM6290-30	Motorola	20
				Separate		140	5	28		MCM6295-30	Motorola	
	35	CMOS					5	28		P4C1981-35C	Performance	
			TTL		1	120	5	24		MS6267A-35	Mosel-Vitelic	
										MS6267A-45	Mosel-Vitelic	
					20	70	5	22		CY7C164-35C	Cypress	25
								24		CY7C166-35C	Cypress	
					25	100	5	24		M5M5188A-35	Mitsubishi	
										M5M5189A-35	Mitsubishi	
						80	5	22		TC55416-35H	Toshiba	
								24		TC55417-35H	Toshiba	30
					30	100	5	22		CY7C164A-35M	† Cypress	
										CY7C166A-35M	† Cypress	
						110	5	22		MCM6288C-35	Motorola	
								24		MCM6290C-35	Motorola	
					40	110	5	22		MCM6288B-35	Motorola	35
				Separate	20	70	5	28		CY7C161-35C	° Cypress	
										CY7C162-35C	° Cypress	
					30	100	5	28		CY7C161A-35M	† Cypress	
										CY7C162A-35M	°† Cypress	
	45	CMOS	TTL		25	100	5	24		M5M5188A-45	Mitsubishi	40
										M5M5189A-45	Mitsubishi	
				Separate	20	50	5	28		CY7C162-45C	° Cypress	
	55	CMOS	TTL		25	100	5	24		M5M5188A-55	Mitsubishi	
										M5M5189A-55	Mitsubishi	
	150	ECL 10K					–5.2	32		IDT10496LL-15	IDT	45
										IDT10496RL-15	IDT	
		ECL 100K					–4.5	32		IDT100496LL-15	IDT	
										IDT100496RL-15	IDT	
	12	CMOS	TTL	Common	15	125	5	22		P4C188-12C	Performance	
16Kx8	45				3	90	5			MS6388-45	Mosel-Vitelic	50
		CMOS			15	110	5	28		MS6398-45	Mosel-Vitelic	
	70				3	90	5			MS6388-70	Mosel-Vitelic	
		CMOS			15	110	5	28		MS6398-70	Mosel-Vitelic	
	100	CMOS			15	110	5	28		MS6398-10	Mosel-Vitelic	
32Kx8	10	CMOS	TTL	Common	85	250	5	28		EDI8834CA-10C	EDI	55
	12	BiCMOS										
			TTL			200	5	28		IDT71B256S-12	IDT	
								32		IDT71B556S-12	IDT	
		CMOS	TTL			175	5	28		MCM6706-12	Motorola	
					40	160	5	32		CY7C198-12C	Cypress	
				Common	85	235	5	28		EDI8834CA-12C	EDI	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	12	CMOS	TTL/CMOS	Common			5	28		L7C199-12	† LogicDev	
					50uA	45	5	28		µPD43256A-12	NEC	
	15	BiCMOS	TTL			190	5	28		IDT71B256S-15	IDT	
								32		IDT71B556S-15	IDT	
		CMOS	TTL		15	165	5	28		LH52258A-15	Sharp	5
					40	160	5	32		CY7C198-15C	Cypress	
						180	5	32		CY7C198-15M	† Cypress	
					50	165	5	28		MCM6206-15	Motorola	
					60	150	5	32		M5M52B88-15	Mitsubishi	
				Common	85	215	5	28		EDI8834CA-15C	EDI	10
					90	170	5	28		QS83280-15	Quality Semi	
			TTL/CMOS	Common			5	28		L7C199-15	† LogicDev	
	20						5	28		AT38256-20	ATMEL	
		BiCMOS	TTL			180	5	28		IDT71B256S-20	IDT	
						190	5	28		IDT71B256S-20B	† IDT	15
						170	5	32		IDT71B556S-20	IDT	
						180	5	32		IDT71B556S-20B	† IDT	
		CMOS					5	28		PDM41256L-20	Paradigm	
										PDM41256S-20	Paradigm	
			TTL		0.4	135	5	28		IDT71256L-20	IDT	20
					15	155	5	28		IDT71256S-20	IDT	
					40	160	5	32		CY7C198-20C	Cypress	
						180	5	32		CY7C198-20M	† Cypress	
				Common	7	100	5	28		51256-20	Intel	
					30	105	5	28		MT5C2568-20	MicronSemi	25
					90	160	5	28		QS83280-20	Quality Semi	
			TTL/CMOS	Common			5	28		L7C199-20	† LogicDev	
	25						5	28		AT38256-25	† ATMEL	
		CMOS					5	28		EDI8834C25B	† EDI	
										EDI8834C25C	EDI	30
										PDM41256L-25	Paradigm	
										PDM41256L-25B	† Paradigm	
										PDM41256S-25	Paradigm	
										PDM41256S-25B	† Paradigm	
			TTL		0.4	115	5	28		IDT71256L-25	IDT	35
					1.5	130	5	28		IDT71256L-25B	IDT	
					10	140	5	28		AT38H256-25M	† ATMEL	
										AT38H256-25M/883	† ATMEL	
					15	145	5	28		IDT71256S-25	IDT	
					20	150	5	28		IDT71256S-25B	IDT	40
					40	140	5	28		MCM6206-25	• Motorola	
						150	5	28		LH52258B-25	Sharp	
				Common	7	100	5	28		51256-25	Intel	
					25	110	5	28		MT5C2568-25	MicronSemi	
			TTL/CMOS	Common			5	28		L7C199-25	† LogicDev	45
	30	CMOS					5	28		IS61C256L-25	ISSI	
			TTL		0.4	145	5	28		IDT71256L-30	• IDT	
					1.5	160	5	28		IDT71256L-30B	IDT	
					5	185	5	28		LH52258-30	Sharp	
					15	170	5	28		IDT71256S-30	• IDT	50
						130	5	28		LH52258A-30	Sharp	
					20	180	5	28		IDT71256S-30B	IDT	
				Common	7	100	5	28		51256-30	Intel	
	35						5	28		AT38256-35	† ATMEL	
		CMOS					5	28		EDI8833C35B	† EDI	55
										EDI8833L35B	† EDI	
										EDI8833P35B	† EDI	
										MS62256-35	Mosel-Vitelic	
										MS62256L-35C	Mosel-Vitelic	
										PDM41256L-35	Paradigm	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	35	CMOS					5	28			(Cont'd)	
										PDM41256L-35B	† Paradigm	
										PDM41256S-35	Paradigm	
										PDM41256S-35B	† Paradigm	
										CXK58258-35	Sony	
			TTL		0.4	130	5	28		IDT71256L-35	°‡ IDT	5
					1.5	145	5	28		IDT71256L-35B	°† IDT	
					5	170	5	28		LH52258-35	Sharp	
					10	140	5	28		AT38H256-35M	† ATMEL	
										AT38H256-35M/883	† ATMEL	
					15	155	5	28		IDT71256S-35	°‡ IDT	10
					20	165	5	28		IDT71256S-35B	°† IDT	
					40	135	5	28		MCM6206-35	° Motorola	
						130	5	28		LH52258B-35	Sharp	
				Common	1	150	5	28		LH52258A-35	Sharp	
					5	170	5	28		EDI8834C-35C	EDI	15
					7	100	5	28		51256-35	Intel	
					25	90	5	28		MT5C2568-35	MicronSemi	
					30	130	5	28		µPD43258-35	NEC	
			TTL/CMOS									
				Common			5	28		L7C199-35	† LogicDev	
	45	CMOS					5	28		EDH8832HC-45MHR	† EDI	20
										EDI8833C45B	† EDI	
										MS62256-45	Mosel-Vitelic	
										MS62256L-45C	Mosel-Vitelic	
										MCM6206-45	° Motorola	
										PDM41256L-45	Paradigm	25
										PDM41256L-45B	† Paradigm	
										PDM41256S-45	Paradigm	
										PDM41256S-45B	† Paradigm	
										CXK58258-45	Sony	
			TTL		0.4	120	5	28		IDT71256L-45	° IDT	30
					1.5	135	5	28		IDT71256L-45B	°‡ IDT	
					5	155	5	28		LH52258-45	Sharp	
					15	140	5	28		IDT71256S-45	° IDT	
					20	150	5	28		IDT71256S-45B	°‡ IDT	
				Common	3	40	5	28		MSM832U-45	Mosaic Semi	35
					5	170	5	28		EDI8834C-45C	EDI	
					30	130	5	28		µPD43258-45	NEC	
	55	CMOS					5	28		EDH8832HC-55MHR	† EDI	
										EDI8832C55B	† EDI	
										EDI8833C55B	† EDI	40
										EDI8833L55B	† EDI	
										EDI8833P55B	† EDI	
										EDI8834C55C	EDI	
										IDT71256L-55	° IDT	
										IDT71256S-55	° IDT	45
										MS62256-55	Mosel-Vitelic	
										MS62256L-55C	Mosel-Vitelic	
										PDM41256L-55B	† Paradigm	
										PDM41256S-55B	† Paradigm	
			TTL		1.5	125	5	28		IDT71256L-55B	°† IDT	50
					5	155	5	28		LH52258-55	Sharp	
					20	150	5	28		IDT71256S-55B	°† IDT	
				Common	3	40	5	28		MSM832U-55	Mosaic Semi	
		TTL					5	28		LH52256-55	Sharp	
	60	CMOS					5	28		EDI8832C60B	† EDI	55
	70	CMOS					5	28		EDH8832C-70MHR	† EDI	
										EDH8832P-70MHR	† EDI	
										EDI8832C70B	† EDI	
										EDI8832P70B	† EDI	
										M5M5255-70	Mitsubishi	60
					0.02		5	28		M5M5255-70LL	Mitsubishi	
					0.05		5	28		M5M5255-70L	Mitsubishi	
				Common	0.05	70	5	28		HY62256ALL-70	Hyundai	
					0.1	70	5	28		HY62256AL-70	Hyundai	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
32Kx8	70	CMOS	TTL		0.02	80	5	28		MSM51257ALL-70	OKI	
					0.1	80	5	28		MSM51257AL-70	OKI	
					0.4	80	5	32		EDI8832LP-70B	† EDI	
					1	80	5	28		LH52250A-70	Sharp	
					1.5	125	5	28		IDT71256L-70B	•† IDT	5
					3	80	5	28		LH52256-70L	Sharp	
					20	150	5	28		IDT71256S-70B	•† IDT	
				Common	0.04	80	5	28		LH52250B-70LL	Sharp	
					0.1	80	5	28		LH52250A-70L	Sharp	
										LH52250B-70L	Sharp	10
					3	40	5	28		51256L-07	Intel	
										51256S-07	Intel	
									Available in 32-pin PLCC	MSM832U-70	Mosaic Semi	
			TTL/CMOS		0.1	50	5	28		CXK58257-70	Sony	
		TTL					5	28		LH52256-70	Sharp	15
	85	CMOS					5	28		CAT71C256LI-85	Catalyst Semi	
										EDH8832C-85MHR	† EDI	
										EDH8832P-85MHR	† EDI	
										EDI8832C85B	† EDI	
										EDI8832P85B	† EDI	20
										HM62256-8	• Hitachi	
										HM62256L-8	• Hitachi	
										HM62256SL-8	• Hitachi	
										M5M5255-85	Mitsubishi	
										MSM832-85	Mosaic Semi	25
										TMS62256-85	TI	
										TMS62256L-85	TI	
					0.02		5	28		M5M5255-85LL	Mitsubishi	
					0.1	70	5	28	Low Power	GM76C256L-85	GoldStar	
				Common	0.05	70	5	28		HY622256ALL-85	Hyundai	30
					0.1	70	5	28		HY62256AL-85	Hyundai	
			TTL		0.02	70	5	28		MSM51257BLL-85	OKI	
					0.4	80	5	32		EDI8832LP-85B	† EDI	
					1.5	125	5	28		IDT71256L-85B	•† IDT	
						20	5	28		MS62257-85	Mosel-Vitelic	35
					3	80	5	28		MSM51257AL-85	OKI	
										MSM51257ALL-85	OKI	
						70	5	28		MSM51257BL-85	OKI	
					20	150	5	28		IDT71256S-85B	•† IDT	
				Common	1	70	5	28		HY62256A-85	Hyundai	40
	90	CMOS	TTL		1	80	5	28		LH52250A-90	Sharp	
					3	70	5	28		LH52256-90L	Sharp	
										LH52256-90LL	Sharp	
				Common	0.1	80	5	28		LH52250A-90L	Sharp	
		TTL					5	28		LH52256-90	Sharp	45
	100	CMOS					5	28		EDH8832C-10MHR	† EDI	
										EDH8832P-10MHR	† EDI	
										EDI8832C100B	† EDI	
										EDI8832P100B	† EDI	
										HM62256-10	• Hitachi	50
										HM62256L-10	• Hitachi	
										HM62256SL-10	Hitachi	
										M5M5255-10	Mitsubishi	
										MSM832-10	Mosaic Semi	
										NM43256A-10	National	55
										MSM51257L-10	OKI	
										SRM20256C-10	S-MOS	
										LC36256L	Sanyo	
										TMS62256-10	TI	
										TMS62256L-10	TI	60
					0.02		5	28		M5M5255-10LL	Mitsubishi	
					0.05		5	28		M5M5255-10L	Mitsubishi	
					0.1	70	5	28	Low Power	GM76C256L-10	GoldStar	
					1	70	5	28		GM76C256-10	GoldStar	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	100	CMOS									(Cont'd)	
				Common	0.05	70	5	28		HY62256ALL-10	Hyundai	
					0.1	70	5	28		HY62256AL-10	Hyundai	
			TTL				5	28		LH52250A	Sharp	
										LH52250AL	Sharp	
					0.02	70	5	28		MSM51257BLL-10	OKI	5
					0.4	80	5	32		EDI8832LP-100B	† EDI	
					1	80	5	28		LH52250A-10	Sharp	
					1.5	125	5	28		IDT71256L-100B	IDT	
					3	70	5	28		MSM51256-10	OKI	
										MSM51257AL-10	OKI	10
										MSM51257ALL-10	OKI	
										MSM51257BL-10	OKI	
					20	150	5	28		IDT71256S-100B	IDT	
				Common	0.04	80	5	28		LH52250B-10LL	Sharp	
					0.1	80	5	28		LH52250A-10L	Sharp	15
										LH52250B-10L	Sharp	
					3	40	5	28		51256L-10	Intel	
										51256S-10	Intel	
			TTL/CMOS		0.1	50	5	32		CXK58257-100	Sony	
		TTL					5	28		LC36256-100	Sanyo	20
	120	CMOS					5	28		EDH8832C-12MHR	† EDI	
										EDH8832P-12MHR	† EDI	
										EDI8832C120B	† EDI	
										EDI8832P120B	† EDI	
										HM62256-12	° Hitachi	25
										HM62256L-12	° Hitachi	
										HM62256SL-12	° Hitachi	
										M5M5255-12	Mitsubishi	
										MSM832-12	Mosaic Semi	
										NM43256A-12	National	30
										MSM51257L-12	OKI	
										SRM20256C-12	S-MOS	
										TMS62256-12	TI	
										TMS62256L-12	TI	
					0.05		5	28		M5M5255-12L	Mitsubishi	35
					0.1	70	5	28	Low Power	GM76C256L-12	GoldStar	
					1	70	5	28		GM76C256-12	GoldStar	
				Common	0.05	70	5	28		HY62256ALL-12	Hyundai	
			TTL		0.02	70	5	28		MSM51257BLL-12	OKI	
					0.4	80	5	32		EDI8832LP-120B	† EDI	40
					1.5	125	5	28		IDT71256L-120B	IDT	
					3	70	5	28		MSM51256-12	OKI	
										MSM51257AL-12	OKI	
										MSM51257ALL-12	OKI	
										MSM51257BL-12	OKI	45
										LH52256-12L	Sharp	
					10	45	5	28		LH51256-12	Sharp	
					20	150	5	28		IDT71256S-120B	IDT	
		TTL					5	28		LC36256-120	Sanyo	
										LC36256P/PM	Sanyo	50
										LC36256P/PM	Sanyo	
	150	CMOS					5	28		EDH8832C-15MHR	† EDI	
										EDH8832P-15MHR	† EDI	
										EDI8832C150B	† EDI	
										EDI8832P150B	† EDI	55
										MBM27C256A	Fujitsu	
										HM62256-15	° Hitachi	
										HM62256L-15	° Hitachi	
										MSM832-15	Mosaic Semi	
										NM43256A-15	National	60
										LH51256-15	Sharp	
										TMS62256-15	TI	
										TMS62256L-15	TI	
			TTL		0.4	80	5	32		EDI8832LP-150B	† EDI	
					1.5	125	5	28		IDT71256L-150B	IDT	65
					20	150	5	28		IDT71256S-150B	IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	150	CMOS	TTL	Common	0.1		3	28		LH52250BS	ℓ Sharp	
		TTL					5	28		LC36256-150	Sanyo	
										LC36256P/PM	Sanyo	
	55	CMOS					5	28		EDI8834C55B	† EDI	
32Kx9	14	CMOS					5	44		MK62486-14	SGS-Thomson	5
										MK62940-14	SGS-Thomson	
	19	CMOS			40	180	5	44		MCM62486-19	Motorola	
	20	CMOS					5	32		IDT71559L-20	IDT	
										IDT71559S-20	IDT	
			TTL		1	90	5	32		IDT71259L-20	IDT	10
					10	110	5	32		IDT71259S-20	IDT	
				Common	40	180	5	44		MCM62940-20	Motorola	
										MCM62940A-20	Motorola	
										MCM62960-20	Motorola	
	25	CMOS					5	32		IDT71559L-25	IDT	15
										IDT71559S-25	IDT	
								44		MK62486-25	SGS-Thomson	
										MK62940-25	SGS-Thomson	
			TTL		1	90	5	32		IDT71259L-25	IDT	
					4	100	5	32		DT71259L-25B	IDT	20
					10	110	5	32		IDT71259S-25	IDT	
					40	120	5	32		IDT71259S-25B	IDT	
				Common	40	175	5	44		MCM62940-25	Motorola	
										MCM62940A-25	Motorola	
										MCM62960A-25	Motorola	25
	30	CMOS					5	32		IDT71259L-30	IDT	
										IDT71259L-30B	† IDT	
										IDT71259S-30	IDT	
										IDT71259S-30B	† IDT	
										IDT71559L-30	IDT	30
										IDT71559L-30B	† IDT	
										IDT71559S-30	IDT	
										IDT71559S-30B	† IDT	
			TTL	Common	40	170	5	44		MCM62940-30	Motorola	
										MCM62940A-30	Motorola	35
										MCM62960-30	Motorola	
						175	5	44		MCM62960A-30	Motorola	
	35	CMOS					5	32		IDT71559L-35	IDT	
										IDT71559L-35B	† IDT	
										IDT71559S-35	IDT	
										IDT71559S-35B	† IDT	40
			TTL		1	90	5	32		IDT71259L-35	IDT	
					4	100	5	32		IDT71259L-35B	† IDT	
					10	110	5	32		IDT71259S-35	IDT	
					40	120	5	32		IDT71259S-35B	† IDT	45
										M5M5279-35	Mitsubishi	
	45	CMOS					5	32		IDT71259L-45	IDT	
										IDT71259S-45	IDT	
										IDT71559L-45	IDT	
										IDT71559L-45B	† IDT	50
										IDT71559S-45	IDT	
										IDT71559S-45B	† IDT	
			TTL		4	100	5	32		IDT71259L-45B	† IDT	
					40	120	5	32		IDT71259S-45B	† IDT	
	55	CMOS					5	32		IDT71259L-55B	† IDT	55
										IDT71259S-55B	† IDT	
										IDT71559L-55	IDT	
										IDT71559S-55	IDT	
32Kx24	85	CMOS					5	66		PUMA2S768-85	Mosaic Semi	
	100	CMOS					5	66		PUMA2S768-10	Mosaic Semi	60
	120	CMOS					5	66		PUMA2S768-12	Mosaic Semi	
	150	CMOS					5	66		PUMA2S768-15	Mosaic Semi	
32Kx32	20	CMOS			40	680	5	66		PUMA2S1000L-020	Mosaic Semi	
					80	680	5	66		PUMA2S1000-020	Mosaic Semi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx32											(Cont'd)	
	25	CMOS			40	680	5	66		PUMA2S1000L-025	Mosaic Semi	
					80	680	5	66		PUMA2S1000-025	Mosaic Semi	
	30	CMOS	TTL		2	480	5	66		PUMA2S1010-030	† Mosaic Semi	
	35	CMOS	TTL		2	480	5	66		PUMA2S1010-35	† Mosaic Semi	
					28	480	5	66		PUMA2S1000-35	† Mosaic Semi	5
	45	CMOS	TTL		2	380	5	66		PUMA2S1010-45	† Mosaic Semi	
					28	480	5	66		PUMA2S1000-45	† Mosaic Semi	
	55	CMOS	TTL		2	380	5	66		PUMA2S1010-55	† Mosaic Semi	
					28	480	5	66		PUMA2S1000-55	† Mosaic Semi	
	70	CMOS	TTL		2	380	5	66		PUMA2S1010-70	† Mosaic Semi	10
					28	480	5	66		PUMA2S1000-70	† Mosaic Semi	
32Kx36	12			Common	40	395	5	80		EDI82136C-12C	EDI	
	14			Common	40	395	5	80		EDI82236C-14C	EDI	
	15			Common	40	375	5	80		EDI82136C-15C	EDI	
	17			Common	40	360	5	80		EDI82136C-17C	EDI	15
	20			Common			5	80		EDI82136C-20B	† EDI	
					40	340	5	80		EDI82136C-20C	EDI	
						375	5	80		EDI82236C-20C	EDI	
	25			Common			5	80		EDI82136C-25B	† EDI	
					40	325	5	80		EDI82236C-25C	EDI	20
	30			Common			5	80		EDI82136C-30B	† EDI	
					40	300	5	80		EDI82236C-30C	EDI	
	35			Common			5	80		EDI82136C-35B	† EDI	
32Kx16	17	CMOS	TTL	Common	40	185	5	40		KM616513-17	Samsung	
	20	CMOS	TTL		30	220	5	40		TC551632-20	Samsung	25
				Common	1	220	5	40		TC551632-20	Toshiba	
					40	160	5	40		KM616513-20	Samsung	
	25	CMOS	TTL		30	200	5	40		TC551632-25	Samsung	
				Common	1	200	5	40		TC551632-25	Toshiba	
					40	140	5	40		KM616513-25	Samsung	30
	35	CMOS	TTL		30	170	5	40		TC551632-35	Samsung	
				Common	1	170	5	40		TC551632-35	Toshiba	
32Kx18	9	CMOS	TTL	Common	75	275	5	52	3.3 V, Burst Counter	MCM67B518-9	Motorola	
	12	CMOS	TTL	Common	75	250	5	52	3.3 V, Burst Counter	MCM67B518-12	Motorola	
	18	CMOS	TTL	Common	75	225	5	52	3.3 V, Burst Counter	MCM67B518-18	Motorola	35
32Kx36	7	CMOS					5	100		**LH52V1036C4-7**	**Sharp (3764)**	
	12	CMOS	TTL	Common			5	80		MCM36B32-12	Motorola	
										MCM36B64-12	Motorola	
										MCM36M32-12	Motorola	
										MCM36M64-12	Motorola	40
	14	CMOS	TTL	Common			5	80		MCM36B32-14	Motorola	
										MCM36B64-14	Motorola	
										MCM36M32-14	Motorola	
										MCM36M64-14	Motorola	
	19	CMOS	TTL	Common			5	80		MCM36B32-19	Motorola	45
										MCM36B64-19	Motorola	
										MCM36M32-19	Motorola	
										MCM36M64-19	Motorola	
	24	CMOS	TTL	Common			5	80		MCM36B32-24	Motorola	
										MCM36B64-24	Motorola	50
										MCM36M32-24	Motorola	
										MCM36M64-24	Motorola	
	90	CMOS					5	100		**LH52V1036B2-90**	**Sharp (3764)**	
	100	CMOS					5	100		**LH52V1036B2-10**	**Sharp (3764)**	
										LH52V1036C4-10	**Sharp (3764)**	55
	120	CMOS					5	100		**LH52V1036B2-12**	**Sharp (3764)**	
										LH52V1036C4-12	**Sharp (3764)**	
	150	CMOS					5	100		**LH52V1036C4-15**	**Sharp (3764)**	
	170	CMOS					5	100		**LH52V1036B2-17**	**Sharp (3764)**	
32Kx4	15				155	1500	5	80		EDI8F4432C-15	EDI	60
	25				155	1500	5	80		EDI8F4432C-25	EDI	
32Kx8	6	BiCMOS				220	5	32		HM67832EH-6	Hitachi	
										μPD46258L-6	NEC	
			TTL		95	205	5	32		MCM6706R-6	Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx8 (Cont'd)	7	BiCMOS				220	5	32		HM67832EH-7	Hitachi
										μPD46258L-7	NEC
			TTL		90	200	5	32		MCM6706R-7	Motorola
	8	BiCMOS				220	5	32		HM67832EH-8	Hitachi
										μPD46258L-8	NEC
			TTL		85	195	5	32		MCM6706R-8	Motorola
					90	185	5	32		KM69B257A-8	Samsung
					130	195	5	28		MCM6706A-8	Motorola
				Common	90	185	5	28		KM68B257A-8	Samsung
		CMOS	TTL				5	28		M5M52B78J-8	Mitsubishi
								32		M5M52B88J-8	Mitsubishi
	10	BiCMOS	TTL		40	200	5	28		HM67832SH-10	Hitachi
					30	170	5	28		TC55B328-10	Samsung
					40	185	5	28		CY7B199-10C	Cypress
					90	175	5	32		KM69B257A-10	Samsung
					120	185	5	28		MCM6706A-10	Motorola
				Common	15	170	5	28		TC55B328-10	Toshiba
					90	175	5	28		KM68B257A-10	Samsung
		CMOS	TTL				5	28		M5M52B78J-10	Mitsubishi
										M5M52B78P-10	Mitsubishi
								32		M5M52B88J-10	Mitsubishi
						185	5	28		MCM6706-10	Motorola
					45	180	5	28	2V Data Retention	MT5C2568-10LAT	MicronSemi
										MT5C2568-10LIT	MicronSemi
										MT5C2568-10LXT	† MicronSemi
	12	BiCMOS	TTL		40	200	5	28		HM67832SH-12	Hitachi
					30	170	5	28		TC55B328-12	Samsung
					35	170	5	28		CY7B199-12C	Cypress
					40	170	5	28		CY7B199-12M	† Cypress
					90	165	5	32		KM69B257A-12	Samsung
					115	175	5	28		MCM6706A-12	Motorola
				Common	15	170	5	28		TC55B328-12	Toshiba
					90	165	5	28		KM68B257A-12	Samsung
		CMOS	CMOS/TTL	Common	10	275	5	28		ATT7C199-12	AT&T
										ATT7C199L-12	ℓ AT&T
			TTL				5	28		M5M52B78J-12	Mitsubishi
										M5M52B78P-12	Mitsubishi
								32		M5M52B88J-12	Mitsubishi
					30	160	5	28		CY7C199-12C	Cypress
					40	160	5	28	2V Data Retention	MT5C2568-12LAT	MicronSemi
										MT5C2568-12LIT	MicronSemi
										MT5C2568-12LXT	† MicronSemi
				Common	25	140	5	28		M628032-12	SGS-Thomson
	13	CMOS	CMOS/TTL			2	5	36		HX6856/1SHZC	‡ Honeywell
	15	BiCMOS	TTL		30	170	5	28		CY7B199-15C	Cypress
										TC55B328-15	Samsung
					40	170	5	28		CY7B199-15M	† Cypress
		CMOS			0.1	150	5	28		HM62832UH-15L	Hitachi
					40	150	5	28		HM62832UH-15	Hitachi
						200	5	28		**MS62256H-15**	**Mosel-Vitelic (3697)**
			CMOS/TTL	Common	10	240	5	28		ATT7C199-15	AT&T
										ATT7C199L-15	ℓ AT&T
			TTL				5	28		M5M5278C-15	Mitsubishi
					0.5	50	3.3	28	2V Data Retention, Low Power	MT5LC2568-15LPAT	ℓ MicronSemi
										MT5LC2568-15LPIT	ℓ MicronSemi
										MT5LC2568-15LPXT	ℓ† MicronSemi
					15	55	3.3	28	2V Data Retention	MT5LC2568-15LAT	ℓ MicronSemi
										MT5LC2568-15LIT	ℓ MicronSemi
										MT5LC2568-15LXT	ℓ† MicronSemi

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	15	CMOS	TTL								(Cont'd)	
					20	150	5	28		IS61C256A-15	ISSI	
					30	155	5	28		CY7C199-15C	Cypress	
						180	5	28		CY7C199-15M	† Cypress	
						140	5	28	2V Data Retention	MT5C2568-15LAT	MicronSemi	
										MT5C2568-15LIT	MicronSemi	5
										MT5C2568-15LXT	† MicronSemi	
					50	165	5	28		MCM6206C-15	Motorola	
									Replaces MCM6206C–15	MCM6206D-15	Motorola	
				Common	25	130	5	28		M628032-15	SGS-Thomson	
					30	140	5	28		MT5C2568-15	MicronSemi	10
						150	5	28		μPD43258A-15	NEC	
						140	5	28		CXK58258A-15	Sony	
					40	150	5	28		KM68257B-15	Samsung	
	17	CMOS	TTL		20	140	5	28		TC55328-17	Toshiba	
								32		TC55329-17	Toshiba	15
					45	155	5	28		MCM6206-17	Motorola	
										MCM6206C-17	Motorola	
									Replaces MCM6206C–17	MCM6206D-17	Motorola	
	20	BiCMOS	TTL		40	170	5	28		CY7B199-20M	† Cypress	
		CMOS			0.1	150	5	28		HM62832UH-20L	Hitachi	20
					10	180	5	28		**MS62256A-20**	**Mosel-Vitelic (3697)**	
					40	150	5	28		HM62832UH-20	Hitachi	
						200	5	28		**MS62256H-20**	**Mosel-Vitelic (3697)**	
			CMOS/TTL		0.02	1.2	5	36		HC6856/1SHZC	‡ Honeywell	
				Common	10	185	5	28		ATT7C199-20	AT&T	25
										ATT7C199L-20	ℓ AT&T	
			LVTTL		20	70	3	28		**TC55V328-20**	**ℓ Toshiba (3815)**	
			TTL		0.5	45	3.3	28	2V Data Retention, Low Power	MT5LC2568-20LPAT	ℓ MicronSemi	
										MT5LC2568-20LPIT	ℓ MicronSemi	
										MT5LC2568-20LPXT	ℓ† MicronSemi	30
					6	60	3.3	28		IS61LV256-20	ℓ ISSI	
					7	110	5	28	2V Data Retention, Low Power	MT5C2568-20LPAT	MicronSemi	
									2V Data Retention	MT5C2568-20LPIT	MicronSemi	
										MT5C2568-20LPXT	† MicronSemi	
					12	50	3.3	28	2V Data Retention	MT5LC2568-20LAT	ℓ MicronSemi	35
										MT5LC2568-20LIT	ℓ MicronSemi	
										MT5LC2568-20LXT	ℓ† MicronSemi	
					15	150	5	28		**LH52258A-20**	**Sharp (3764)**	
					20	140	5	28		IS61C256A-20	ISSI	
							3	28		IS61EV256-20	ℓ ISSI	40
							5	28		TC55328-20	Toshiba	
								32		TC55329-20	Toshiba	
					25	100	5	28		AT38H256-20C	ATMEL	
										AT38H256-20I	ATMEL	
					30	150	5	28		CY7C199-20C	Cypress	45
						170	5	28		CY7C199-20M	† Cypress	
						120	5	28	2V Data Retention	MT5C2568-20LAT	MicronSemi	
										MT5C2568-20LIT	MicronSemi	
										MT5C2568-20LXT	† MicronSemi	
					40	140	5	28		M5M5278C-20	Mitsubishi	50
					45	150	5	28		MCM62L06C-20	Motorola	
										MCM6206-20	• Motorola	
										MCM6206C-20	Motorola	
									Replaces MCM6206C–20	MCM6206D-20	Motorola	
				Common	0.4	130	5	28		MSM832P-020	Mosaic Semi	55
										MSM832PI-020	Mosaic Semi	
										MSM832PM-020	† Mosaic Semi	
										MSM832PMB-020	† Mosaic Semi	
										MSM832PMC-020	† Mosaic Semi	
					3	130	5	28		MSM832LM-020	† Mosaic Semi	60
										MSM832LMB-020	† Mosaic Semi	
										MSM832LMC-020	† Mosaic Semi	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	20	CMOS	TTL	Common							(Cont'd)	
					5	130	5	28		MSM832-020	Mosaic Semi	
						120	5	28		CXK58258B-20L	Sony	
										CXK58258B-20LL	Sony	
					25	120	5	28		M628032-20	SGS-Thomson	
					30	120	5	28		MSM832I-020	Mosaic Semi	5
						130	5	28		MSM832L-020	† Mosaic Semi	
										MSM832LI-020	Mosaic Semi	
						120	5	28		MSM832M-020	† Mosaic Semi	
						130	5	28		MSM832MB-020	† Mosaic Semi	
						120	5	28		MSM832MC-020	† Mosaic Semi	10
						140	5	28		µPD43258A-20	NEC	
						120	5	28		CXK58258A-20	Sony	
					40	140	5	28		KM68257B-20	Samsung	
	25	CMOS			0.1	120	5	28		HM62832H-25L	Hitachi	
					1	60	3.3	28		MCM62V06D-25	ℓ Motorola	15
					30	120	5	28		HM62832H-25	Hitachi	
					40	200	5	28		**MS62256H-25**	**Mosel-Vitelic (3697)**	
			CMOS/TTL									
				Common	10	150	5	28		ATT7C199-25	AT&T	
										ATT7C199L-25	ℓ AT&T	
			LVTTL		20	70	3	28		**TC55V328-25**	ℓ **Toshiba (3815)**	20
			TTL				5	28		M5M5278C-25L	Mitsubishi	
					0.5	40	3.3	28	2V Data Retention, Low Power	MT5LC2568-25LPAT	ℓ MicronSemi	
										MT5LC2568-25LPIT	ℓ MicronSemi	
										MT5LC2568-25LPXT	ℓ† MicronSemi	
					6	60	3.3	28		IS61LV256-25	ℓ ISSI	25
					7	100	5	28	2V Data Retention, Low Power	MT5C2568-25LPAT	MicronSemi	
									2V Data Retention	MT5C2568-25LPIT	MicronSemi	
										MT5C2568-25LPXT	† MicronSemi	
					8	45	3.3	28	2V Data Retention	MT5LC2568-25LAT	ℓ MicronSemi	
										MT5LC2568-25LIT	ℓ MicronSemi	30
										MT5LC2568-25LXT	ℓ† MicronSemi	
					15	140	5	28		**LH52258A-25**	**Sharp (3764)**	
					20	130	5	28		IS61C256A-25	ISSI	
							3	28		IS61EV256-25	ℓ ISSI	
						140	5	28		TC55328-25	Toshiba	35
								32		TC55329-25	Toshiba	
					25	100	5	28		AT38H256-25C	ATMEL	
										AT38H256-25I	ATMEL	
						110	5	28	2V Data Retention	MT5C2568-25LAT	MicronSemi	
										MT5C2568-25LIT	MicronSemi	40
										MT5C2568-25LXT	† MicronSemi	
					30	150	5	28		CY7C199-25C	Cypress	
										CY7C199-25M	† Cypress	
					35	160	5	28		CY7C198-25C	Cypress	
						180	5	28		**MS62256A-25**	**Mosel-Vitelic (3697)**	45
					40	130	5	28		M5M5278C-25	Mitsubishi	
						140	5	28		MCM62L06C-25	Motorola	
										MCM6206C-25	Motorola	
									Replaces MCM6206C–25	MCM6206D-25	Motorola	
				Common	0.1	120	5	28		MSM832L-25	Mosaic Semi	50
										MSM832LM-25	† Mosaic Semi	
					0.4	130	5	28		MSM832P-025	Mosaic Semi	
										MSM832PI-025	Mosaic Semi	
										MSM832PM-025	† Mosaic Semi	
										MSM832PMB-025	† Mosaic Semi	55
										MSM832PMC-025	† Mosaic Semi	
					3	130	5	28		MSM832LM-025	† Mosaic Semi	
										MSM832LMB-025	† Mosaic Semi	
										MSM832LMC-025	† Mosaic Semi	
					5	130	5	28		MSM832-025	Mosaic Semi	60
						120	5	28		CXK58258B-25L	Sony	
										CXK58258B-25LL	Sony	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	25	CMOS	TTL	Common							(Cont'd)	
					30	120	5	28		MSM832-25	Mosaic Semi	
										MSM832I-025	Mosaic Semi	
						130	5	28		MSM832L-025	† Mosaic Semi	
										MSM832LI-025	Mosaic Semi	
						120	5	28		MSM832M-025	† Mosaic Semi	5
										MSM832M-25	† Mosaic Semi	
						130	5	28		MSM832MB-025	† Mosaic Semi	
						120	5	28		MSM832MC-025	† Mosaic Semi	
						130	5	28		µPD43258A-25	NEC	
						120	5	28		CXK58258A-25	Sony	10
					40	130	5	28		KM68257B-25	Samsung	
				Static	25	130	5	32	Parity Generator/Checker	MS64100-25	Mosel-Vitelic	
	30	CMOS	TTL		6	60	3.3	28		IS61LV256-30	ℓ ISSI	
					20	130	3	28		IS61EV256-30	ℓ ISSI	
					35	180	5	28		MS62256A-30	Mosel-Vitelic	15
	35	CMOS			0.1	120	5	28		HM62832H-35L	Hitachi	
					1	95	5	28		HS65758RH	‡ Harris	
								36		HS65759RH	‡ Harris	
						55	3.3	28		MCM62V06D-35	ℓ Motorola	
					30	120	5	28		HM62832H-35	Hitachi	20
					40	200	5	28		**MS62256H-35**	**Mosel-Vitelic (3697)**	
			LVTTL		20	70	3	28		**TC55V328-35**	ℓ **Toshiba (3815)**	
			TTL		0.5	35	3.3	28	2V Data Retention, Low Power	MT5LC2568-35LPAT	ℓ MicronSemi	
										MT5LC2568-35LPIT	ℓ MicronSemi	
										MT5LC2568-35LPXT	ℓ† MicronSemi	25
					6	60	3.3	28		IS61LV256-35	ℓ ISSI	
						40	3.3	28	2V Data Retention	MT5LC2568-35LAT	ℓ MicronSemi	
										MT5LC2568-35LIT	ℓ MicronSemi	
										MT5LC2568-35LXT	ℓ† MicronSemi	
					7	80	5	28	2V Data Retention, Low Power	MT5C2568-35LPAT	MicronSemi	30
									2V Data Retention	MT5C2568-35LPIT	MicronSemi	
										MT5C2568-35LPXT	† MicronSemi	
					20	125	3	28		IS61EV256-35	ℓ ISSI	
						120	5	28		TC55328-35	Toshiba	
								32		TC55329-35	Toshiba	35
					25	100	5	28		AT38H256-35C	ATMEL	
										AT38H256-35I	ATMEL	
						140	5	28		CY7C199-35C	Cypress	
						150	5	28		CY7C199-35M	† Cypress	
						90	5	28	2V Data Retention	MT5C2568-35LAT	MicronSemi	40
										MT5C2568-35LIT	MicronSemi	
										MT5C2568-35LXT	† MicronSemi	
						110	5	32	Parity Generator/Checker	MS64100-35	Mosel-Vitelic	
					35	150	5	28		CY7C198-35C	Cypress	
						160	5	28		CY7C198-35M	† Cypress	45
						180	5	28		**MS62256A-35**	**Mosel-Vitelic (3697)**	
					40	135	5	28		MCM62L06C-35	Motorola	
										MCM6206C-35	Motorola	
									Replaces MCM6206C–35	MCM6206D-35	Motorola	
				Common	0.1	120	5	28		MSM832L-35	Mosaic Semi	50
										MSM832LM-35	† Mosaic Semi	
					0.4	120	5	28		MSM832LI-35	Mosaic Semi	
										MSM832LMB-35	† Mosaic Semi	
						130	5	28		MSM832P-35	Mosaic Semi	
										MSM832PI-35	Mosaic Semi	55
										MSM832PM-35	Mosaic Semi	
										MSM832PMB-35	† Mosaic Semi	
										MSM832PMC-35	† Mosaic Semi	
					3	130	5	28		MSM832LMC-35	† Mosaic Semi	
					5	100	5	28		CXK58258B-35L	Sony	60
										CXK58258B-35LL	Sony	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
32Kx8	35	CMOS	TTL	Common	30	120	5	28		MSM832-35	Mosaic Semi	
										MSM832I-35	Mosaic Semi	
										MSM832M-35	† Mosaic Semi	
										MSM832MB-35	† Mosaic Semi	
										MSM832MC-35	† Mosaic Semi	5
						100	5	28		CXK58258A-35	Sony	
	45	CMOS			1	50	5	28		MS6399-45	Mosel-Vitelic	
			TTL		25	150	5	28		CY7C199-45M	† Cypress	
					35	150	5	28		CY7C198-45C	Cypress	
						160	5	28		CY7C198-45M	† Cypress	10
						180	5	28		**MS62256A-45**	**Mosel-Vitelic (3697)**	
				Common	0.4	120	5	28		MSM832LI-45	Mosaic Semi	
										MSM832P-45	Mosaic Semi	
										MSM832PM-45	† Mosaic Semi	
										MSM832PMB-45	† Mosaic Semi	15
										MSM832PMC-45	† Mosaic Semi	
					3	120	5	28		MSM832L-45	Mosaic Semi	
										MSM832LM-45	† Mosaic Semi	
										MSM832LMB-45	† Mosaic Semi	
										MSM832LMC-45	† Mosaic Semi	20
					30	120	5	28		MSM832-45	Mosaic Semi	
										MSM832I-45	Mosaic Semi	
										MSM832M-45	† Mosaic Semi	
										MSM832MB-45	† Mosaic Semi	
										MSM832MC-45	† Mosaic Semi	25
			TTL/CMOS	Common	0.2	120	5	28	Hi-Rad version available	**UT7156**	**UTMC (3845)**	
	55	CMOS					5	28		M5M5256C-55LL	Mitsubishi	
										M5M5256C-55XL	Mitsubishi	
			TTL		35	150	5	28		CY7C198-55C	Cypress	
						160	5	28		CY7C198-55M	† Cypress	30
						180	5	28		MS62256A-55	Mosel-Vitelic	
				Common	0.4	120	5	28		MSM832LI-55	Mosaic Semi	
										MSM832P-55	Mosaic Semi	
										MSM832PM-55	† Mosaic Semi	
										MSM832PMB-55	† Mosaic Semi	35
										MSM832PMC-55	† Mosaic Semi	
					2	50	5	28		CXK58257B-55LL	Sony	
					3	120	5	28		MSM832L-55	Mosaic Semi	
										MSM832LM-55	† Mosaic Semi	
										MSM832LMB-55	† Mosaic Semi	40
										MSM832LMC-55	† Mosaic Semi	
						50	5	28		µPD43256B-55L	NEC	
										µPD43256B-55LL	NEC	
					30	120	5	28		MSM832-55	Mosaic Semi	
										MSM832I-55	Mosaic Semi	45
										MSM832M-55	† Mosaic Semi	
										MSM832MB-55	† Mosaic Semi	
										MSM832MC-55	† Mosaic Semi	
	70	CMOS					5	28		MB84256A-70L	Fujitsu	
										MB84256A-70LL	Fujitsu	50
										M5M5256C-70LL	Mitsubishi	
										M5M5256C-70XL	Mitsubishi	
					1	50	5	28		MS6399-70	Mosel-Vitelic	
					3	85	5	28		MK48Z30-70	SGS-Thomson	
										MK48Z30Y-70	SGS-Thomson	55
										MK48Z32-70	SGS-Thomson	
										MK48Z32Y-70	SGS-Thomson	
			LVTTL	Common	0.7	40	3.3	28		CXK5V8257B-70LL	ℓ Sony	
			TTL		0.02	70	5	32		KM62256B-7L	Samsung	
					0.05	70	5	28		KM62256BI-07	Samsung	60
					0.1	60	3.3			**MS62256N-70**	ℓ **Mosel-Vitelic (3697)**	
						70	5	32		KM62256B-7	Samsung	
										KM62256BL-7	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	70	CMOS	TTL								(Cont'd)	
					1.5	20	5	28		MS62257-70	Mosel-Vitelic	
					2.5	25	3.3	28		AT38LV256-70C	ℓ ATMEL	
					3	85	5	28		**MS62256-70**	**Mosel-Vitelic (3697)**	
						80	5	28		**MS62256C-70**	**Mosel-Vitelic (3697)**	
						70	5	28		MS62256L-70C	Mosel-Vitelic	5
									Low Power	**LH52B256LL-70LL**	**Sharp (3764)**	
				Common	0.02	70	5	28		M5M5255B-70LL	Mitsubishi	
										M5M5256B-70LL	Mitsubishi	
					0.1	70	5	28		M5M5255B-70L	Mitsubishi	
										M5M5256B-70L	Mitsubishi	10
					0.4	120	5	28		MSM832LI-70	Mosaic Semi	
										MSM832P-70	Mosaic Semi	
										MSM832PM-70	† Mosaic Semi	
										MSM832PMB-70	† Mosaic Semi	
										MSM832PMC-70	† Mosaic Semi	15
					1	70	5	28		HY62256A-70	Hyundai	
					2	70	5	28		M5M5255B-70	Mitsubishi	
										M5M5256B-70	Mitsubishi	
						50	5	28		**CXK58257A-70L**	**Sony (3791)**	
										CXK58257A-70LL	**Sony (3791)**	20
						60	5	28		CXK58257A-70LLX	Sony	
										CXK58257A-70LX	**Sony (3791)**	
						50	5	28		CXK58257B-70LL	Sony	
					3	120	5	28		MSM832L-70	Mosaic Semi	
										MSM832LM-70	† Mosaic Semi	25
										MSM832LMB-70	† Mosaic Semi	
										MSM832LMC-70	† Mosaic Semi	
						50	5	28		µPD43256B-70L	NEC	
										µPD43256B-70LL	NEC	
										CXK58267A-70L	Sony	30
										CXK58267A-70LL	Sony	
					30	120	5	28		MSM832-70	Mosaic Semi	
										MSM832I-70	Mosaic Semi	
										MSM832M-70	† Mosaic Semi	
										MSM832MB-70	† Mosaic Semi	35
										MSM832MC-70	† Mosaic Semi	
	85	CMOS					5	28		CAT71C256L-85	Catalyst Semi	
										M5M5256C-85LL	Mitsubishi	
										M5M5256C-85XL	Mitsubishi	
										60L256A-85	° Motorola	40
					0.03	70	5	28	Low Power	GM76C256LL-85	GoldStar	
					0.05		5	28		M5M5255-85L	Mitsubishi	
					1	70	5	28		GM76C256-85	GoldStar	
			TTL		0.03	70	5	28		TC55257A-85	° Toshiba	
					3	70	5	28		MS62256-85	Mosel-Vitelic	45
										MS62256L-85C	Mosel-Vitelic	
									Output Enable	TC55257BL-85	Toshiba	
				Common			3	28		M5M5256C-85VLL	ℓ Mitsubishi	
					0.02	70	5	28		M5M5255B-85LL	Mitsubishi	
										M5M5256B-85LL	Mitsubishi	50
					0.1	70	5	28		M5M5255B-85L	Mitsubishi	
										M5M5256B-85L	Mitsubishi	
					2	100	5	32		DPS92256-85C	Dense-Pac	
						70	5	28		MJ5M5255B-85	Mitsubishi	
										M5M5225B-85	Mitsubishi	55
										M5M5255B-85	Mitsubishi	
										M5M5256B-85	Mitsubishi	
						50	5	28		**CXK58257A-85L**	**Sony (3791)**	
										CXK58257A-85LL	**Sony (3791)**	
						60	5	28		CXK58257A-85LLX	Sony	60
										CXK58257A-85LX	**Sony (3791)**	
					3	45	5	32		µPD43256A-85L	NEC	
						50	5	28		µPD43256B-85L	NEC	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	85	CMOS	TTL	Common	3	50	5	28			(Cont'd)	
										µPD43256B-85LL	NEC	
										CXK58267A-85L	Sony	
										CXK58267A-85LL	Sony	
	100				0.1	65	5	28	Pseudo-Static	HM65256B-10L	Hitachi	
					2	65	5	28	Pseudo-Static	HM65256B-10	Hitachi	5
			TTL		0.03	70	5	28		TC55257B-10L	Toshiba	
		CMOS					5	28		MB84256A-10L	Fujitsu	
										MB84256A-10LL	Fujitsu	
									Refurbished	**62256-10**	**Krueger (3663)**	
										M5M5256C-10LL	Mitsubishi	10
										M5M5256C-10XL	Mitsubishi	
										60L256A-10	• Motorola	
										TC55257-10	• Toshiba	
					0.03	70	5	28	Low Power	GM76C256LL-10	GoldStar	
					1	50	5	28		MS6399-10	Mosel-Vitelic	15
			LVTTL	Common	0.7	35	3.3	28		CXK5V8257B-10LL	ℓ Sony	
			TTL		0.02	70	5	32		KM62256B-10L	Samsung	
					0.05	70	5	28		KM62256BI-10	Samsung	
						60	5	28	Output Enable	TC55257BI-10L	Toshiba	
					0.1	60	3.3			**MS62256N-10**	ℓ **Mosel-Vitelic (3697)**	20
						70	5	32		KM62256B-10	Samsung	
					1.5	20	5	28		MS62257-10	Mosel-Vitelic	
										MS62257-100	Mosel-Vitelic	
					3	70	5	28		**MS62256-10**	**Mosel-Vitelic (3697)**	
										MS62256C-10	**Mosel-Vitelic (3697)**	25
										MS62256L-10	Mosel-Vitelic	
										MCM60L256A-C10	Motorola	
										MCM60L256A-V10	Motorola	
									Low Power	**LB52B256LL-10LL**	**Sharp (3764)**	
									Output Enable	TC55257BL-10	Toshiba	30
					10	45	5	28		**LH51256-10**	**Sharp (3764)**	
										LH51256-10L	Sharp	
				Common			3	28		M5M5256C-10VLL	ℓ Mitsubishi	
					0.001	45	5	28		**LH51256L-10**	**Sharp (3764)**	
					0.02	70	5	28		M5M5255B-10LL	Mitsubishi	35
										M5M5256B-10LL	Mitsubishi	
					0.1	70	5	28		M5M5255B-10L	Mitsubishi	
										M5M5256B-10L	Mitsubishi	
					1	70	5	28		HY62256A-10	Hyundai	
					2	100	5	32		DPS92256-100C	Dense-Pac	40
						65	5	32		DPS92256-100I	Dense-Pac	
						70	5	32		DPS92256-100M	Dense-Pac	
								28		M5M5255B-10	Mitsubishi	
										M5M5256B-10	Mitsubishi	
						50	5	28		**CXK58257A-10L**	**Sony (3791)**	45
										CXK58257A-10LL	**Sony (3791)**	
						60	5	28		**CXK58257A-10LLX**	**Sony (3791)**	
										CXK58257A-10LX	**Sony (3791)**	
						50	5	28		CXK58257B-10LL	Sony	
					3	45	5	32		µPD43256A-10L	NEC	50
										µPD43256A-10LL	NEC	
						50	5	28		CXK58267A-10L	Sony	
										CXK58267A-10LL	Sony	
		NMOS					5	28		TC55257A-10	• Toshiba	
	120				0.1	65	5	28	Pseudo-Static	HM65256B-12L	Hitachi	55
					2	65	5	28	Pseudo Static	HM65256B-12	Hitachi	
		CMOS					5	28	Refurbished	**62256-12**	**Krueger (3663)**	
										60L256A-12	• Motorola	
										TC55257L-12	• Toshiba	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value • Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8	120	CMOS									(Cont'd)	
					0.02		5	28		M5M5255-12LL	Mitsubishi	
					0.03	70	5	28	Low Power	GM76C256LL-12	GoldStar	
					3	70	5	28		MK48Z30-12	SGS-Thomson	
										MK48Z30Y-12	SGS-Thomson	
										MK48Z32-12	SGS-Thomson	5
										MK48Z32Y-12	SGS-Thomson	
			TTL		2.5	25	3.3	28		AT38LV256-12C	ℓ ATMEL	
					3	70	5	28		MS62256-12	Mosel-Vitelic	
										MS62256C-12	Mosel-Vitelic	
										MS62256L-12	Mosel-Vitelic	10
					10	45	5	28		LH51256-12L	Sharp	
				Common			2.7	28		M5M5256C-12VLL	ℓ Mitsubishi	
					0.001	45	5	28		**LH51256L-12**	**Sharp (3764)**	
					0.02	70	5	28		M5M5255B-12LL	Mitsubishi	
										M5M5256B-12LL	Mitsubishi	15
					0.025	50	5	28		**CXK58257A-12LB**	**Sony (3791)**	
					0.1	70	5	28		M5M5255B-12L	Mitsubishi	
										M5M5256B-12L	Mitsubishi	
					2	100	5	32		DPS92256-120C	Dense-Pac	
						65	5	32		DPS92256-120I	Dense-Pac	20
						70	5	32		DPS92256-120M	† Dense-Pac	
								28		M5M5255B-12	Mitsubishi	
										M5M5256B-12	Mitsubishi	
						50	5	28		**CXK58257A-12L**	**Sony (3791)**	
										CXK58257A-12LB	ℓ **Sony (3791)**	25
										CXK58257A-12LL	**Sony (3791)**	
						60	5	28		**CXK58257A-12LLX**	**Sony (3791)**	
										CXK58257A-12LX	**Sony (3791)**	
					3	45	5	32		µPD43256A-12L	NEC	
										µPD43256A-12LL	NEC	30
						50	5	28		µPD43256B-B12	ℓ NEC	
										CXK58267A-12L	Sony	
										CXK58267A-12LL	Sony	
			TTL/CMOS		0.1	50	5	28		CXK58257-120	Sony	
	150				0.1	65	5	28	Pseudo-Static	HM65256B-15L	Hitachi	35
					2	65	5	28	Pseudo Static	HM65256B-15	Hitachi	
		CMOS					5	28	Refurbished	**62256-15**	**Krueger (3663)**	
			TTL		0.5	40	3	28		DS2257	ℓ Dallas	
										DS2257S	ℓ Dallas	
					3	70	5	28		MS62256C-15	Mosel-Vitelic	40
				Common			2.7	28		M5M5256C-15VLL	ℓ Mitsubishi	
					2	100	5	32		DPS92256-150C	Dense-Pac	
						65	5	32		DPS92256-150I	Dense-Pac	
						70	5	32		DPS92256-150M	† Dense-Pac	
					3	45	5	32		µPD43256A-15L	NEC	45
										µPD43256A-15LL	NEC	
	200				0.1	65	5	28	Pseudo-Static	HM65256B-20L	Hitachi	
	250						5			HM62256A-25	Hitachi	
32Kx9	6	CMOS				220	5	32		HM67932EH-6	Hitachi	
		ECL					−5.2		100K ECL	µPD100509-6	NEC	50
	7	CMOS				220	5	32		HM67932EH-7	Hitachi	
	8	CMOS				220	5	32		HM67932EH-8	Hitachi	
	10	BiCMOS										
			TTL		30	170	5	32		TC55B320-10	Samsung	
					125	195	5	32		MCM6705A-10	Motorola	
				Common	15	170	5	32		TC55B329-10	Toshiba	55
		CMOS	TTL				5	32		M5M52B79J-10	Mitsubishi	
	11	CMOS	TTL	Common	40	175	5	44		MCM62486A-11	Motorola	
						165	5	44		MCM62940A-11	Motorola	
	12	BiCMOS										
			TTL		30	170	5	32		TC55B320-12	Samsung	
					120	185	5	32		MCM6705A-12	Motorola	60
				Common	15	170	5	32		TC55B329-12	Toshiba	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx9	12										(Cont'd)	
		CMOS	TTL				5	32		M5M52B79J-12	Mitsubishi	
				Common	25	140	5	32		M629032-12	SGS-Thomson	
					40	175	5	44		MCM62486A-12	Motorola	
						165	5	44		MCM62940A-12	Motorola	
	14	CMOS			40	180	5	44		MCM62486-14	Motorola	5
			TTL	Common	40	175	5	44		MCM62486A-14	Motorola	
						165	5	44		MCM62940A-14	Motorola	
	15	BiCMOS										
			TTL		30	170	5	32	High Speed	TC55B320-15	Samsung	
		CMOS					5	32		M5M5269-15	Mitsubishi	
				Common	40	190	5	52		MCM62110-15	Motorola	10
			TTL		30	140	5	32		CXK59288-15	Sony	
					50	150	5	32		M5M5279-15	Mitsubishi	
						170	5	32		MCM6205-15	Motorola	
										MCM6205C-15	Motorola	
									Replaces MCM6205C–15	MCM6205D-15	Motorola	15
				Common	25	130	5	32		M629032-15	SGS-Thomson	
					30	150	5	32		µPD43259-15	NEC	
					40	170	5	44	3.3V Version Available	MCM62950A-15	Motorola	
	17	CMOS		Common	40	190	5	52		MCM62110-17	Motorola	
			TTL		30	130	5	32		CXK59288-17	Sony	20
					45	160	5	32		MCM6205-17	Motorola	
										MCM6205C-17	Motorola	
									Replaces MCM6205C–17	MCM6205D-17	Motorola	
	19	CMOS	TTL	Common	40	175	5	44		MCM62486A-19	Motorola	
						165	5	44		MCM62940A-19	Motorola	25
						160	5	44		MK62486-19	SGS-Thomson	
										MK62940-19	SGS-Thomson	
	20	CMOS		Common	40	190	5	52		MCM62110-20	Motorola	
			TTL		30	120	5	32		CXK59288-20	Sony	
										CXK59289-20	Sony	30
					40	140	5	32		M5M5269-20	Mitsubishi	
										M5M5279-20	Mitsubishi	
					45	155	5	32		MCM62L05C-20	Motorola	
										MCM6205-20	°Motorola	
										MCM6205C-20	Motorola	35
									Replaces MCM6205C–20	MCM6205D-20	Motorola	
				Common	25	120	5	32		M629032-20	SGS-Thomson	
					30	140	5	32		µPD43259-20	NEC	
					40	195	5	44	3.3V Version Available	MCM62950-20	Motorola	
						170	5	44	3.3V Version Available	MCM62950A-20	Motorola	40
						175	5	44		MCM62960A-20	Motorola	
	24	CMOS			40	180	5	44		MCM62486-24	Motorola	
			TTL	Common	40	175	5	44		MCM62486A-24	Motorola	
						165	5	44		MCM62940A-24	Motorola	
						160	5	44		MK62486-24	SGS-Thomson	45
										MK62940-24	SGS-Thomson	
	25	CMOS	TTL		25	130	5	32	Parity Generator/Checker	MS64101-25	Mosel-Vitelic	
					30	120	5	32		CXK59288-25	Sony	
										CXK59289-25	Sony	
					40	130	5	32		M5M5269-25	Mitsubishi	50
										M5M5279-25	Mitsubishi	
						145	5	32		MCM62L05C-25	Motorola	
										MCM6205-25	°Motorola	
										MCM6205C-25	Motorola	
									Replaces MCM6205C–25	MCM6205D-25	Motorola	55
				Common	30	130	5	32		µPD43259-25	NEC	
					40	185	5	44	3.3V Version Available	MCM62950-25	Motorola	
						170	5	44	3.3V Version Available	MCM62950A-25	Motorola	
						175	5	44		MCM62960-25	Motorola	
	35	CMOS	TTL		25	110	5	32	Parity Generator/Checker	MS64101-35	Mosel-Vitelic	60
					40	120	5	32		M5M5269-35	Mitsubishi	
						140	5	32		MCM62L05C-35	Motorola	
										MCM6205-35	Motorola	
										MCM6205C-35	Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx9	35	CMOS	TTL		40	140	5	32			(Cont'd)	
									Replaces MCM6205C–35	MCM6205D-35	Motorola	
	70	CMOS	TTL	Common	2	70	5	32		CXK59290-70L	Sony	
	100	CMOS	TTL	Common	2	70	5	32		CXK59290-10L	Sony	
	120	CMOS	TTL	Common	2	70	5	32		CXK59290-12L	Sony	
64Kx1	8	BiCMOS					–4.5	22		IDT100490S8D	IDT	5
							–5.2	22		IDT10490S8D	IDT	
		CMOS	TTL	Common	55	160	5	24		MT5C6401-8	MicronSemi	
	10	BiCMOS					–4.5	22		IDT100490	IDT	
										IDT100490S10	IDT	
							–5.2	22		IDT10490S10	IDT	10
		CMOS					5	22		ATT7C187-10	AT&T	
			TTL	Common			5	22		P4C187-10	Performance	
				Separate	50	150	5	22	Also available in 24 pins	MT5C6401-10	MicronSemi	
	12	BiCMOS					–4.5	22		IDT100490S12	IDT	
							–5.2	22		IDT10490S12	IDT	15
		CMOS					5	22		ATT7C187-12	AT&T	
			TTL		40	170	5	24		CY7C187A-12M	† Cypress	
				Common	45	140	5	22		MT5C6401-12	MicronSemi	
	15	BiCMOS					–4.5	24		IDT100490	IDT	
								22		IDT100490S15	IDT	20
										IDT100490S15D	IDT	
							–5.2	27		IDT10490	IDT	
							5	22		TMS6787-15	TI	
		CMOS					5	22		ATT7C187-15	AT&T	
										L7C187-15	† LogicDev	25
								24		M5M5187-15	Mitsubishi	
			TTL				5	22		IDT7187L-15	°‡ IDT	
					20	105	5	22		IDT7187S-15	°‡ IDT	
					40	140	5	22		MCM6287-15	° Motorola	
				Common	40	120	5	22		MT5C6401-15	MicronSemi	30
		ECL 10K					–5.2	22		IDT10490S-15B	† IDT	
	20	BiCMOS					–4.5	22		IDT100490S20	IDT	
								24		IDT100490S20D	IDT	
							5	22		TMS6787-20	TI	
		CMOS					5	22		ATT7C187-20	AT&T	35
										L7C187-20	† LogicDev	
								24		M5M5187-20	Mitsubishi	
			TTL		0.3	70	5	22		IDT7187L-20	° IDT	
					1.5	85	5	22		IDT7187L-20B	† IDT	
					15	90	5	22		IDT7187S-20	° IDT	40
					20	105	5	22		IDT7187S-20B	† IDT	
				Common	40	120	5	22		MT5C6401-20	MicronSemi	
		ECL 10K					–5.2	22		IDT10490S-20B	† IDT	
	25	BiCMOS					5	22		TMS6787-25	TI	
		CMOS					5	22		HM6787	Hitachi	45
										L7C187-25	† LogicDev	
								24		M5M5187-25	Mitsubishi	
								22		F1600A	National	
										F1601A	National	
								24		CXK5164-25	Sony	50
			TTL		0.3	70	5	22		IDT7187L-25	° IDT	
					1.5	85	5	22		IDT7187L-25B	°‡ IDT	
					15	90	5	22		IDT7187S-25	°‡ IDT	
					20	105	5	22		IDT7187S-25B	°‡ IDT	
					25	100	5	24		M5M5187A-25	Mitsubishi	55
					30	120	5	22		MCM6287-25	° Motorola	
		TTL					5	22		MT5C6401-25	MicronSemi	
	30	BiCMOS					5	22		TMS6787-30	TI	
		CMOS					5	22		IDT7187L-30	° IDT	
										IDT7187L-30B	°† IDT	60
										IDT7187S-30	° IDT	
										IDT7187S-30B	°† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
64Kx1	30	CMOS					5	22		1600A-30	† National	
										1601A-30	† National	
								24		CXK5164-30	Sony	
	35	CMOS					5	22		EDI8164C35B	† EDI	
										EDI8164P35B	† EDI	5
										L7C187-35	† LogicDev	
								24		M5M5187-35	Mitsubishi	
								22		F1600AM	† National	
										F1601AM	† National	
										1600A-35	† National	10
										1601A-35	† National	
										IMS1600-35	SGS-Thomson	
								24		CXK5164-35	Sony	
			TTL		0.3	70	5	22		IDT7187L-35	° IDT	
					1.5	85	5	22		IDT7187L-35B	°† IDT	15
					15	90	5	22		IDT7187S-35	° IDT	
					20	105	5	22		IDT7187S-35B	°† IDT	
	40	CMOS	TTL		20	120	5	22		µPD4361-40	NEC	
		CMOS/SOS					5	22		MAS9187	GEC Plessey	
	45	CMOS					5	24		CY7C187A-45C	Cypress	20
								22		EDI8164C45B	† EDI	
										EDI8164P45B	† EDI	
										IDT7187L-45	°‡ IDT	
										IDT7187S-45	° IDT	
								24		M5M5187-45	Mitsubishi	25
								22		F1600A-45	National	
										F1601-45	National	
										1600A-45	† National	
										1601A-45	† National	
										IMS1600-45	SGS-Thomson	30
										IMS1600-45M	† SGS-Thomson	
					30	80	5	24		CY7C187A-45M	† Cypress	
			TTL		1.5	85	5	22		IDT7187L-45B	°† IDT	
					20	105	5	22		IDT7187S-45B	°† IDT	
						120	5	22		µPD4361-45	NEC	35
	50	CMOS					5	24		M61064	‡ AT&T	
	55	CMOS					5	22		EDI8164C55B	† EDI	
										EDI8164P55B	† EDI	
								24		M5M5187-55	Mitsubishi	
								22		F1600AM-55	† National	40
										1600A-55	† National	
										1601A-55	† National	
										IMS1600-55	SGS-Thomson	
										IMS1600-55M	† SGS-Thomson	
										IMS1601L-55M	† SGS-Thomson	45
			TTL		1.5	85	5	22		IDT7187L-55B	°† IDT	
					20	120	5	22		µPD4361-55	NEC	
				20	105		5	22		IDT7187S-55B	°† IDT	
	70	CMOS					5	22		1600A-70	† National	
										1601A-70	† National	50
										IMS1600-70M	† SGS-Thomson	
			TTL		1.5	85	5	22		IDT7187L-70B	°† IDT	
					20	105	5	22		IDT7187S-70B	°† IDT	
						120	5	22		µPD4361-70	NEC	
	85	CMOS	TTL		1.5	85	5	22		IDT7187L-85B	°† IDT	55
					20	105	5	22		IDT7187S-85B	°† IDT	
64Kx4	10	BiCMOS										
			TTL		50	135	5	28		CY7B153-10C	Cypress	
										CY7B154-10C	Cypress	
	12	BiCMOS					–5.2	28		SC5104-12	Silicon Conn	
			TTL			180	5	28		IDT61B298S-12	IDT	60
								24		IDT71B258S-12	IDT	
					50	135	5	28		CY7B153-12C	Cypress	
										CY7B153-12M	Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	12	BiCMOS	TTL		50	135	5	28			(Cont'd)	
										CY7B154-12C	Cypress	
										CY7B154-12M	Cypress	
		CMOS	CMOS/TTL	Common	10	175	5	24		ATT7C194-12	AT&T	
								28		ATT7C195-12	AT&T	
										ATT7C196-12	AT&T	5
				Separate	10	175	5	28	Hi-Z Write	ATT7C192-12	AT&T	
			TTL			165	5	24		MCM6708-12	Motorola	
										MCM6709-12	Motorola	
					90	170	5	28		QS86446-12	Quality Semi	
				Common	90	170	5	24		QS86440-12	Quality Semi	10
			TTL/CMOS	Common			5	28	Output Enable	L7C195-12	† LogicDev	
									Output Enable and Two Chip Enables	L7C196-12	† LogicDev	
		ECL 10K					–5.2	32		IDT10504S-12	IDT	
										IDT10506LL-12	IDT	
										IDT10506RL-12	IDT	15
										IDT10507S-12	IDT	
										IDT10508S-12	IDT	
		ECL 100K					–4.5	32		IDT100504S-12	IDT	
										IDT100506LL-15	IDT	
										IDT100506RL-12	IDT	20
										IDT100507S-12	IDT	
										IDT100508S-12	IDT	
	15	BiCMOS				–180	–5.2	32	100K ECL	μPD100504-15	NEC	
									10K ECL	μPD10504-15	NEC	
								28		SC5104-15	Silicon Conn	25
			TTL			160	5	28		IDT61B298S-15	IDT	
						170	5	28		IDT61B298S-15B	† IDT	
						160	5	24		IDT71B258S-15	IDT	
						170	5	24		IDT71B258S-15B	† IDT	
					50	135	5	28		CY7B153-15C	Cypress	30
										CY7B154-15C	Cypress	
					60	145	5	28		CY7B153-15M	† Cypress	
										CY7B154-15M	† Cypress	
		CMOS					5	28		EDI2840C15C	EDI	
								32		EDI2841C15C	EDI	35
								28		EDI2842C15C	EDI	
								32		EDI2843C15C	EDI	
			CMOS/TTL	Common	10	160	5	24		ATT7C195-15	AT&T	
								28		ATT7C196-15	AT&T	
				Separate	10	160	5	28	Hi-Z Write	ATT7C192-15	AT&T	40
			TTL		90	165	5	28		QS86446-15	Quality Semi	
				Common	30	140	5	24		MT5C2564-15	MicronSemi	
								28		MT5C2565-15	MicronSemi	
					90	165	5	24		QS86440-15	Quality Semi	
			TTL/CMOS	Common			5	28	Output Enable	L7C195-15	† LogicDev	45
									Output Enable and Two Chip Enables	L7C196-15	† LogicDev	
		ECL 10K					–5.2	32		IDT10504S-15	IDT	
										IDT10506LL	IDT	
										IDT10506RL-15	IDT	
										IDT10507S-15	IDT	50
										IDT10508S-15	IDT	
								28		NM5104-15	National	
		ECL 100K					–4.5	32		IDT100504S-15	IDT	
										IDT100506RL-15	IDT	
										IDT100507S-15	IDT	55
										IDT100508S-15	IDT	
								28		NM100504-15	National	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
64Kx4	18	ECL 10K					–5.2	28		NM5104-18	National
		ECL 100K					–4.5	28		NM100504-18	National
	20	BiCMOS					5	24		TMS6708-20	TI
			TTL			140	5	28		IDT61B298S-20	IDT
						150	5	28		IDT61B298S-20B	† IDT
						140	5	24		IDT71B258S-20	IDT
						150	5	24		IDT71B258S-20B	† IDT
					50	135	5	28		CY7B153-20C	Cypress
										CY7B154-20C	Cypress
					60	145	5	28		CY7B153-20M	† Cypress
										CY7B154-20M	† Cypress
		CMOS					5	28		PDM41251L-20	Paradigm
										PDM41251S-20	Paradigm
										PDM41252L-20	Paradigm
										PDM41252S-20	Paradigm
								24		PDM41258L-20	Paradigm
										PDM41258S-20	Paradigm
								28		PDM41298L-20	Paradigm
										PDM41298S-20	Paradigm
				Common		170	5	28		MCM62982-20	Motorola
			CMOS/TTL	Common	10	125	5	24		ATT7C194-20	AT&T
								28		ATT7C195-20	AT&T
										ATT7C196-20	AT&T
				Separate	10	125	5	28	Hi-Z Write	ATT7C192-20	AT&T
			TTL		1.5	100	5	28		IDT61298L-20	IDT
								24		IDT71258L-20	IDT
					30	110	5	28		IDT61298S-20	IDT
								24		IDT71258S-20	IDT
				Common	1	145	5	24		LH52252B-20	Sharp
					7	100	5	24		51258-20	Intel
					30	105	5	24		MT5C2564-20	MicronSemi
								28		MT5C2565-20	MicronSemi
			TTL/CMOS	Common			5	28	Output Enable	L7C195-20	† LogicDev
									Output Enable and Two Chip Enables	L7C196-20	† LogicDev
	25	BiCMOS					5	24		TMS6708-25	TI
		CMOS					5	32		EDI2841C25C	EDI
								28		EDI2840C25C	EDI
										EDI2842C25C	EDI
								32		EDI2843C25C	EDI
								28		EDI8466C25B	† EDI
										EDI8466C25C	EDI
										IDT7MP456-25	‡ IDT
										PDM41251L-25	Paradigm
										PDM41251L-25B	† Paradigm
										PDM41251S-25	Paradigm
										PDM41251S-25B	† Paradigm
										PDM41252L-25	Paradigm
										PDM41252L-25B	† Paradigm
										PDM41252S-25	Paradigm
										PDM41252S-25B	† Paradigm
								24		PDM41258L-25	Paradigm
										PDM41258L-25B	† Paradigm
										PDM41258S-25	Paradigm
										PDM41258S-25B	† Paradigm
								28		PDM41298L-25	Paradigm
										PDM41298L-25B	† Paradigm
										PDM41298S-25	Paradigm
										PDM41298S-25B	† Paradigm
			CMOS/TTL	Common	10	100	5	24		ATT7C194-25	AT&T
								28		ATT7C195-25	AT&T
										ATT7C196-25	AT&T
				Separate	10	100	5	28	Hi-Z Write	ATT7C192-25	AT&T

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	25	CMOS	TTL				5	24		LH52252B	Sharp	
					1.5	90	5	28		IDT61298L-25	‡ IDT	
								24		IDT71258L-25	°‡ IDT	
						120	5	28		IDT71281L-25	‡ IDT	
										IDT71282L-25	‡ IDT	5
					2	120	5	28		EDI8464LP-25B	† EDI	
										EDI8465LP-25B	† EDI	
					4.5	100	5	28		IDT61298L-25B	† IDT	
								24		IDT71258L-25B	IDT	
					5	120	5	28		EDI8464C-25B	† EDI	10
										EDI8465C-25B	† EDI	
					30	100	5	28		IDT61298S-25	‡ IDT	
								24		IDT71258S-25	°‡ IDT	
						130	5	28		IDT71281S-25	‡ IDT	
										IDT71282S-25	‡ IDT	15
					35	110	5	28		IDT61298S-25B	† IDT	
								24		IDT71258S-25B	IDT	
					40	135	5	24		MCM6208-25	° Motorola	
				Common	1	135	5	24		LH52252B-25	Sharp	
					7	100	5	24		51258-25	Intel	20
					25	110	5	24		MT5C2564-25	MicronSemi	
								28		MT5C2565-25	MicronSemi	
			TTL/CMOS	Common			5	28	Output Enable	L7C195-25	† LogicDev	
									Output Enable and Two Chip Enables	L7C196-25	† LogicDev	
	30	CMOS	TTL		4.5	130	5	28		IDT71281L-30B	IDT	25
										IDT71282L-30B	IDT	
					35	140	5	28		IDT71281S-30B	IDT	
										IDT71282S-30B	IDT	
				Common	7	100	5	24		51258-30	Intel	
	35	CMOS					5	24		EDH84H64C-35C	EDI	30
										EDH84H64C-35MHR	† EDI	
										EDI8464C35B	† EDI	
								28		EDI8464L35B	† EDI	
										EDI8464P35B	† EDI	
								24		EDI8465C35B	† EDI	35
										EDI8465P35B	† EDI	
								28		EDI8466C35B	† EDI	
										EDI8466C35C	EDI	
								24		MB81C84A-35	Fujitsu	
								28		IDT61298I-35	‡ IDT	40
								24		MSM464-35	Mosaic Semi	
										MCM6208-35	° Motorola	
								28		PDM41251L-35	Paradigm	
										PDM41251L-35B	† Paradigm	
										PDM41251S-35	Paradigm	45
										PDM41251S-35B	† Paradigm	
										PDM41252L-35	Paradigm	
										PDM41252L-35B	† Paradigm	
										PDM41252S-35	Paradigm	
										PDM41252S-35B	† Paradigm	50
								24		PDM41258L-35	Paradigm	
										PDM41258L-35B	† Paradigm	
										PDM41258S-35	Paradigm	
										PDM41258S-35B	† Paradigm	
								28		PDM41298L-35B	† Paradigm	55
										PDM41298S-35	Paradigm	
										PDM41298S-35B	† Paradigm	
								24		LH52252-35	Sharp	
			TTL		1.5	90	5	28		IDT61298L-35	IDT	
								24		IDT71258L-35	° IDT	60
						110	5	28		IDT71281L-35	‡ IDT	
										IDT71282L-35	‡ IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	35	CMOS	TTL								(Cont'd)	
					2	120	5	28		EDI8464LP-35B	† EDI	
										EDI8465LP-35B	† EDI	
					4.5	100	5	28		IDT61298L-35B	† IDT	
								24		IDT71258L-35B	IDT	
						120	5	28		IDT71281L-35B	IDT	5
										IDT71282L-35B	IDT	
					5	120	5	28		EDI8464C-35B	† EDI	
										EDI8465C-35B	† EDI	
					30	100	5	28		IDT61298S-35	‡ IDT	
								24		IDT71258S-35	° IDT	10
						110	5	28		IDT71281S-35	‡ IDT	
						120	5	28		IDT71282S-35	‡ IDT	
					35	110	5	28		IDT61298S-35B	† IDT	
								24		IDT71258S-35B	IDT	
						130	5	28		IDT71281S-35B	IDT	15
										IDT71282S-35B	IDT	
				Common	7	100	5	24		51258-35	Intel	
					25	90	5	24		MT5C2564-35	MicronSemi	
								28		MT5C2565-35	MicronSemi	
					30	120	5	24		µPD43254-35	NEC	20
			TTL/CMOS				5	24		CXK54256-35	Sony	
				Common			5	28	Output Enable	L7C195-35	† LogicDev	
									Output Enable and Two Chip Enables	L7C196-35	† LogicDev	
		TTL					5	24		MB81C84A	Fujitsu	
	45	CMOS					5	24		EDH84H64C-45C	EDI	25
										EDH84H64C-45MHR	† EDI	
										EDI8464C45B	† EDI	
								28		EDI8464L45B	† EDI	
										EDI8464P45B	† EDI	
								24		EDI8465C45B	† EDI	30
										EDI8465P45B	† EDI	
								28		EDI8466C45B	† EDI	
										EDI8466C45C	EDI	
								24		MB81C84A-45	Fujitsu	
								28		PDM41251L-45	Paradigm	35
										PDM41251L-45B	† Paradigm	
										PDM41251S-45	Paradigm	
										PDM41251S-45B	† Paradigm	
										PDM41252L-45	Paradigm	
										PDM41252L-45B	† Paradigm	40
										PDM41252S-45	Paradigm	
										PDM41252S-45B	† Paradigm	
								24		PDM41258L-45B	† Paradigm	
										PDM41258S-45	Paradigm	
										PDM41258S-45B	† Paradigm	45
								28		PDM41298L-45B	† Paradigm	
										PDM41298S-45B	† Paradigm	
								24		LH52252-45	Sharp	
			TTL		1.5	90	5	28		IDT61298L-45	‡ IDT	
								24		IDT71258L-45	° IDT	50
						110	5	28		IDT71281L-45	‡ IDT	
										IDT71282L-45	‡ IDT	
					2	120	5	28		EDI8464LP-45B	† EDI	
										EDI8465LP-45B	† EDI	
					4.5	100	5	28		IDT61298L-45B	‡ IDT	55
								24		IDT71258L-45B	°† IDT	
						120	5	28		IDT71281L-45B	‡ IDT	
										IDT71282L-45B	‡ IDT	
					5	120	5	28		EDI8464C-45B	† EDI	
										EDI8465C-45B	† EDI	60
					30	100	5	28		IDT61298S-45	‡ IDT	
								24		IDT71258S-45	° IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	45	CMOS	TTL		30						(Cont'd)	
						120	5	28		IDT71281S-45	‡ IDT	
										IDT71282S-45	‡ IDT	
					35	110	5	28		IDT61298S-45B	‡ IDT	
								24		IDT71258S-45B	°† IDT	
						130	5	28		IDT71281S-45B	‡ IDT	5
										IDT71282S-45B	‡ IDT	
				Common	30	120	5	24		µPD43254-45	NEC	
			TTL/CMOS				5	24		CXK54256-45	Sony	
	55	CMOS					5	24		EDH84H64C-55C	EDI	
										EDH84H64C-55MHR	† EDI	10
										EDI8464C55B	† EDI	
								28		EDI8464P55B	† EDI	
								24		EDI8465C55B	† EDI	
										EDI8465P55B	† EDI	
								28		EDI8466C55B	† EDI	15
										EDI8466C55C	EDI	
										IDT61298L-55	‡ IDT	
										IDT61298S-55	‡ IDT	
								24		IDT71258L-55	° IDT	
										IDT71258S-55	° IDT	20
								28		IDT71281L-55	‡ IDT	
										IDT71281S-55	‡ IDT	
										IDT71282L-55	‡ IDT	
										IDT71282S-55	‡ IDT	
										PDM41251L-55B	† Paradigm	25
										PDM41251S-55B	† Paradigm	
										PDM41252L-55B	† Paradigm	
										PDM41252S-55B	† Paradigm	
								24		PDM41258L-55B	† Paradigm	
										PDM41258S-55B	† Paradigm	30
								28		PDM41298S-55B	† Paradigm	
								24		CXK54256-55	Sony	
			TTL		2	120	5	28		EDI8464LP-55B	† EDI	
										EDI8465LP-55B	† EDI	
					4.5	100	5	28		IDT61298L-55B	‡ IDT	35
								24		IDT71258L-55B	°† IDT	
						120	5	28		IDT71281L-55B	‡ IDT	
										IDT71282L-55B	‡ IDT	
					5	120	5	28		EDI8464C-55B	† EDI	
										EDI8465C-55B	† EDI	40
					35	110	5	28		IDT61298S-55B	‡ IDT	
								24		IDT71258S-55B	°† IDT	
						130	5	28		IDT71281S-55B	‡ IDT	
										IDT71282S-55B	‡ IDT	
				Common	30	120	5	24		µPD43254-55	NEC	45
	70	CMOS					5	32		EDH84H64C-70MHR	† EDI	
								28		IDT61298L-70B	‡ IDT	
										IDT61298S-70B	‡ IDT	
								24		IDT71258L-70B	°† IDT	
										IDT71258S-70B	°† IDT	50
								28		IDT71281L-70B	‡ IDT	
										IDT71281S-70B	‡ IDT	
										IDT71282L-70B	‡ IDT	
										IDT71282S-70B	‡ IDT	
64Kx8	25	CMOS					5	40		IDT7M812-25	‡ IDT	55
	35	CMOS					5	40		IDT7M812-35	‡ IDT	
	40	CMOS					5	40		IDT7MP6025-40	‡ IDT	
	45	CMOS					5	40		IDT7M812-45	‡ IDT	
	60	CMOS					5	32		EDI8M864C60C	EDI	
	70	CMOS					5	32		EDI8M864C70B	† EDI	60
										EDI8M864C70C	EDI	
	80	CMOS					5	32		EDI8M864C80B	† EDI	
	90	CMOS					5	32		EDI8M864C90B	† EDI	
										EDI8M864C90C	EDI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8											(Cont'd)	
	100	CMOS					5	32		EDI8M864C100B	† EDI	
										EDI8M864C100C	EDI	
			TTL	Common	4	77	5	28		MS864FKE-10	Mosaic Semi	
	120	CMOS					5	32		EDI8M864C120B	† EDI	
										EDI8M864C120C	EDI	5
			TTL	Common	4	77	5	28		MS864FKE-12	Mosaic Semi	
	150	CMOS					5	32		EDI8M864C150B	† EDI	
										EDI8M864C150C	EDI	
								40		MBM27C1024	Fujitsu	
			TTL	Common	4	77	5	28		MS864FKE-15	Mosaic Semi	10
64Kx9	25	CMOS					5	40		IDT7M912-25	‡ IDT	
	35	CMOS					5	40		IDT7M912-35	‡ IDT	
	45	CMOS					5	40		IDT7M912-45	‡ IDT	
64Kx16	20	CMOS			40	420	5	66		PUMA2S1000L-020	Mosaic Semi	
					80	420	5	66		PUMA2S1000-020	Mosaic Semi	15
			CMOS/TTL	Common	0.5	200	5	44		ATT7C342-20	AT&T	
	25	CMOS					5	40		IDT7M624S-25	‡ IDT	
					40	420	5	66		PUMA2S1000L-025	Mosaic Semi	
					80	420	5	66		PUMA2S1000-025	Mosaic Semi	
	35	CMOS					5	40		EDH816H64C-35C	EDI	20
										EDH816H64C-35MHR	† EDI	
										IDT7M624S-35	‡ IDT	
			TTL		28	300	5	66		PUMA2S1000-35	† Mosaic Semi	
	45	CMOS					5	40		EDH816H64C-45C	EDI	
										EDH816H64C-45MHR	† EDI	25
			TTL		28	300	5	66		PUMA2S1000-45	† Mosaic Semi	
	55	CMOS					5	40		EDH816H64C-55C	EDI	
										EDH816H64C-55MHR	† EDI	
			TTL		28	300	5	66		PUMA2S1000-55	† Mosaic Semi	
	60	CMOS					5	40		EDI8M1664C60C	EDI	30
	70	CMOS					5	40		EDH816H64C-70C	EDI	
										EDH816H64C-70MHR	† EDI	
										EDI8M1664C70B	† EDI	
										EDI8M1664C70C	EDI	
			TTL		28	300	5	66		PUMA2S1000-70	† Mosaic Semi	35
	85	CMOS					5	40		EDI8M1664C85B	† EDI	
										EDI8M1664C85C	EDI	
	100	CMOS					5	40		EDI8M1664C100B	† EDI	
										EDI8M1664C100C	EDI	
64Kx18	12			Common	40	350	5	64		EDI82118C-12C	EDI	40
								52		EDI82997C-12C	EDI	
	15			Common	40	330	5	64		EDI82118C-15C	EDI	
						350	5	52		EDI82997C-15C	EDI	
		CMOS					5	52		EDI2018XC15C	EDI	
	17			Common	40	300	5	64		EDI82118C-17C	EDI	45
						350	5	52		EDI82997C-17C	EDI	
	20			Common	40	290	5	64		EDI82118C-20C	EDI	
						350	5	52		EDI82997C-20C	EDI	
		CMOS	CMOS/TTL	Common	1	300	5	44		ATT7C343-20	AT&T	
	25			Common			5	52		EDI82997C-25B	† EDI	50
					40	350	5	52		EDI82997C-25C	EDI	
		CMOS					5	52		EDI2018XC25C	EDI	
	35			Common			5	52		EDI82997C-35B	† EDI	
64Kx1	10	BiCMOS					–5.2	24	101K ECL	HM101490-10	Hitachi	
									10K ECL	HM10490-10	Hitachi	55
		CMOS	TTL	Separate	40	160	5	24		M621064-10	SGS-Thomson	
	12	BiCMOS					–5.2	24	101K ECL	HM101490-12	Hitachi	
		CMOS					5	22		P4C187-12C	• Performance	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx1	12	CMOS									(Cont'd)	
			TTL		40	160	5	24		CY7C187-12C	Cypress	
					45	150	5	22		MCM6287-12	° Motorola	
				Separate	20	130	5	24		µPD4361B-12	NEC	
					40	160	5	24		M621064-12	SGS-Thomson	
					45	150	5	24		MCM6287B-12	Motorola	5
	15	CMOS					5	22		P4C187-15C	° Performance	
			TTL		30	120	5	24		M5M5187B-15	Mitsubishi	
					40	90	5	24		CY7C187-15C	Cypress	
						160	5	22		CY7C187A-15M	† Cypress	
				Separate	20	120	5	24		µPD4361B-15	NEC	10
					40	140	5	24		MCM6287B-15	Motorola	
						160	5	24		M621064-15	SGS-Thomson	
	20	CMOS					5	22		P4C187-20C	° Performance	
			CMOS/TTL			0.45	5	24		HX6464/1SHZC	‡ Honeywell	
			TTL		30	120	5	24		M5M5187B-20	Mitsubishi	15
					35	130	5	22		MCM6287-20	° Motorola	
					40	80	5	24		CY7C187-20C	Cypress	
						90	5	22		CY7C187A-20M	† Cypress	
				Separate	20	110	5	24		µPD4361B-20	NEC	
					35	130	5	24		MCM6287B-20	Motorola	20
					40	160	5	24		M621064-20	SGS-Thomson	
	25	CMOS					5	22		P4C187-25C	° Performance	
			TTL		20	70	5	22		CY7C187-25C	Cypress	
					30	120	5	24		M5M5187B-25	Mitsubishi	
					40	80	5	22		CY7C187A-25M	† Cypress	25
				Separate	30	120	5	24		MCM6287B-25	Motorola	
			TTL/CMOS		0.05	0.45	5	24		HC6464/1SHCC	‡ Honeywell	
	35	CMOS	TTL		20	70	5	22		CY7C187-35C	Cypress	
					25	100	5	24		M5M5187A-35	Mitsubishi	
					30	80	5	22		CY7C187A-35M	† Cypress	30
				Separate	30	110	5	24		MCM6287B-35	Motorola	
	45	CMOS	TTL		25	100	5	24		M5M5187A-45	Mitsubishi	
					30	100	5	22	Refurbished	**6287-45**	**Krueger** **(3663)**	
	50	CMOS			4	35	5	24		HS65643RH	‡ Harris	
	55	CMOS	TTL		25	100	5	24		M5M5187A-55	Mitsubishi	35
	70	CMOS	TTL		30	100	5	22	Refurbished	**6287-70**	**Krueger** **(3663)**	
64Kx16	10	BiCMOS			90	230	3.3	44		HM67W1664-10	ℓ Hitachi	
		CMOS					3.3	44		M5M5V1B0016-10	ℓ Mitsubishi	
	12	BiCMOS			90	230	3.3	44		HM67W1664-12	ℓ Hitachi	
		CMOS					3.3	44		M5M5V1B0016-12	ℓ Mitsubishi	40
			TTL		50	300	5	44	Output Enable	MT5C64K16A1-12	MicronSemi	
	15	CMOS			1	260	5	44		TC551664-15	Toshiba	
			TTL		30	260	5	44		TC551664-15	Samsung	
					45	260	5	44	Output Enable	MT5C64K16A1-15	MicronSemi	
				Common	30	240	5	44		µPD431016-15	NEC	45
	17	CMOS	TTL	Common	30	230	5	44		µPD431016-17	NEC	
	20	CMOS			1	220	5	44		TC551664-20	Toshiba	
					2	200	5	44		HM621664-20L	Hitachi	
					80	200	5	44		HM621664-20	Hitachi	
			TTL		16	88	3.3	44		MT5LC64K16D4-20	ℓ MicronSemi	50
					30	220	5	44		TC551664-20	Samsung	
					40	220	5	44	Output Enable	MT5C64K16A1-20	MicronSemi	
				Common	30	220	5	44		µPD431016-20	NEC	
	25	CMOS			1	200	5	44		TC551664-25	Toshiba	
					2	200	5	44		HM621664-25L	Hitachi	55
					80	200	5	44		HM621664-25	Hitachi	
			TTL		14	80	3.3	44		MT5LC64K16D4-25	ℓ MicronSemi	
					30	200	5	44		TC551664-25	Samsung	
					35	200	5	44	Output Enable	MT5C64K16A1-25	MicronSemi	
	70	CMOS					5	44		M5M51016A-70L	Mitsubishi	60
										M5M51016A-70LL	Mitsubishi	
	85	CMOS					5	44		M5M51016A-85L	Mitsubishi	
										M5M51016A-85LL	Mitsubishi (Continued)	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx16											(Cont'd)	
	100	CMOS					5	44		M5M51016A-10L	Mitsubishi	
										M5M51016A-10LL	Mitsubishi	
	150	CMOS					3.3	44		M5M5V1B0016-15	† Mitsubishi	
64Kx18	6	BiCMOS		Common	50	360	5	52	General RISC, synchronous pipelined. Register to register. Registered output enable and chip enable. 3.3 V I/O compatible.	MCM67P618-6	Motorola	
	8	BiCMOS		Common	50	330	5	52	General RISC, synchronous pipelined. Register to register. Registered output enable and chip enable. 3.3 V I/O compatible.	MCM67P618-8	Motorola	5
	9	BiCMOS		Common	50	360	5	52	Burst mode for i486/Pentium (pipeline). 3.3 V I/O compatible.	MCM67C618-9	Motorola	
	10	BiCMOS			90	230	3.3	44		HM67W1864-10	ℓ Hitachi	
				Common	50	300	5	52	General RISC, synchronous pipelined. Register to register. Registered output enable and chip enable. 3.3 V I/O compatible.	MCM67P618-10	Motorola	
		CMOS					3.3	44		M5M5V1B0018-10	ℓ Mitsubishi	
	11	BiCMOS		Common	50	360	5	52	Burst mode for i486/Pentium (non-pipeline). 3.3V I/O compatible.	MCM67B618-11	Motorola	10
			TTL	Common	50	360	5	52	Burst mode for '040/PowerPC (non-pipeline). 3.3 V I/O compatible	MCM67M618-11	Motorola	
	12	BiCMOS			90	230	3.3	44		HM67W1864-12	ℓ Hitachi	
				Common	50	360	5	52	General asynchronous, latched address and data	MCM67A618-12	Motorola	
									General CISC synchronous. Register to latch. Registered output enable and chip enable. 3.3 V I/O compatible	MCM67F618-12	Motorola	
						270	5	52	General RISC, synchronous pipelined. Register to register. Registered output enable and chip enable. 3.3 V I/O compatible.	MCM67P618-12	Motorola	15
						360	5	52	General asynchronous, latched address	MCM67W618-12	Motorola	
		CMOS					3.3	44		M5M5V1B0018-12	ℓ Mitsubishi	
	14	BiCMOS		Common	50	340	5	52	Burst mode for i486/Pentium (non-pipeline). 3.3 V I/O compatible.	MCM67B618-14	Motorola	
			TTL	Common	50	340	5	52	Burst mode for '040/PowerPC (non-pipeline). 3.3 V I/O compatible.	MCM67M618-14	Motorola	
	15	BiCMOS		Common	50	330	5	52	General asynchronous, latched address and data	MCM67A618-15	Motorola	20
									General CISC synchronous. Register to latch. Registered output enable and chip enable. 3.3 V I/O compatible.	MCM67F618-15	Motorola	
									General asynchronous, latched address	MCM67W618-15	Motorola	
		CMOS					3.3	44		M5M5V1B0018-15	ℓ Mitsubishi	
			TTL	Common	30	260	5	44		µPD431018-15	NEC	
	17	CMOS	TTL	Common	30	220	5	44		µPD431018-17	NEC	25
	19	BiCMOS		Common	50	310	5	52	Burst mode for i486/Pentium (non-pipeline). 3.3 V I/O compatible.	MCM67B618-19	Motorola	
			TTL	Common	50	310	5	52	Burst mode for '040/PowerPC (non-pipeline). 3.3 V I/O compatible.	MCM67M618-19	Motorola	
	20	BiCMOS		Common	50	300	5	52	General asynchronous, latched address and data	MCM67A618-20	Motorola	
									General asynchronous, latched address	MCM67W618-20	Motorola	
		CMOS			2	200	5	44		HM621864-20L	Hitachi	30
					80	200	5	44		HM621864-20	Hitachi	
			TTL		50	300	5	52		**LH521028-20**	**Sharp (3764)**	
				Common	30	200	5	44		µPD431018-20	NEC	
	23	CMOS		Common			5	52		ATT7C492M	AT&T	
	25	CMOS			2	200	5	44		HM621864-25L	Hitachi	35
					80	200	5	44		HM621864-25	Hitachi	
			TTL		50	300	5	52		**LH521028-25**	**Sharp (3764)** (Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
64Kx18											(Cont'd)	
	30	CMOS	TTL		40	300	5	52		LH521028-30	Sharp	
	35	CMOS	TTL		50	300	5	52		**LH521028-35**	**Sharp (3764)**	
64Kx32	15	CMOS	TTL		400	1240	5	64		MCM3264A-15	Motorola	
	20	CMOS	TTL		360	1160	5	64		MCM3264A-20	Motorola	
64Kx36	15	CMOS	TTL		400	880	5	76		MCM36232-15	Motorola	5
64Kx4	6	BiCMOS				220	5	28		HM6709EH-6	Hitachi	
			TTL		85	195	5	28		MCM6709R-6	Motorola	
	7	BiCMOS				220	5	28		HM6709EH-7	Hitachi	
			TTL		80	190	5	28		MCM6709R-7	Motorola	
	8	BiCMOS				220	5	28		HM6709EH-8	Hitachi	10
			TTL		75	185	5	28		MCM6709R-8	Motorola	
					120	185	5	24		MCM6708A-8	Motorola	
								28		MCM6709A-8	Motorola	
				Common	90	185	5	28		KM64B258A-8	Samsung	
	10				5	250	5	28		EDI8466CA-10	EDI	15
		BiCMOS				180	–4.5	32		HM100504-10	Hitachi	
										HM101504-10	Hitachi	
					40	140	5	24		HM6708SH-10	Hitachi	
								28		HM6709SH-10	Hitachi	
			TTL		30	140	5	24		TC55B464-10	Samsung	20
								28		TC55B465-10	Samsung	
					40	170	5	24		CY7B194-10C	Cypress	
										CY7B195-10C	Cypress	
										CY7B196-10C	Cypress	
					110	175	5	24		MCM6708A-10	Motorola	25
								28		MCM6709A-10	Motorola	
				Common	15	140	5	24		TC55B464-10	Toshiba	
								28		TC55B465-10	Toshiba	
					90	175	5	28		KM64B258A-10	Samsung	
				Separate	40	170	5	28		CY7B191-10C	Cypress	30
										CY7B192-10C	Cypress	
		CMOS	TTL			175	5	24		MCM6708-10	Motorola	
										MCM6709-10	Motorola	
					45	180	5	24	2V Data Retention	MT5C2564-10LAT	MicronSemi	
										MT5C2564-10LIT	MicronSemi	35
										MT5C2564-10LXT	† MicronSemi	
								28	2V Data Retention, Output Enable	MT5C2565-10LAT	MicronSemi	
										MT5C2565-10LIT	MicronSemi	
										MT5C2565-10LXT	MicronSemi	
	12	BiCMOS				180	–4.5	32		HM100504-12	Hitachi	40
										HM101504-12	Hitachi	
					40	140	5	24		HM6708SH-12	Hitachi	
								28		HM6709SH-12	Hitachi	
			TTL		30	140	5	24		TC55B464-12	Samsung	
								28		TC55B465-12	Samsung	45
					35	160	5	24		CY7B194-12C	Cypress	
										CY7B195-12C	Cypress	
										CY7B196-12C	Cypress	
					40	170	5	24		CY7B194-12M	† Cypress	
										CY7B195-12M	† Cypress	50
										CY7B196-12M	† Cypress	
					105	165	5	24		MCM6708A-12	Motorola	
								28		MCM6709A-12	Motorola	
				Common	15	140	5	24		TC55B464-12	Toshiba	
								28		TC55B465-12	Toshiba	55
					90	165	5	28		KM64B258A-12	Samsung	
				Separate	35	160	5	28		CY7B191-12C	Cypress	
										CY7B192-12C	Cypress	
					40	170	5	28		CY7B191-12M	† Cypress	
										CY7B192-12M	† Cypress	60
		CMOS		Common		170	5	28		MCM62982-12	Motorola	
								32		MCM62983-12	Motorola	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	12	CMOS									(Cont'd)	
			TTL		30	155	5	24		CY7C194-12C	Cypress	
								28		CY7C195-12C	Cypress	
										CY7C196-12C	Cypress	
					40	160	5	24	2V Data Retention	MT5C2564-12LAT	MicronSemi	
										MT5C2564-12LIT	MicronSemi	5
										MT5C2564-12LXT †	MicronSemi	
								28	2V Data Retention, Output Enable	MT5C2565-12LAT	MicronSemi	
										MT5C2565-12LIT	MicronSemi	
										MT5C2565-12LXT †	MicronSemi	
				Common	25	140	5	24		M624064-12	SGS-Thomson	10
								28		M624065-12	SGS-Thomson	
				Separate	30	155	5	28		CY7C191-12C	Cypress	
										CY7C192-12C	Cypress	
	14	BiCMOS				180	–4.5	32		HM100504-14	Hitachi	
										HM101504-14	Hitachi	15
	15				5	250	5	28		EDI8466CA-15	EDI	
		BiCMOS										
			TTL		30	150	5	24		CY7B194-15C	Cypress	
										CY7B195-15C	Cypress	
										CY7B196-15C	Cypress	
						140	5	24		TC55B464-15	Samsung	20
								28		TC55B465-15	Samsung	
					40	160	5	24		CY7B194-15M †	Cypress	
										CY7B195-15M †	Cypress	
										CY7B196-15M †	Cypress	
				Separate	30	150	5	28		CY7B191-15C	Cypress	25
										CY7B192-15C	Cypress	
					40	160	5	28		CY7B191-15M †	Cypress	
										CY7B192-15M †	Cypress	
		CMOS					5	24		M5M5258C-15	Mitsubishi	
								28	Output enable function	M5M5259C-15	Mitsubishi	30
				Common		170	5	28		MCM62980-15	Motorola	
								32		MCM62981-15	Motorola	
								28		MCM62982-15	Motorola	
								32		MCM62983-15	Motorola	
			TTL		0.5	50	3.3	24	2V Data Retention, Low Power	MT5LC2564-15LPIT ℓ	MicronSemi	35
										MT5LC2564-15LPXT ℓ†	MicronSemi	
								28	2V Data Retention, Low Power	MT5LC2565-15LPAT ℓ	MicronSemi	
										MT5LC2565-15LPIT ℓ	MicronSemi	
										MT5LC2565-15LPXT ℓ†	MicronSemi	
					15	55	3.3	24	2V Data Retention	MT5LC2564-15LAT ℓ	MicronSemi	40
										MT5LC2564-15LIT ℓ	MicronSemi	
										MT5LC2564-15LXT ℓ†	MicronSemi	
								28	2V Data Retention	MT5LC2565-15LAT ℓ	MicronSemi	
										MT5LC2565-15LIT ℓ	MicronSemi	
										MT5LC2565-15LXT ℓ†	MicronSemi	45
					30	145	5	24		CY7C194-15C	Cypress	
										CY7C194-15M †	Cypress	
								28		CY7C195-15C	Cypress	
						160	5	28		CY7C195-15M †	Cypress	
						145	5	28		CY7C196-15C	Cypress	50
						160	5	28		CY7C196-15M †	Cypress	
						140	5	24	2V Data Retention	MT5C2564-15LAT	MicronSemi	
										MT5C2564-15LIT	MicronSemi	
										MT5C2564-15LXT †	MicronSemi	
								28	2V Data Retention, Output Enable	MT5C2565-15LAT	MicronSemi	55
										MT5C2565-15LIT	MicronSemi	
										MT5C2565-15LXT †	MicronSemi	
					50	155	5	24		MCM6208-15 °	Motorola	
										MCM6208C-15	Motorola	
								28		MCM6209-15 °	Motorola	60
										MCM6209C-15	Motorola	
				Common	10	165	5	28		LH52253-15	Sharp	
					25	130	5	24		M624064-15	SGS-Thomson	
								28		M624065-15	SGS-Thomson	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
64Kx4	15	CMOS	TTL	Common							(Cont'd)	
					30	140	5	28		μPD43253B-15	NEC	
								24		μPD43254B-15	NEC	
					40	140	5	28	Output Enable	KM64258B-15	Samsung	
				Separate	30	145	5	28		CY7C191-15C	Cypress	
						160	5	28		CY7C191-15M	† Cypress	5
						145	5	28		CY7C192-15C	Cypress	
						160	5	28		CY7C192-15M	† Cypress	
	17	CMOS	TTL		20	120	5	24		TC55464-17	Toshiba	
								28		TC55465-17	Toshiba	
	20	BiCMOS										
			TTL		40	160	5	24		CY7B194-20M	† Cypress	10
										CY7B195-20M	† Cypress	
										CY7B196-20M	† Cypress	
				Separate	40	160	5	28		CY7B191-20M	† Cypress	
										CY7B192-20M	† Cypress	
		CMOS					5	24		M5M5258C-20	Mitsubishi	15
								28	Output enable function	M5M5259C-20	Mitsubishi	
										M5M5259C-20L	Mitsubishi	
				Common		170	5	28		MCM62980-20	Motorola	
								32		MCM62981-20	Motorola	
			TTL		0.5	45	3.3	24	2V Data Retention, Low Power	MT5LC2564-20LPIT	ℓ MicronSemi	20
										MT5LC2564-20LPXT	ℓ† MicronSemi	
								28	2V Data Retention, Low Power	MT5LC2565-20LPAT	ℓ MicronSemi	
										MT5LC2565-20LPIT	ℓ MicronSemi	
										MT5LC2565-20LPXT	ℓ† MicronSemi	
					7	110	5	24	2V Data Retention, Low Power, Output Enable	MT5C2564-20LPAT	MicronSemi	25
									2V Data Retention, Low Power	MT5C2564-20LPIT	MicronSemi	
										MT5C2564-20LPXT	† MicronSemi	
								28	2V Data Retention, Lower Power, Output Enable	MT5C2565-20LPAT	MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5C2565-20LPIT	MicronSemi	
										MT5C2565-20LPXT	† MicronSemi	30
					12	50	3.3	24	2V Data Retention	MT5LC2564-20LAT	ℓ MicronSemi	
										MT5LC2564-20LIT	ℓ MicronSemi	
										MT5LC2564-20LXT	ℓ† MicronSemi	
								28	2V Data Retention	MT5LC2565-20LAT	ℓ MicronSemi	
										MT5LC2565-20LIT	ℓ MicronSemi	35
										MT5LC2565-20LXT	ℓ† MicronSemi	
					20	120	5	24		MCM62L08-20	Motorola	
										MCM62L08C-20	Motorola	
								28		MCM62L09-20	Motorola	
										MCM62L09C-20	Motorola	40
								24		TC55464-20	Toshiba	
								28		TC55465-20	Toshiba	
					30	135	5	24		CY7C194-20C	Cypress	
						150	5	28		CY7C194-20M	† Cypress	
						135	5	28		CY7C195-20C	Cypress	45
						150	5	28		CY7C195-20M	† Cypress	
						135	5	28		CY7C196-20C	Cypress	
						120	5	24	2V Data Retention	MT5C2564-20LAT	MicronSemi	
										MT5C2564-20LIT	MicronSemi	
										MT5C2564-20LXT	† MicronSemi	50
								28	2V Data Retention, Output Enable	MT5C2565-20LAT	MicronSemi	
										MT5C2565-20LIT	MicronSemi	
										MT5C2565-20LXT	† MicronSemi	
					40	150	5	28		CY7C196-20M	† Cypress	
						120	5	24		M5M5258C-20L	Mitsubishi	55
					45	145	5	24		MCM6208-20	° Motorola	
										MCM6208C-20	Motorola	
								28		MCM6209-20	° Motorola	
										MCM6209C-20	Motorola	
				Common	1	165	5			MS62253A-20	Mosel-Vitelic	60
					10	145	5	28		**LH52253-20**	**Sharp (3764)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	20	CMOS	TTL	Common							(Cont'd)	
					25	120	5	24		M624064-20	SGS-Thomson	
								28		M624065-20	SGS-Thomson	
					30	120	5	28		µPD43253B-20	NEC	
								24		µPD43254B-20	NEC	
					40	130	5	28	Output Enable	KM64258B-20	Samsung	5
				Separate	30	135	5	28		CY7C191-20C	Cypress	
						150	5	28		CY7C191-20M	† Cypress	
						135	5	28		CY7C192-20C	Cypress	
						150	5	28		CY7C192-20M	† Cypress	
	25	CMOS					5	24		M5M5258C-25	Mitsubishi	10
								28	Output enable function	M5M5259C-25	Mitsubishi	
										M5M5259C-25L	Mitsubishi	
					0.1	100	5	24		HM6208H-25L	Hitachi	
					30	100	5	24		HM6208H-25	Hitachi	
			TTL		0.5	40	3.3	24	2V Data Retention, Low Power	MT5LC2564-25LPIT	ℓ MicronSemi	15
										MT5LC2564-25LPXT	ℓ† MicronSemi	
								28	2V Data Retention, Low Power	MT5LC2565-25LPAT	ℓ MicronSemi	
										MT5LC2565-25LPIT	ℓ MicronSemi	
										MT5LC2565-25LPXT	ℓ† MicronSemi	
					1	150	5	24		MS62252A-25	Mosel-Vitelic	20
					7	100	5	24	2V Data Retention, Low Power	MT5C2564-25LPAT	MicronSemi	
										MT5C2564-25LPIT	MicronSemi	
										MT5C2564-25LPXT	† MicronSemi	
								28	2V Data Retention, Lower Power, Output Enable	MT5C2565-25LPAT	MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5C2565-25LPIT	MicronSemi	25
										MT5C2565-25LPXT	† MicronSemi	
					8	45	3.3	24	2V Data Retention	MT5LC2564-25LAT	ℓ MicronSemi	
										MT5LC2564-25LIT	ℓ MicronSemi	
										MT5LC2564-25LXT	ℓ† MicronSemi	
								28	2V Data Retention	MT5LC2565-25LAT	ℓ MicronSemi	30
										MT5LC2565-25LIT	ℓ MicronSemi	
										MT5LC2565-25LXT	ℓ† MicronSemi	
					20	120	5	24		MCM62L08-25	Motorola	
										MCM62L08C-25	Motorola	
								28		MCM62L09-25	Motorola	35
										MCM62L09C-25	Motorola	
								24		TC55464-25	Toshiba	
								28		TC55465-25	Toshiba	
					25	110	5	24	2V Data Retention	MT5C2564-25LAT	MicronSemi	
										MT5C2564-25LIT	MicronSemi	40
										MT5C2564-25LXT	† MicronSemi	
								28	2V Data Retention, Output Enable	MT5C2565-25LAT	MicronSemi	
										MT5C2565-25LIT	MicronSemi	
										MT5C2565-25LXT	† MicronSemi	
					30	115	5	24		CY7C194-25C	• Cypress	45
						125	5	24		CY7C194-25M	† Cypress	
						115	5	28		CY7C195-25C	Cypress	
						125	5	28		CY7C195-25M	† Cypress	
						115	5	28		CY7C196-25C	• Cypress	
						125	5	28		CY7C196-25M	† Cypress	50
						120	5	24		M5M5258C-25L	Mitsubishi	
					40	135	5	24		MCM6208C-25	Motorola	
								28		MCM6209-25	• Motorola	
										MCM6209C-25	Motorola	
				Common	1	165	5			MS62253A-25	Mosel-Vitelic	55
					5	150	5	24		**LH52252A-25**	**Sharp (3764)**	
					10	135	5	28		**LH52253-25**	**Sharp (3764)**	
					30	120	5	28		µPD43253B-25	NEC	
								24		µPD43254B-25	NEC	
					40	120	5	28	Output Enable	KM64258B-25	Samsung	60
				Separate	30	115	5	28		CY7C191-25C	Cypress	
						125	5	28		CY7C191-25M	† Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	25	CMOS	TTL	Separate	30						(Cont'd)	
						115	5	28		CY7C192-25C	Cypress	
						125	5	28		CY7C192-25M	† Cypress	
	35	CMOS					5	28	Output enable function	M5M5259C-35	Mitsubishi	
										M5M5259C-35L	Mitsubishi	
										PDM41298L-35	Paradigm	5
					0.1	100	5	24		HM6208H-35L	Hitachi	
					1	165	5			MS62253A-35	Mosel-Vitelic	
					30	100	5	24		HM6208H-35	Hitachi	
			TTL				5	24		M5M5258C-35L	Mitsubishi	
					0.5	35	3.3	24	2V Data Retention, Low Power	MT5LC2564-35LPIT	ℓ MicronSemi	10
										MT5LC2564-35LPXT	ℓ† MicronSemi	
								28	2V Data Retention, Low Power	MT5LC2565-35LPAT	ℓ MicronSemi	
										MT5LC2565-35LPIT	ℓ MicronSemi	
										MT5LC2565-35LPXT	ℓ† MicronSemi	
					1	150	5	24		MS62252A-35	Mosel-Vitelic	15
					2	120	5	24		M5M5258C-35	Mitsubishi	
					6	40	3.3	24	2V Data Retention	MT5LC2564-35LAT	ℓ MicronSemi	
										MT5LC2564-35LIT	ℓ MicronSemi	
										MT5LC2564-35LXT	ℓ† MicronSemi	
								28	2V Data Retention	MT5LC2565-35LAT	ℓ MicronSemi	20
										MT5LC2565-35LIT	ℓ MicronSemi	
										MT5LC2565-35LXT	ℓ† MicronSemi	
					7	80	5	24	2V Data Retention, Low Power	MT5C2564-35LPAT	MicronSemi	
										MT5C2564-35LPIT	MicronSemi	
										MT5C2564-35LPXT	† MicronSemi	25
								28	2V Data Retention, Lower Power, Output Enable	MT5C2565-35LPAT	MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5C2565-35LPIT	MicronSemi	
										MT5C2565-35LPXT	† MicronSemi	
					20	110	5	24		MCM62L08-35	Motorola	
										MCM62L08C-35	Motorola	30
								28		MCM62L09-35	Motorola	
										MCM62L09C-35	Motorola	
						100	5	24		TC55464-35	Toshiba	
								28		TC55465-35	Toshiba	
					25	90	5	24	2V Data Retention	MT5C2564-35LAT	MicronSemi	35
										MT5C2564-35LIT	MicronSemi	
										MT5C2564-35LXT	† MicronSemi	
								28	2V Data Retention, Output Enable	MT5C2565-35LAT	MicronSemi	
										MT5C2565-35LIT	MicronSemi	
										MT5C2565-35LXT	† MicronSemi	40
					30	115	5	24		CY7C194-35C	° Cypress	
						125	5	24		CY7C194-35M	°† Cypress	
						115	5	28		CY7C195-35C	Cypress	
						125	5	28		CY7C195-35M	† Cypress	
						115	5	28		CY7C196-35C	° Cypress	45
						125	5	28		CY7C196-35M	† Cypress	
					35	130	5	28		MCM6209C-35	Motorola	
					40	135	5	24		MCM6208C-35	Motorola	
				Common	5	120	5	24		**LH52252A-35**	**Sharp (3764)**	
					10	135	5	28		**LH52253-35**	**Sharp (3764)**	50
				Separate	30	115	5	28		CY7C191-35C	Cypress	
						125	5	28		CY7C191-35M	† Cypress	
						115	5	28		CY7C192-35C	Cypress	
						125	5	28		CY7C192-35M	† Cypress	
	45	CMOS					5	24		PDM41258L-45	Paradigm	55
								28		PDM41298L-45	Paradigm	
										PDM41298S-45	Paradigm	
			TTL		1	150	5	24		MS62252A-45	Mosel-Vitelic	
					30	125	5	24		CY7C194-45M	°† Cypress	
								28		CY7C195-45M	† Cypress	60
										CY7C196-45M	°† Cypress	
				Common	0.25	40	5	24		MSM464L-45	Mosaic Semi	
										MSM464LI-45	Mosaic Semi	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx4	45	CMOS	TTL	Common	0.25	40	5	24			(Cont'd)	
										MSM464LM-45	† Mosaic Semi	
										MSM464LMB-45	† Mosaic Semi	
					2	40	5	24		MSM464-45	Mosaic Semi	
										MSM464I-45	Mosaic Semi	
										MSM464M-45	† Mosaic Semi	5
										MSM464MB-45	† Mosaic Semi	
					5	100	5	24		**LH52252A-45**	**Sharp (3764)**	
				Separate	30	125	5	28		CY7C191-45M	† Cypress	
										CY7C192-45M	† Cypress	
	55	CMOS					5	28		PDM41298L-55B	† Paradigm	10
			TTL	Common	0.25	40	5	24		MSM464L-55	Mosaic Semi	
										MSM464LI-55	Mosaic Semi	
										MSM464LM-55	† Mosaic Semi	
										MSM464LMB-55	† Mosaic Semi	
					2	40	5	24		MSM464-55	Mosaic Semi	15
										MSM464I-55	Mosaic Semi	
										MSM464M-55	† Mosaic Semi	
										MSM464MB-55	† Mosaic Semi	
64Kx8	15	CMOS	TTL		40	200	5	32		IS61C512-15	ISSI	
	20	CMOS	TTL		40	185	5	32		IS61C512-20	ISSI	20
	45	CMOS	TTL		30	130	5	32	Low Power	IS62C512-45	ISSI	
	55	CMOS	TTL		30	120	5	32	Low Power	IS62C512-55	ISSI	
				Common	0.02	70	5	32		KM68512-5L	Samsung	
					0.1	70	5	32		KM68512-5	Samsung	
	60	CMOS					5	122		HC80805	‡ Honeywell	25
	70	CMOS	TTL		30	95	5	32	Low Power	IS62C512-70	ISSI	
				Common	0.02	70	5	32		KM68512-7L	Samsung	
					0.1	70	5	32		KM68512-7	Samsung	
	85	CMOS	TTL	Common	0.02	70	5	32		KM68512-8L	Samsung	
					0.1	70	5	32		KM68512-8	Samsung	30
	100	CMOS					5	40		MBM27C1024-10	Fujitsu	
	120	CMOS					5	40		MBM27C1024-12	Fujitsu	
	150	CMOS					5	28		MBM27C512-15	Fujitsu	
	200	CMOS					5	40		MBM27C1024-20	Fujitsu	
128Kx8	10	CMOS					5	32		ATT7C340	AT&T	35
	15	CMOS					5			V63C83-15	Mosel-Vitelic	
			TTL		4	195	5	32		EDI88130LPS-15C	EDI	
										EDI88130LPS-15I	EDI	
					10	195	5	32		EDI88130CS-15C	EDI	
										EDI88130CS-15C	EDI	40
										EDI88130CS-15I	EDI	
	17	CMOS	TTL		4	195	5	32		EDI188130LPS-17C	EDI	
										EDI88130LPS-17C	ℓ EDI	
										EDI88130LPS-17I	EDI	
					10	195	5	32		EDI88130CS-17C	EDI	45
										EDI88130CS-17I	EDI	
				Common	2	245	5	32		EDI8812LPS-17C	EDI	
							2	245		EDI88128LPS-17C	ℓ EDI	
							5	32		EDI88128LPS-17I	EDI	
					5	245	5	32		EDI88128CS-17C	EDI	50
										EDI88128CS-17I	EDI	
	20	CMOS					5			V63C83-20	Mosel-Vitelic	
					40	290	5	66		PUMA2S1000L-020	Mosaic Semi	
					80	290	5	66		PUMA2S1000-020	Mosaic Semi	
			TTL		2	225	5	32		EDI88128LPS-20B	† EDI	55
										EDI88130LPS-20B	EDI	
					4	195	5	32		EDI88130LPS-20C	EDI	
										EDI88130LPS-20I	EDI	
					5	225	5	32		EDI88128CS-20B	† EDI	
										EDI88130CS-20B	EDI	60
					10	195	5	32		EDI88130CS-20C	EDI	
										EDI88130CS-20I	EDI	
				Common	2	225	5	32		EDI88128LPS-20C	EDI	
										EDI88128LPS-20I	EDI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	20	CMOS	TTL	Common							(Cont'd)	
					5	225	5	32		EDI88128CS-20C	EDI	
										EDI88128CS-20I	EDI	
					10	175	5	32		MSM8128L-020	Mosaic Semi	
										MSM8129-020	† Mosaic Semi	
					30	120	5	32		MT5C1008-20	MicronSemi	5
	25	CMOS					5	32		EDI88130L25B	† EDI	
										MT5C1008-25	† MicronSemi	
										V63C83-25	Mosel-Vitelic	
					40	290	5	66		PUMA2S1000L-025	Mosaic Semi	
					80	290	5	66		PUMA2S1000-025	Mosaic Semi	10
			TTL		2	180	5	32		EDI88128LPS-25B	† EDI	
										EDI88130LPS-25B	EDI	
						225	5	32		EDI88130LPS-25I	EDI	
					5	225	5	32		DEI88130CS-25I	EDI	
						180	5	32		EDI88128CS-25B	† EDI	15
										EDI88130CS-25B	EDI	
				Common	2	180	5	32		EDI88128LPS-25C	EDI	
										EDI88128LPS-25I	EDI	
					5	180	5	32		EDI88128CS-25C	EDI	
										EDI88128CS-25I	EDI	20
					10	175	5	32		MSM8128L-025	Mosaic Semi	
	30	CMOS	TTL		55	165	5	32		MCM6226-30	Motorola	
	35	CMOS					5	32		EDI88128L35C	EDI	
			TTL		2	180	5	32		EDI88128LPS-35B	† EDI	
										EDI88130LPS-35B	EDI	25
										EDI88130LPS-35I	EDI	
					5	180	5	32		EDI88128CS-35B	† EDI	
										EDI88130CS-35B	EDI	
										EDI88130CS-35I	EDI	
					28	210	5	66		PUMA2S1000-35	† Mosaic Semi	30
				Common	2	180	5	32		EDI88128LPS-35C	EDI	
										EDI88128LPS-35I	EDI	
					5	180	5	32		EDI88128CS-35C	EDI	
										EDI88128CS-35I	EDI	
					10	175	5	32		MSM8128L-35	Mosaic Semi	35
					30	120	5	32		MT5C1008-35	MicronSemi	
	45	CMOS					5	64		IDT7M824S-45	‡ IDT	
								32		IDT71024L-45	‡ IDT	
										IDT71024S-45	‡ IDT	
			TTL		2	180	5	32		EDI88128LPS-45B	† EDI	40
										EDI88128LPS-45I	EDI	
										EDI88130LPS-45B	EDI	
										EDI88130LPS-45I	EDI	
					5	180	5	32		EDI88128CS-45B	† EDI	
										EDI88128CS-45I	EDI	45
										EDI88130CS-45B	EDI	
										EDI88130CS-45I	EDI	
					28	210	5	66		PUMA2S1000-45	† Mosaic Semi	
				Common	2	120	5	32		MSM8128X-45	† Mosaic Semi	
					30	120	5	32		MT5C1008-45	MicronSemi	50
	50	CMOS					5	30		IDT8MP824-50	‡ IDT	
	55	CMOS					5	32		EDI88128L55C	EDI	
								64		IDT7M824S-55	‡ IDT	
								32		IDT71024L-55	‡ IDT	
										IDT71024L-55B	‡ IDT	55
										IDT71024S-55	‡ IDT	
										IDT71024S-55B	‡ IDT	
			TTL		2	180	5	32		EDI88128LPS-55B	† EDI	
										EDI88128LPS-55I	EDI	
										EDI88130LPS-55B	EDI	60
										EDI88130LPS-55I	EDI	
					5	180	5	32		EDI88128CS-55B	† EDI	
										EDI88128CS-55I	EDI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	55	CMOS	TTL		5	180	5	32			(Cont'd)	
										EDI88130CS-55B	EDI	
										EDI88130CS-55I	EDI	
					28	210	5	66		PUMA2S1000-55	† Mosaic Semi	
				Common	2	120	5	32		MSM8128X-55	† Mosaic Semi	
	60	CMOS					5	32		EDI8M8128C60C	EDI	5
								30		IDT8MP824-60	‡ IDT	
	70	CMOS					5	32		EDI8M8128C70B	† EDI	
										EDI8M8128C70C	EDI	
										EDI88128C70B	† EDI	
										EDI88128L70B	† EDI	10
										EDI88128P70B	† EDI	
										EDI88130C70B	† EDI	
										EDI88130P70B	† EDI	
										IDT71024L-70	‡ IDT	
										IDT71024L-70B	‡ IDT	15
										IDT71024S-70	‡ IDT	
										IDT71024S-70B	‡ IDT	
								28		SRM20100L-70	S-MOS	
					0.01	70	5	32	Low Power	GM76C8128L-70	GoldStar	
			TTL		0.1	100	5	32		MSM521001L-70	OKI	20
					1	95	5	32		EDI88128LP-70B	† EDI	
					5	95	5	32		EDI88128C-70B	† EDI	
					28	210	5	66		PUMA2S1000-70	† Mosaic Semi	
				Common	2	120	5	32		MSM8128X-70	† Mosaic Semi	
						70	5	32		µPD431000A-70	NEC	25
			TTL/CMOS		0.1	80	5	32		CXK581001-70	Sony	
				Common	0.1	70	5	32		µPD431000-70	NEC	
	80	CMOS					5	32		EDI8M8128C80B	† EDI	
										EDI8M8128C80C	EDI	
	85	CMOS					5	32		EDI88128C85B	† EDI	30
										EDI88128P85B	† EDI	
										EDI88130C85B	† EDI	
										EDI88130P85B	† EDI	
								28		SRM20100L-85	S-MOS	
								32		TMS62828-85	TI	35
										TMS62828L-85	TI	
					0.01	85	5	32	Low Power	GM76C8128L-85	GoldStar	
			TTL		0.1	100	5	32		MSM521001L-85	OKI	
					1	95	5	32		EDI88128LP-85B	† EDI	
										EDI88130LP-85B	† EDI	40
					5	95	5	32		EDI88128C-85B	† EDI	
										EDI88130C-85B	† EDI	
				Common	0.05	70	5	32		µPD431000-85LL	NEC	
					0.1	70	5	32		µPD431000-85L	NEC	
					2	70	5	32		HY628100-85	Hyundai	45
										MSM8128X-85	† Mosaic Semi	
										µPD431000-85	NEC	
										µPD431000A-85	NEC	
			TTL/CMOS		0.1	80	5	32		CXK581001-85	Sony	
	90	CMOS					5	32		EDI8M8128C90B	† EDI	50
										EDI8M8128C90C	EDI	
										EDI8M8128P90B	† EDI	
										EDI8M8128P90C	EDI	
										IDT71024L-90B	‡ IDT	
										IDT71024S-90B	‡ IDT	55
	100						5	32		DS1245-100	Dallas	
		CMOS					5	32		EDI8M8128C100B	† EDI	
										EDI8M8128C100C	EDI	
										EDI8M8128P100B	† EDI	
										EDI8M8128P100C	EDI	60
										EDI88128C100B	† EDI	
										EDI88128L100B	EDI	
										EDI88128P100B	† EDI	
										EDI88130C100B	† EDI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	100	CMOS					5	32			(Cont'd)	
										EDI88130P100B	† EDI	
										HM658128-10	° Hitachi	
									Refurbished	628128-10	Krueger	
								28		SRM20100L-100	S-MOS	
								32		TMS62828-10	TI	5
										TMS62828L-10	TI	
					0.01	100	5	32	Low Power	GM76C8128L-10	GoldStar	
			TTL		0.004	60	5	32		LH511000-10UL	Sharp	
					0.02	60	5	32		LH511000-10LL	Sharp	
					0.04	60	5	32		LH511000-10L	Sharp	10
					0.1	100	5	32		MSM521001L-10	OKI	
					1	95	5	32		EDI88128LP-100B	† EDI	
										EDI88130LP-100B	† EDI	
					5	95	5	32		EDI88128C-100B	† EDI	
										EDI88130C-100B	† EDI	15
				Common	0.05	70	5	32		μPD431000-10LL	NEC	
					0.1	70	5	32		μPD431000-10L	NEC	
					2	70	5	32		MSM8128X-10	† Mosaic Semi	
										μPD431000-10	NEC	
										μPD431000A-10	NEC	20
			TTL/CMOS		0.1	60	5	32		CXK581100-100	Sony	
	120						5	32		DS1245-120	Dallas	
		CMOS					5	32		EDI8M8128C120B	† EDI	
										EDI8M8128C120C	EDI	
										EDI8M8128P120B	† EDI	25
										EDI8M8128P120C	EDI	
										EDI88128C120B	† EDI	
										EDI88128P120B	† EDI	
										EDI88130C120B	† EDI	
										EDI88130P120B	† EDI	30
										HM658128-12	° Hitachi	
										TMS62828-12	TI	
										TMS62828L-12	TI	
			TTL				5	32		LH511000	Sharp	
					0.004	60	5	32		LH511000-12UL	Sharp	35
					0.02	60	5	32		LH511000-12LL	Sharp	
					0.04	60	5	32		LH511000-12L	Sharp	
				Common	0.05	70	5	32		μPD431000-12LL	NEC	
					0.1	70	5	32		μPD431000-12L	NEC	
					2	70	5	32		MSM8128X-12	† Mosaic Semi	40
										μPD431000-12	NEC	
			TTL/CMOS		0.1	60	5	32		CXK581100-120	Sony	
	150	CMOS					5	32		EDI8M8128C150B	† EDI	
										EDI8M8128C150C	EDI	
										EDI8M8128P150B	† EDI	45
										EDI8M8128P150C	EDI	
										MBM27C1001	Fujitsu	
										MH12808TNA-15	Mitsubishi	
	200	CMOS					5	32		X28C010	† Xicor	
	240	CMOS			0.1	20	5	32		CXK581100	Sony	50
128Kx9	15	CMOS	TTL	Common			5	32		MT5C1189-15	MicronSemi	
	16	CMOS	TTL	Common	70	150	5	32	Synchronous	MT58C1289-16	MicronSemi	
	17	CMOS	TTL	Common	40	160	5	32		MT5C1189-17	MicronSemi	
	20	CMOS	TTL		60	130	5	32		MT58C1289-20	MicronSemi	
				Common	40	120	5	44		MT5C1189-20	MicronSemi	55
	25	CMOS	TTL	Common	30	125	5	32		MT5C1189-25	MicronSemi	
128Kx24	35	CMOS					5	66		DPS128X24A-35	Dense-Pac	
	45	CMOS					5	66		DPS128X24A-45	Dense-Pac	
	55	CMOS					5	66		DPS128X24A-55	Dense-Pac	
	70	CMOS					5	66		DPS128X24A-70	Dense-Pac	60
128Kx32	25	CMOS	TTL		40	600	5	66		PUMA2S4000-025	† Mosaic Semi	
	35	CMOS	TTL		40	600	5	66		PUMA2S4000-35	† Mosaic Semi	
	45	CMOS	TTL		8	480	5	68		PUMA67S4000-45	† Mosaic Semi	
	55	CMOS	TTL		8	480	5	68		PUMA67S4000-55	† Mosaic Semi	
	70	CMOS	TTL		8	480	5	68		PUMA67S4000-70	† Mosaic Semi	65

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx16	85	CMOS			11	200	5	40		M46Z128-85	SGS-Thomson	
										M46Z128Y-85	SGS-Thomson	
	120	CMOS			11	200	5	40		M46Z128-120	SGS-Thomson	
										M46Z128Y-120	SGS-Thomson	
128Kx32	20	CMOS	TTL		80	720	5	64		MCM32128-20	Motorola	5
	25	CMOS	TTL		80	640	5	64		MCM32128-25	Motorola	
	35	CMOS	TTL		80	600	5	64		MCM32128-35	Motorola	
	45	CMOS			60	320	5	66		PUMA2S4000-45	Mosaic Semi	
										PUMA2S4000I-45	Mosaic Semi	
										PUMA2S4000M-45 †	Mosaic Semi	10
										PUMA2S4000MB-45 †	Mosaic Semi	
	55	CMOS			60	320	5	66		PUMA2S4000-55	Mosaic Semi	
										PUMA2S4000I-55	Mosaic Semi	
										PUMA2S4000M-55 †	Mosaic Semi	
										PUMA2S4000MB-55 †	Mosaic Semi	15
	70	CMOS			60	320	5	66		PUMA2S4000-70	Mosaic Semi	
										PUMA2S4000I-70	Mosaic Semi	
										PUMA2S4000M-70 †	Mosaic Semi	
										PUMA2S4000MB-70 †	Mosaic Semi	
	80	CMOS					5	122		HC83240 ‡	Honeywell	20
128Kx8	8	BiCMOS	TTL		60	185	5	32		MCM6726A-8	Motorola	
	10	BiCMOS			60	170	5	32		HM678127UH-10	Hitachi	
			TTL		60	175	5	32		MCM6726-10	Motorola	
										MCM6726A-10	Motorola	
				Common		230	5	36		**TC55BS8125-10**	**Toshiba (3818)**	25
					60	160	5	32		KM68B1002-10	Samsung	
				Separate		230	5	40		**TC55BS8128-10**	**Toshiba (3817)**	
		CMOS					3.3	32		M5M5V1B008-10 ℓ	Mitsubishi	
			TTL	Common	0.2	70	5	32		TC551001A-10	Toshiba	
	12	BiCMOS			60	170	5	32		HM678127UH-12	Hitachi	30
			TTL		30	150	5	32		TC55B8128-12	Samsung	
										TC55B8128-12	Toshiba	
					60	165	5	32		MCM6726-12	Motorola	
										MCM6726A-12	Motorola	
				Common		230	5	36		**TC55BS8125-12**	**Toshiba (3818)**	35
					60	150	5	32		KM68B1002-12	Samsung	
				Separate		220	5	40		**TC55BS8128-12**	**Toshiba (3817)**	
		CMOS					3.3	32		M5M5V1B008-12 ℓ	Mitsubishi	
			TTL		3	190	5	32	2V Data Retention	MT5C1008-12LPAT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-12LPIT	MicronSemi	40
									2V Data Retention	MT5C1008-12LPXT †	MicronSemi	
					45	190	5	32	2V Data Retention	MT5C1008-12LAT	MicronSemi	
										MT5C1008-12LIT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-12LXT †	MicronSemi	
					50	300	5	32		MT5C128K8A1-12	MicronSemi	45
				Common	40	250	5	32		CXK581120-12	Sony	
	15	BiCMOS			60	170	5	32		HM678127UH-15	Hitachi	
			TTL		30	150	5	32		TC55B8128-15	Samsung	
										TC55B8128-15	Toshiba	
					60	155	5	32		MCM6726-15	Motorola	50
										MCM6726A-15	Motorola	
		CMOS					3.3	32		M5M5V1B008-15 ℓ	Mitsubishi	
			CMOS/TTL	Common	30	270	5	32		ATT7C108-15	AT&T	
										ATT7C109-15	AT&T	
			TTL		3	165	5	32	2V Data Retention	MT5C1008-15LPAT	MicronSemi	55
									2V Data Retention, Low Power	MT5C1008-15LPIT	MicronSemi	
									2V Data Retention	MT5C1008-15LPXT †	MicronSemi	
					40	170	5	32		CY7C1009-15C	Cypress	
						165	5	32	2V Data Retention	MT5C1008-15LAT	MicronSemi	
										MT5C1008-15LIT	MicronSemi	60

(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	15	CMOS	TTL		40	165	5	32			(Cont'd)	
									2V Data Retention, Low Power	MT5C1008-15LXT †	MicronSemi	
					45	260	5	32		MT5C128K8A1-15	MicronSemi	
					50	220	5	32		IS61C1024-15	ISSI	
				Common	25	160	5	32		M628128-15	SGS-Thomson	
					30	160	5	32		µPD431008-15	NEC	5
					40	220	5	32		**CXK581120-15**	**Sony (3793)**	
	17	CMOS	TTL		3	155	5	32	2V Data Retention	MT5C1008-17LPAT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-17LPIT	MicronSemi	
									2V Data Retention	MT5C1008-17LPXT †	MicronSemi	
					40	155	5	32	2V Data Retention	MT5C1008-17LAT	MicronSemi	10
										MT5C1008-17LIT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-17LXT †	MicronSemi	
				Common	25	160	5	32		M628128-17	SGS-Thomson	
					30	150	5	32		µPD431008-17	NEC	
			TTL/CMOS			180	5	32		**CXK581120-17**	**Sony (3793)**	15
	20	BiCMOS	TTL		30	150	5	32		TC55B8128-20	Samsung	
										TC55B8128-20	Toshiba	
		CMOS			2	170	5	32		HM628127H-20L	Hitachi	
						150	5			**MS6231008-20**	**Mosel-Vitelic (3697)**	
					80	170	5	32		HM628127H-20	Hitachi	20
			CMOS/TTL	Common	30	270	5	32		ATT7C108-20	AT&T	
						225	5	32		ATT7C109-20	AT&T	
			TTL		0.5	65	3.3	32	2V Data Retention, Low Power, Output Enable	MT5LC1008-20LPAT ℓ	MicronSemi	
										MT5LC1008-20LPIT ℓ	MicronSemi	
										MT5LC1008-20LPXT ℓ†	MicronSemi	25
					2	150	5	32		MS621008-20	Mosel-Vitelic	
					3	140	5	32	2V Data Retention	MT5C1008-20LPAT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-20LPIT	MicronSemi	
									2V Data Retention	MT5C1008-20LPXT †	MicronSemi	
					14	65	3.3	32	2V Data Retention, Low Power	MT5LC1008-20LAT ℓ	MicronSemi	30
									2V Data Retention, Output Enable	MT5LC1008-20LIT ℓ	MicronSemi	
									2V Data Retention, Low Power	MT5LC1008-20LXT ℓ†	MicronSemi	
					16	88	3.3	32		MT5LC128K8D4-20 ℓ	MicronSemi	
					20	180	5	32		MCM6226A-20	Motorola	
										LH521008-20	**Sharp (3764)**	35
					25	170	5	32		MB82008-20	Fujitsu	
					30	155	5	32		CY7C1009-20C	Cypress	
						170	5	32		CY7C1009-20M †	Cypress	
					35	140	5	32	2V Data Retention	MT5C1008-20LAT	MicronSemi	
										MT5C1008-20LIT	MicronSemi	40
									2V Data Retention, Low Power	MT5C1008-20LXT †	MicronSemi	
						180	5	32		LH521007-20	Sharp	
										LH521007A-20	**Sharp (3764)**	
					40	220	5	32		MT5C128K8A1-20	MicronSemi	
					50	190	5	32		IS61C1024-20	ISSI	45
				Common	25	140	5	32		M628128-20	SGS-Thomson	
					30	140	5	32		µPD431008-20	NEC	
					40	155	5	32		MSM8128-020	Mosaic Semi	
						170	5	32		KM681001-20	Samsung	
						200	5	32		**CXK581120-20**	**Sony (3793)**	50
	25	CMOS			2	170	5	32		HM628127H-25L	Hitachi	
						150	5			**MS6231008-25**	**Mosel-Vitelic (3697)**	
					80	170	5	32		HM628127H-25	Hitachi	
			CMOS/TTL			2	5	40		HX6828/1SHZC ‡	Honeywell	
				Common	30	160	5	32		ATT7C108-25	AT&T	55
										ATT7C109-25	AT&T	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	25	CMOS									(Cont'd)	
			TTL		0.5	55	3.3	32	2V Data Retention, Low Power, Output Enable	MT5LC1008-25LPAT ℓ	MicronSemi	
										MT5LC1008-25LPIT ℓ	MicronSemi	
										MT5LC1008-25LPXT ℓ†	MicronSemi	
					2	150	5	32		MS621008-25	Mosel-Vitelic	
					3	125	5	32	2V Data Retention	MT5C1008-25LPAT	MicronSemi	5
									2V Data Retention, Low Power	MT5C1008-25LPIT	MicronSemi	
									2V Data Retention	MT5C1008-25LPXT †	MicronSemi	
					12	55	3.3	32	2V Data Retention, Low Power	MT5LC1008-25LAT ℓ	MicronSemi	
									2V Data Retention, Output Enable	MT5LC1008-25LIT ℓ	MicronSemi	
									2V Data Retention, Low Power	MT5LC1008-25LXT ℓ†	MicronSemi	10
					14	80	3.3	32		MT5LC128K8D4-25 ℓ	MicronSemi	
					20	160	5	32		MCM62L26A-25	Motorola	
										MCM6226A-25	Motorola	
						180	5	32		**LH521008-25**	**Sharp (3764)**	
					25	170	5	32		MB82008-25	Fujitsu	15
					30	145	5	32		CY7C1009-25C	Cypress	
						160	5	32		CY7C1009-25M †	Cypress	
						150	5	32		CY7C108-25C	Cypress	
										CY7C109-25C	Cypress	
						125	5	32	2V Data Retention	MT5C1008-25LAT	MicronSemi	20
										MT5C1008-25LIT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-25LXT †	MicronSemi	
					35	150	5	28		CY7C108-25M †	Cypress	
								32		CY7C109-25M †	Cypress	
						200	5	32		MT5C128K8A1-25	MicronSemi	25
						180	5	32		LH521007-25	Sharp	
										LH521007A-25	**Sharp (3764)**	
					50	170	5	32		IS61C1024-25	ISSI	
					60	170	5	32		MCM6226-25	Motorola	
				Common	20	70	5	32		MSM8129-025L	Mosaic Semi	30
										MSM8129-025LI	Mosaic Semi	
										MSM8129-025LM †	Mosaic Semi	
										MSM8129-025LMB †	Mosaic Semi	
										MSM8129-025LMC †	Mosaic Semi	
					25	130	5	32		M628128-25	SGS-Thomson	35
					30	80	5	32		MSM8129-025	Mosaic Semi	
										MSM8129-025I	Mosaic Semi	
										MSM8129-025M †	Mosaic Semi	
										MSM8129-025MB †	Mosaic Semi	
										MSM8129-025MC †	Mosaic Semi	40
					40	155	5	32		MSM8128-025	Mosaic Semi	
						150	5	32		KM681001-25	Samsung	
	30	CMOS	TTL		20	115	5	32		MCM6226A-30	Motorola	
	35	CMOS					5	32		EDI88130L35B †	EDI	
					2	150	5			**MS6231008-35**	**Mosel-Vitelic (3697)**	45
			TTL		0.5	45	3.3	32	2V Data Retention, Low Power, Output Enable	MT5LC1008-35LPAT ℓ	MicronSemi	
										MT5LC1008-35LPIT ℓ	MicronSemi	
										MT5LC1008-35LPXT ℓ†	MicronSemi	
					2	150	5	32		MS621008-35	Mosel-Vitelic	
					3	115	5	32	2V Data Retention	MT5C1008-35LPAT	MicronSemi	50
									2V Data Retention, Low Power	MT5C1008-35LPIT	MicronSemi	
									2V Data Retention	MT5C1008-35LPXT †	MicronSemi	
					8	45	3.3	32	2V Data Retention, Low Power	MT5LC1008-35LAT ℓ	MicronSemi	
									2V Data Retention, Output Enable	MT5LC1008-35LIT ℓ	MicronSemi	
									2V Data Retention, Low Power	MT5LC1008-35LXT ℓ†	MicronSemi	55
					20	150	5	32		MCM62L26A-35	Motorola	
										MCM6226A-35	Motorola	
										LH521008-35	**Sharp (3764)**	
					25	125	5	32		CY7C108-35C	Cypress	
										CY7C109-35C	Cypress	60
						115	5	32	2V Data Retention	MT5C1008-35LAT	MicronSemi	
										MT5C1008-35LIT	MicronSemi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	35	CMOS	TTL		25	115	5	32			(Cont'd)	
									2V Data Retention, Low Power	MT5C1008-35LXT	† MicronSemi	
					30	125	5	32		CY7C108-35M	† Cypress	
										CY7C109-35M	† Cypress	
					35	165	5	32		LH521007-35	ℓ Sharp	
										LH521007A-35	**Sharp (3764)**	5
					50	140	5	32		IS61C1024-35	ISSI	
				Common	1	110	5	32		**DPS128M8A-35C**	**Dense-Pac (3576)**	
					20	70	5	32		MSM8129-35L	Mosaic Semi	
										MSM8129-35LI	Mosaic Semi	
										MSM8129-35LM	† Mosaic Semi	10
										MSM8129-35LMB	Mosaic Semi	
										MSM8129-35LMC	Mosaic Semi	
					30	80	5	32		MSM8129-35	Mosaic Semi	
										MSM8129-35I	Mosaic Semi	
										MSM8129-35M	† Mosaic Semi	15
										MSM8129-35MB	Mosaic Semi	
										MSM8129-35MC	† Mosaic Semi	
					40	155	5	32		MSM8128-35	Mosaic Semi	
						130	5	32		KM681001-35	Samsung	
					55	130	5	32		**CXK581020-35**	**Sony (3792)**	20
	45	CMOS	TTL		0.5	40	3.3	32	2V Data Retention, Low Power, Output Enable	MT5LC1008-45LPAT	ℓ MicronSemi	
										MT5LC1008-45LPIT	ℓ MicronSemi	
										MT5LC1008-45LPXT	ℓ† MicronSemi	
					3	110	5	32	2V Data Retention	MT5C1008-45LPAT	MicronSemi	
									2V Data Retention, Low Power	MT5C1008-45LPIT	MicronSemi	25
									2V Data Retention	MT5C1008-45LPXT	† MicronSemi	
					6	40	3.3	32	2V Data Retention, Low Power	MT5LC1008-45LAT	ℓ MicronSemi	
									2V Data Retention, Output Enable	MT5LC1008-45LIT	ℓ MicronSemi	
									2V Data Retention, Low Power	MT5LC1008-45LXT	ℓ† MicronSemi	
					20	140	5	32		MCM62L26A-45	Motorola	30
										MCM6226A-45	Motorola	
					25	115	5	32		CY7C108-45C	Cypress	
										CY7C109-45C	Cypress	
						110	5	32	2V Data Retention	MT5C1008-45LAT	MicronSemi	
										MT5C1008-45LIT	MicronSemi	35
									2V Data Retention, Low Power	MT5C1008-45LXT	† MicronSemi	
					30	115	5	32		CY7C108-45M	† Cypress	
										CY7C109-45M	† Cypress	
				Common	1	110	5	32		**DPS128M8A-45C**	**Dense-Pac (3576)**	
					2	120	5	32		**DPS128M8A-45I**	**Dense-Pac (3576)**	40
					15	80	5	32		MSM8128-45	Mosaic Semi	
					55	130	5	32		**CXK581020-45**	**Sony (3792)**	
		CMOS	TTL	Common	3	120	5	32		**DPS128M8A-45M**	† **Dense-Pac (3576)**	
	47	CMOS	TTL		55	130	5	32		CXK581021-47	Sony	
	55	CMOS				80	5	32		HM628128A-55	Hitachi	45
										M5M51008A-55	Mitsubishi	
										M5M51008A-55L	Mitsubishi	
										M5M51008A-55LL	Mitsubishi	
			TTL		55	130	5	32		**CXK581020-55**	**Sony (3792)**	
				Common	1	110	5	32		**DPS128M8A-55C**	**Dense-Pac (3576)**	50
					2	120	5	32		**DPS128M8A-55I**	**Dense-Pac (3576)**	
					15	80	5	32		MSM8128-55	Mosaic Semi	
		CMOS	TTL	Common	3	120	5	32		**DPS128M8A-55M**	† **Dense-Pac (3576)**	
	70	CMOS				70	5	32		HM628128-70	Hitachi	
					0.05	70	5	32		HM628128-70SL	Hitachi	55
					0.1	70	5	32		HM628128-70L	Hitachi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
128Kx8	70	CMOS									(Cont'd)	
			TTL				5	32		M5M51T08A-70SL	Mitsubishi	
										M5M51008A-70	Mitsubishi	
										M5M51008A-70L	Mitsubishi	
										M5M51008A-70LL	Mitsubishi	
					0.02	70	5	32		KM681000A-7L	Samsung	5
					0.1	70	5	32		KM681000A-7	Samsung	
										KM681000ALI-7	Samsung	
					3	70	5	32		TC551001AL-70	Toshiba	
										TC551001AL-70L	Toshiba	
				Common	1	110	5	32		**DPS128M8A-70C**	**Dense-Pac (3576)**	10
					2	120	5	32		**DPS128M8A-70I**	**Dense-Pac (3576)**	
						70	5	32		HY628100-70	Hyundai	
					3	70	5	32		**DPS128M8-70C**	**Dense-Pac (3576)**	
										µPD431000A-70L	NEC	
										µPD431000A-70LL	NEC	15
						80	5	32		CXK581001-70L	Sony	
										CXK581001-70LL	Sony	
					15	80	5	32		MSM8128-70	Mosaic Semi	
		CMOS	TTL	Common	3	120	5	32		**DPS128M8A-70M**	† **Dense-Pac (3576)**	
	80				0.2	85	5	32	Pseudo Static	HM658128A-80L	Hitachi	20
					2	85	5	32	Pseudo Static	HM658128A-80	Hitachi	
		CMOS	TTL				5	32		**MS628128-80**	**Mosel-Vitelic (3697)**	
					0.1	70	5	32	Pseudo-Static	KM658128L-8L	Samsung	
										KM658128LD-8L	Samsung	
					0.2	70	5	32	Pseudo-Static	KM658128L-8	Samsung	25
										KM658128LD-8	Samsung	
					1	70	5	32	Pseudo-Static	KM658128-8	Samsung	
										TC518128AL-80	Toshiba	
							3	32	Pseudo-Static	TC518128AL-80LV	ℓ Toshiba	
							5	32	Pseudo-Static	TC518129AL-80	Toshiba	30
							3	32	Pseudo-Static	TC518129AL-80LV	ℓ Toshiba	
	85	CMOS				70	5	32		HM628128-85	Hitachi	
					0.05	70	5	32		HM628128-85SL	Hitachi	
					0.1	70	5	32		HM628128-85L	Hitachi	
					7	105	5	32		M48Z128-85	SGS-Thomson	35
										M48Z128Y-85	SGS-Thomson	
			TTL				5	32		M5M51T08A-85SL	Mitsubishi	
										M5M51008A-85	Mitsubishi	
										M5M51008A-85L	Mitsubishi	
							3	32		M5M51008A-85VL	ℓ Mitsubishi	40
										M5M51008A-85VLL	ℓ Mitsubishi	
					3	70	5	32		TC551001A-85	Toshiba	
										TC551001AL-85	Toshiba	
										TC551001AL-85L	Toshiba	
						80	5	32		TC551001L-85	Toshiba	45
										TC551001L-85L	Toshiba	
				Common	0.1	70	5	32		µPD431000A-85L	NEC	
					0.75	30	5	32		MSM8128L-85	Mosaic Semi	
										MSM8128LI-85	Mosaic Semi	
										MSM8128LM-85	† Mosaic Semi	50
										MSM8128LMB-85	† Mosaic Semi	
										MSM8128LMC-85	† Mosaic Semi	
					3	70	5	32		**DPS128M8-85C**	**Dense-Pac (3576)**	
						75	5	32		**DPS128M8-85I**	**Dense-Pac (3576)**	
						80	5	32		**DPS128M8-85M**	† **Dense-Pac (3576)**	55
						30	5	32		MSM8128-85	Mosaic Semi	
										MSM8128I-85	Mosaic Semi	
										MSM8128M-85	† Mosaic Semi	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	85	CMOS	TTL	Common	3	30	5	32			(Cont'd)	
										MSM8128MB-85	† Mosaic Semi	
										MSM8128MC-85	† Mosaic Semi	
						70	5	32		µPD431000A-85LL	NEC	
						80	5	32		CXK581001-85L	Sony	
										CXK581001-85LL	Sony	5
	100				0.2	85	5	32	Pseudo Static	HM658128A-10L	Hitachi	
					2	85	5	32	Pseudo Static	HM658128A-10	Hitachi	
		CMOS					5	32		MBM27C1001-10	Fujitsu	
						70	5	32		HM628128-10	Hitachi	
					0.05	70	5	32		HM628128-10SL	Hitachi	10
					0.1	70	5	32		HM628128-10L	Hitachi	
					3	60	5	32		CXK581100-10L	Sony	
										CXK581100-10LL	Sony	
			TTL				5	32		M5M51T08A-10SL	Mitsubishi	
										M5M51008A-10	Mitsubishi	15
										M5M51008A-10L	Mitsubishi	
										M5M51008A-10LL	Mitsubishi	
							3	32		M5M51008A-10VL	ℓ Mitsubishi	
										M5M51008A-10VLL	ℓ Mitsubishi	
							5	32		**MS628128-10**	**Mosel-Vitelic (3697)**	20
					0.02	70	5	32		KM681000A-10L	Samsung	
					0.05	70	5	32		KM681000AI-10	Samsung	
					0.07	70	5	32		TC551001AI-10L	Toshiba	
						80	5	32		TC551001I-10L	Toshiba	
					0.1	60	5	32	Pseudo-Static	KM658128L-10L	Samsung	25
										KM658128LD-10L	Samsung	
						70	5	32		KM681000A-10	Samsung	
					0.2	60	5	32	Pseudo-Static	KM658128L-10	Samsung	
										KM658128LD-10	Samsung	
						70	5	32		TC551001AI-10	Toshiba	30
					1	60	5	32	Pseudo-Static	KM658128-10	Samsung	
										TC518128AL-10	Toshiba	
							3	32	Pseudo-Static	TC518128AL-10LV	ℓ Toshiba	
										TC518129AL-10LV	ℓ Toshiba	
					2	60	5	32	Pseudo-Static	TC518129AL-10	Toshiba	35
					3	70	5	32		TC551001AL-10	Toshiba	
										TC551001AL-10L	Toshiba	
						80	5	32		TC551001L-10	Toshiba	
										TC551001L-10L	Toshiba	
				Common	0.1	70	5	32		µPD431000A-10L	NEC	40
					0.75	30	5	32		MSM8128L-10	Mosaic Semi	
										MSM8128LI-10	Mosaic Semi	
										MSM8128LM-10	† Mosaic Semi	
										MSM8128LMB-10	† Mosaic Semi	
										MSM8128LMC-10	† Mosaic Semi	45
					2	70	5	32		HY628100-10	Hyundai	
					3	70	5	32		**DPS128M8-10C**	**Dense-Pac (3576)**	
						75	5	32		**DPS128M8-10I**	**Dense-Pac (3576)**	
						80	5	32		**DPS128M8-10M**	† **Dense-Pac (3576)**	
						30	5	32		MSM8128-10	Mosaic Semi	50
										MSM8128I-10	Mosaic Semi	
										MSM8128M-10	† Mosaic Semi	
										MSM8128MB-10	† Mosaic Semi	
										MSM8128MC-10	† Mosaic Semi	
						70	5	32		µPD431000A-10LL	NEC	55
						60	5	32		CXK581000-10L	Sony	
										CXK581000-10LL	Sony	
										CXK581000-10LLX	Sony	
										CXK581000-10LX	Sony	
										CXK581100-10LLX	Sony	60
										CXK581100-10LX	Sony	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8											(Cont'd)	
	120				0.2	85	5	32	Pseudo Static	HM658128A-12L	Hitachi	
					2	85	5	32	Pseudo Static	HM658128A-12	Hitachi	
		BiCMOS	TTL		20	180	5	32		KM68B1001-12	Samsung	
		CMOS					5	32		MBM27C1001-12	Fujitsu	
										WS128K8-120	White Tech	5
					3	60	5	32		CXK581100-12L	Sony	
										CXK581100-12LL	Sony	
					7	105	5	32		M48Z128-120	SGS-Thomson	
										M48Z128Y-120	SGS-Thomson	
			TTL				5	32		M5M51T08A-12SL	Mitsubishi	10
										M5M51008A-12	Mitsubishi	
										M5M51008A-12L	Mitsubishi	
										M5M51008A-12LL	Mitsubishi	
							2.7	32		M5M51008A-12VL	ℓ Mitsubishi	
							5	32		**MS628128-12**	**Mosel-Vitalic (3697)**	15
					0.05	70	5	32		KM681000AL	Samsung	
					0.1	50	5	32	Pseudo-Static	KM658128L-12L	Samsung	
										KM658128LD-12L	Samsung	
					0.2	50	5	32	Pseudo-Static	KM658128L-12	Samsung	
										KM658128LD-12	Samsung	20
					1	50	5	32	Pseudo-Static	KM658128-12	Samsung	
										TC518128AL-12	Toshiba	
							3	32	Pseudo-Static	TC518128AL-12LV	Toshiba	
										TC518129AL-12LV	ℓ Toshiba	
					2	50	5	32	Pseudo-Static	TC518129AL-12	Toshiba	25
				Common			2.7	32		M5M51008A-12VLL	ℓ Mitsubishi	
					0.1	60	5	32		CXK581000-12LB	Sony	
										CXK581100-12LB	Sony	
					0.75	30	5	32		MSM8128L-12	Mosaic Semi	
										MSM8128LI-120	Mosaic Semi	30
										MSM8128LM-12	† Mosaic Semi	
										MSM8128LMB-12	† Mosaic Semi	
										MSM8128LMC-12	† Mosaic Semi	
					3	70	5	32		**DPS128M8-12C**	**Dense-Pac (3576)**	
						75	5	32		DPS128M8-12I	Dense-Pac	35
						80	5	32		**DPS128M8-12M**	**† Dense-Pac (3576)**	
						30	5	32		MSM8128-12	Mosaic Semi	
										MSM8128I-12	Mosaic Semi	
										MSM8128M-12	† Mosaic Semi	
										MSM8128MB-12	† Mosaic Semi	40
										MSM8128MC-12	† Mosaic Semi	
						60	5	32		CXK581000-12L	Sony	
										CXK581000-12LB	Sony	
										CXK581000-12LL	Sony	
										CXK581000-12LLX	Sony	45
										CXK581000-12LX	Sony	
										CXK581100-12LB	Sony	
										CXK581100-12LLX	Sony	
										CXK581100-12LX	Sony	
	150	BiCMOS	TTL		20	160	5	32		KM68B1001-15	Samsung	50
		CMOS				30	3.3	32		HM62V8128-15	ℓ Hitachi	
					0.02	30	3.3	32		HM62V8128-15SL	Hitachi	
					0.06	30	3.3	32		HM62V8128-15L	Hitachi	
					3	60	5	32		CXK581100-15L	Sony	
										CXK581100-15LL	Sony	55
			TTL	Common			2.7	32		M5M51008A-15VL	ℓ Mitsubishi	
										M5M51008A-15VLL	ℓ Mitsubishi	
					3	70	5	32		**DPS128M8-15C**	**Dense-Pac (3576)**	
						75	5	32		**DPS128M8-15I**	**Dense-Pac (3576)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx8	150	CMOS	TTL	Common	3						(Cont'd)	
						80	5	32		**DPS128M8-15M**	**† Dense-Pac (3576)**	
						60	5	32		CXK581000-15L	Sony	
										CXK581000-15LL	Sony	
										CXK581000-15LLX	Sony	
										CXK581000-15LX	Sony	5
										CXK581100-15LLX	Sony	
										CXK581100-15LX	Sony	
	170	CMOS					5	32		**DPS128M8-170**	**† Dense-Pac (3576)**	
	200	CMOS					5	32		**DPS128M8-200**	**† Dense-Pac (3576)**	
	250						5			HM628128-25	Hitachi	10
		NMOS	TTL			80	5	24		EF68B10	Thomson Comp	
	360	NMOS	TTL			80	5	24		EF68A10	Thomson Comp	
	450	NMOS	TTL			80	5	24		EF6810	Thomson Comp	
128Kx9	10	BiCMOS			60	170	5	32		HM679127UH-10	Hitachi	
		CMOS					5	32		ATT7C341	AT&T	15
							3.3	36		M5M5V1B009-10	ℓ Mitsubishi	
	11	BiCMOS	TTL	Common		300	5	52	Synchronous dual I/O for 88110/88410 compatibility	MCM67D709-11	Motorola	
	12	BiCMOS			60	170	5	32		HM679127UH-12	Hitachi	
		CMOS					3.3	36		M5M5V1B009-12	ℓ Mitsubishi	
	12.5	BiCMOS	TTL	Common		280	5	52	Synchronous dual I/O for 88110/88410 compatibility	MCM67D709-13	Motorola	20
	15	BiCMOS			60	170	5	32		HM679127UH-15	Hitachi	
			TTL	Common		260	5	52	Synchronous dual I/O for 88110/88410 compatibility	MCM67D709-15	Motorola	
		CMOS					3.3	36		M5M5V1B009-15	ℓ Mitsubishi	
			TTL	Common	30	160	5	36		μPD431009-15	NEC	
	17	CMOS	TTL			130	5	32		**CXK77910-17**	**Sony (3790)**	25
				Common	30	150	5	36		μPD431009-17	NEC	
	20	CMOS			2	170	5	32		HM629127H-20L	Hitachi	
					80	170	5	32		HM629127H-20	Hitachi	
			TTL			130	5	32		**CXK77910-20**	**Sony (3790)**	
					25	170	5	32		MB82009-20	Fujitsu	30
				Common			5	32		ATT7C344-20C	AT&T	
										ATT7C344-20I	AT&T	
					30	140	5	36		μPD431009-20	NEC	
	25	CMOS			2	170	5	32		HM629127H-25L	Hitachi	
					80	170	5	32		HM629127H-25	Hitachi	35
			TTL		25	170	5	32		MB82009-25	Fujitsu	
				Common			5	32		ATT7C344-25C	AT&T	
										ATT7C344-25I	AT&T	
										ATT7C344-25M	† AT&T	
	30	CMOS	TTL	Common			5	32		ATT7C341-30C	AT&T	40
	35	CMOS	TTL	Common			5	32		ATT7C341-35C	AT&T	
										ATT7C341-35M	† AT&T	
										ATT7C344-35M	† AT&T	
	40	CMOS	TTL	Common			5	32		ATT7C341-40C	AT&T	
										ATT7C341-40M	† AT&T	45
	55	CMOS					5	32		M5M51009A-55L	Mitsubishi	
										M5M51009A-55LL	Mitsubishi	
	70	CMOS				70	5	32		HM629128-70	Hitachi	
										M5M51009A-70L	Mitsubishi	
										M5M51009A-70LL	Mitsubishi	50
					0.06	70	5	32		HM629128-70SL	Hitachi	
					0.115	70	5	32		HM629128-70L	Hitachi	
	85	CMOS				70	5	32		HM629128-85	Hitachi	
										M5M51009A-85L	Mitsubishi	
										M5M51009A-85LL	Mitsubishi	55

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
128Kx9	85	CMOS			0.06	70	5	32		HM629128-85SL	Hitachi	
					0.115	70	5	32		HM629128-85L	Hitachi	
	100	CMOS				70	5	32		HM629128-10	Hitachi	
										M5M51009A-10L	Mitsubishi	
										M5M51009A-10LL	Mitsubishi	5
					0.06	70	5	32		HM629128-10SL	Hitachi	
					0.115	70	5	32		HM629128-10L	Hitachi	
	120	CMOS					5	32		M5M51009A-12L	Mitsubishi	
										M5M51009A-12LL	Mitsubishi	
256Kx1	10	BiCMOS	TTL	Separate	30	150	5	28		CY7B163-10C	Cypress	10
	12	BiCMOS					–5.2	24		SC5100-12	Silicon Conn	
			TTL	Separate	30	130	5	28		CY7B163-12C	Cypress	
		CMOS	CMOS/TTL	Separate	10	175	5	24		ATT7C197-12	AT&T	
	15	BiCMOS					–5.2	24		SC5100-15	Silicon Conn	
			TTL	Separate	30	125	5	28		CY7B163-15C	Cypress	15
					40	125	5	28		CY7B163-15M	† Cypress	
		CMOS	CMOS/TTL	Separate	10	160	5	24		ATT7C197-15	AT&T	
			TTL	Common	30	140	5	24		MT5C2561-15	MicronSemi	
		ECL 10K					–5.2	24		NM5100-15	National	
		ECL 100K					–4.5	24		NM100500-15	National	20
	18	ECL 10K					–5.2	24		NM5100-18	National	
		ECL 100K					–4.5	24		NM100500-18	National	
	20	BiCMOS					5	28		CY7B163-20C	Cypress	
								24		CY7B197-20C	Cypress	
										TMS6707-20	TI	25
			TTL		40	125	5	24		CY7B197-20M	† Cypress	
				Separate	40	120	5	28		CY7B163-20M	† Cypress	
		CMOS					5	24		PDM41257L-20	Paradigm	
										PDM41257S-20	Paradigm	
			CMOS/TTL	Separate	10	125	5	24		ATT7C197-20	AT&T	30
			TTL	Common	30	105	5	24		MT5C2561-20	MicronSemi	
	25	BiCMOS					5	24		TMS6707-25	TI	
		CMOS					5	28		EDI81257C25C	EDI	
								24		IDT71257L-25	‡ IDT	
										IDT71257S-25	‡ IDT	35
										PDM41257L-25	Paradigm	
										PDM41257L-25B	† Paradigm	
										PDM41257S-25	Paradigm	
										PDM41257S-25B	† Paradigm	
			CMOS/TTL	Separate	10	100	5	24		ATT7C197-25	AT&T	40
			TTL	Common	25	110	5	24		MT5C2561-25	MicronSemi	
				Separate	15	130	5	24		MCM6207C-25	Motorola	
	35	CMOS					5	24		EDI81256C35B	† EDI	
										EDI81256P35B	† EDI	
								28		EDI81257C35C	EDI	45
								24		MB81C81A-35	Fujitsu	
										IDT71257L-35	‡ IDT	
										IDT71257S-35	‡ IDT	
										MSM1256-35	Mosaic Semi	
										PDM41257L-35	Paradigm	50
										PDM41257S-35	Paradigm	
										PDM41257S-35B	† Paradigm	
			TTL		1.5	120	5	28		EDI81256LP-35B	† EDI	
					3	120	5	28		EDI81256C-35B	† EDI	
				Common	25	90	5	24		MT5C2561-35	MicronSemi	55
				Separate	30	100	5	24		μPD43251-35	NEC	
			TTL/CMOS				5	24		CXK51256-35	Sony	
		TTL					5	24		MB81C81A	Fujitsu	
	45	CMOS					5	24		EDI81256C45B	† EDI	
										EDI81256P45B	† EDI	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
256Kx1	45	CMOS					5	24			(Cont'd)	
										MB81C81A-45	Fujitsu	
										IDT71257L-45	IDT	
										IDT71257L-45B	† IDT	
										IDT71257S-45	IDT	
										IDT71257S-45B	† IDT	5
										PDM41257L-45	Paradigm	
										PDM41257L-45B	† Paradigm	
										PDM41257S-45	Paradigm	
			TTL		1.5	120	5	28		EDI81256LP-45B	† EDI	
					3	120	5	28		EDI81256C-45B	† EDI	10
				Common	25	90	5	24		MT5C2561-45	MicronSemi	
				Separate	30	100	5	24		μPD43251-45	NEC	
			TTL/CMOS				5	24		CXK51256-45	Sony	
	50	CMOS					5	24		M61256H-05	‡ AT&T	
	55	CMOS					5	24		EDI81256C55B	† EDI	15
										EDI81256P55B	† EDI	
										IDT71257L-55	IDT	
										IDT71257L-55B	† IDT	
										IDT71257S-55	IDT	
										IDT71257S-55B	† IDT	20
										PDM41257L-55B	† Paradigm	
										PDM41257S-55B	† Paradigm	
										CXK51256-55	Sony	
			TTL		1.5	120	5	28		EDI81256LP-55B	† EDI	
					3	120	5	28		EDI81256C-55B	† EDI	25
				Separate	30	100	5	24		μPD43251-55	NEC	
	70	CMOS					5	24		IDT71257L-70B	† IDT	
										IDT71257S-70B	† IDT	
256Kx4	15	CMOS	CMOS/TTL	Common	25	180	5	28		ATT7C106-15	AT&T	
	17	CMOS	TTL	Common	2	245	5	28		EDI84256LPS-17C	EDI	30
										EDI84256LPS-17I	EDI	
					5	245	5	28		EDI84256CS-17C	EDI	
										EDI84256CS-17I	EDI	
	20		TTL	Separate			5	32		LH521032-20	Sharp	
		CMOS					5	28		EDI84258C20C	EDI	35
										MS621002	Mosel-Vitelic	
			CMOS/TTL	Common	25	140	5	28		ATT7C106-20	AT&T	
			TTL		0.1	150	5	28		MSM4256L-20	Mosaic Semi	
				Common	2	225	5	28		EDI84256LPS-20C	EDI	
										EDI84256LPS-20I	EDI	40
					5	225	5	28		EDI84256CS-20C	EDI	
										EDI84256CS-20I	EDI	
					35	140	5	28		MT5C1005-20	MicronSemi	
		TTL			60	150	5	28		MSM4256-20	Mosaic Semi	
	25		TTL	Separate			5	32		LH521032-25	Sharp	45
		CMOS					5	28		EDI84256L25B	† EDI	
										EDI84256P25B	† EDI	
										EDI84258L25C	EDI	
										EDI84258P25C	EDI	
								32		CXK541000-25	Sony	50
			CMOS/TTL	Common	25	115	5	28		ATT7C106-25	AT&T	
			TTL	Common	2	180	5	28		EDI84256LPS-25B	EDI	
										EDI84256LPS-25C	EDI	
										EDI84256LPS-25I	EDI	
					5	180	5	28		EDI84256CS-25B	EDI	55
										EDI84256CS-25C	EDI	
										EDI84256CS-25I	EDI	
					30	120	5	28		MT5C1005-25	MicronSemi	
	30	CMOS					5	32		CXK541000-30	Sony	
	35		TTL	Separate			5	32		LH521032-35	Sharp	60
		CMOS					5	28		EDI84256C35B	† EDI	
										EDI84258C35C	EDI	
											(Continued)	

† Mil Temp Range (−55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	35	CMOS					5				(Cont'd)	
								32		CXK541000-35	Sony	
								28		TMS62456-35	TI	
								32		TMS62457-35	TI	
										TMS62457L-35	TI	
			TTL				5	32		LH521032	Sharp	5
				Common	2	180	5	28		EDI84256LPS-35B	EDI	
										EDI84256LPS-35C	EDI	
										EDI84256LPS-35I	EDI	
					5	180	5	28		EDI84256CS-35B	EDI	
										EDI84256CS-35I	EDI	10
					30	120	5	28		MT5C1005-35	MicronSemi	
	45	CMOS					5	28		EDI84256C45B	† EDI	
										IDT71028L-45	‡ IDT	
										IDT71028S-45	‡ IDT	
										TMS62456-45	TI	15
								32		TMS62457-45	TI	
										TMS62457L-45	TI	
			TTL		2	120	5	28		MSM4256045	† Mosaic Semi	
				Common	2	180	5	28		EDI84256LPS-45B	EDI	
										EDI84256LPS-45I	EDI	20
					5	180	5	28		EDI84256CS-45B	EDI	
										EDI84256CS-45I	EDI	
					30	120	5	28		MT5C1005-45	MicronSemi	
	55	CMOS					5	28		EDI84256C55B	† EDI	
										EDI84256P55B	EDI	25
										EDI84258L55C	EDI	
										EDI84258P55C	EDI	
										EDI8426L55B	† EDI	
										EDI8464L55B	EDI	
										IDT71028L-55	‡ IDT	30
										IDT71028L-55B	‡ IDT	
										IDT71028S-55	‡ IDT	
										IDT71028S-55B	‡ IDT	
			TTL	Common	2	180	5	28		EDI84256LPS-55B	EDI	
										EDI84256LPS-55I	EDI	35
					5	180	5	28		EDI84256CS-55B	EDI	
										EDI84256CS-55I	EDI	
	70	CMOS					5	28		EDI84256C70B	† EDI	
										IDT71028L-70	‡ IDT	
										IDT71028L-70B	‡ IDT	40
										IDT71028S-70	‡ IDT	
										IDT71028S-70B	‡ IDT	
										MSM4256-70	Mosaic Semi	
	90	CMOS					5	28		IDT71028L-90B	‡ IDT	
										IDT71028S-90B	‡ IDT	45
256Kx8	55	CMOS	TTL	Common	4	154	5	32		MS8256SC-55	† Mosaic Semi	
	70	CMOS	TTL	Common	4	154	5	32		MS8256SC-70	† Mosaic Semi	
	85	CMOS	TTL	Common	4	154	5	32		MS8256SC-85	† Mosaic Semi	
	120	CMOS	TTL		100	30	5	32		MFM8256G/V-12	† Mosaic Semi	
	150	CMOS					5	40		MBM27C4096	Fujitsu	50
			TTL		100	30	5	32		MFM8256G/V-15	† Mosaic Semi	
	200	CMOS	TTL		100	30	5	32		MFM8256G/V-20	† Mosaic Semi	
256Kx16	25	CMOS	TTL		40	360	5	66		PUMA2S4000-025	† Mosaic Semi	
	35	CMOS	TTL		40	360	5	66		PUMA2S4000-35	† Mosaic Semi	
256Kx32	20	CMOS	TTL		0.8	1400	5	60		MS32256L-020	Mosaic Semi	55
					480	1400	5	60		MS32256-020	Mosaic Semi	
	25	CMOS	TTL		0.8	1400	5	60		MS32256L-025	Mosaic Semi	
					480	1400	5	60		MS32256-025	Mosaic Semi	
	85	CMOS	TTL		3.3	297	5	66		PUMA2S8000L-85	Mosaic Semi	
					27	297	5	66		PUMA2S8000-85	Mosaic Semi	60
	100	CMOS	TTL		3.3	297	5	66		PUMA2S8000L-10	Mosaic Semi	
					27	297	5	66		PUMA2S8000-10	Mosaic Semi	
	120	CMOS	TTL		3.3	297	5	66		PUMA2S8000L-12	Mosaic Semi	
					27	297	5	66		PUMA2S8000-12	Mosaic Semi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx1	10	BiCMOS	TTL		30	140	5	28		CY7B193-10C	Cypress	
								24		CY7B197-10C	Cypress	
		CMOS	TTL		45	180	5	24	2V Data Retention	MT5C2561-10LAT	MicronSemi	
										MT5C2561-10LIT	MicronSemi	
										MT5C2561-10LXT	† MicronSemi	5
	12	BiCMOS	TTL		30	130	5	24		CY7B193-12C	Cypress	
										CY7B197-12C	Cypress	
					40	130	5	28		CY7B193-12M	† Cypress	
								24		CY7B197-12M	† Cypress	
		CMOS	TTL		30	150	5	24		CY7C197-12C	Cypress	10
					40	160	5	24	2V Data Retention	MT5C2561-12LAT	MicronSemi	
										MT5C2561-12LIT	MicronSemi	
										MT5C2561-12LXT	† MicronSemi	
				Separate	40	140	5	24		M621256-12	SGS-Thomson	
		ECL				–160	–5.2	28	100K ECL	μPD100500D-12	NEC	15
						–320	–5.2	28	10K ECL	μPD10500D-12	NEC	
	15	BiCMOS				180	–4.5	28		HM100500-15	Hitachi	
							–5.2	24		HM101500-15	Hitachi	
						–160	–5.2	24	100K ECL	μPD100500-15	NEC	
									10K ECL	μPD10500-15	NEC	20
			TTL		30	125	5	24		CY7B193-15C	Cypress	
										CY7B197-15C	Cypress	
					40	125	5	24		CY7B193-15M	† Cypress	
										CY7B197-15M	† Cypress	
		CMOS					5	24		M5M5257C-15	Mitsubishi	25
										M5M5257C-20L	Mitsubishi	
			TTL		0.5	50	3.3	24	2V Data Retention, Low Power	MT5LC2561-15LPAT	ℓ MicronSemi	
										MT5LC2561-15LPIT	ℓ MicronSemi	
										MT5LC2561-15LPXT	MicronSemi	
					15	55	3.3	24	2V Data Retention	MT5LC2561-15LAT	ℓ MicronSemi	30
										MT5LC2561-15LIT	ℓ MicronSemi	
										MT5LC2561-15LXT	ℓ† MicronSemi	
					30	140	5	24		CY7C197-15C	Cypress	
									2V Data Retention	MT5C2561-15LAT	MicronSemi	
										MT5C2561-15LIT	MicronSemi	35
										MT5C2561-15LXT	† MicronSemi	
					40	160	5	24		CY7C197-15M	† Cypress	
				Separate	25	130	5	24		MCM6207-15	° Motorola	
						150	5	24		MCM6207C-15	Motorola	
					30	120	5	24		μPD43251B-15	NEC	40
					40	130	5	24		M621256-15	SGS-Thomson	
	18	BiCMOS				200	–4.5	28		HM100500-18	Hitachi	
						180	–5.2	24		HM101500-18	Hitachi	
	20	BiCMOS				–160	–5.2	24	100K ECL	μPD100500-20	NEC	
									10K ECL	μPD10500-20	NEC	45
		CMOS					5	24		M5M5257C-20	Mitsubishi	
										P4C1257-20C	Performance	
			TTL		0.5	45	3.3	24	2V Data Retention, Low Power	MT5LC2561-20LPAT	ℓ MicronSemi	
										MT5LC2561-20LPIT	ℓ MicronSemi	
										MT5LC2561-20LPXT	ℓ† MicronSemi	50
					7	110	5	24	2V Data Retention, Low Power	MT5C2561-20LPAT	MicronSemi	
										MT5C2561-20LPIT	MicronSemi	
										MT5C2561-20LPXT	† MicronSemi	
					12	50	3.3	24	2V Data Retention	MT5LC2561-20LAT	ℓ MicronSemi	
										MT5LC2561-20LIT	ℓ MicronSemi	55
										MT5LC2561-20LXT	ℓ† MicronSemi	
					20	120	5	24		MCM62L07-20	Motorola	
										MCM62L07C-20	Motorola	
					30	150	5	24		CY7C197-20M	† Cypress	
						120	5	24	2V Data Retention	MT5C2561-20LAT	MicronSemi	60
										MT5C2561-20LIT	MicronSemi	
										MT5C2561-20LXT	† MicronSemi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx1	20	CMOS	TTL								(Cont'd)	
				Separate	20	120	5	24		MCM6207-20	° Motorola	
						140	5	24		MCM6207C-20	Motorola	
					30	100	5	24		µPD43251B-20	NEC	
					40	120	5	24		M621256-20	SGS-Thomson	
		CMOS	TTL		30	135	5	24		CY7C197-20C	Cypress	5
	25	CMOS					5	24		M5M5257C-25	Mitsubishi	
										M5M5257C-25L	Mitsubishi	
										MSM1256-25	Mosaic Semi	
					0.1	100	5	24		HM6207H-25L	Hitachi	
					30	100	5	24		HM6207H-25	Hitachi	10
			TTL		0.5	40	3.3	24	2V Data Retention, Low Power	MT5LC2561-25LPAT	ℓ MicronSemi	
										MT5LC2561-25LPIT	ℓ MicronSemi	
										MT5LC2561-25LPXT	ℓ† MicronSemi	
					1	150	5	24		MS62251A-25	Mosel-Vitelic	
					7	100	5	24	2V Data Retention, Low Power	MT5C2561-25LPAT	MicronSemi	15
										MT5C2561-25LPIT	MicronSemi	
										MT5C2561-25LPXT	† MicronSemi	
					8	45	3.3	24	2V Data Retention	MT5LC2561-25LAT	ℓ MicronSemi	
										MT5LC2561-25LIT	ℓ MicronSemi	
										MT5LC2561-25LXT	ℓ† MicronSemi	20
					20	120	5	24		MCM62L07-25	Motorola	
										MCM62L07C-25	Motorola	
					25	110	5	24	2V Data Retention	MT5C2561-25LAT	MicronSemi	
										MT5C2561-25LIT	MicronSemi	
										MT5C2561-25LXT	† MicronSemi	25
					30	95	5	24		CY7C197-25C	Cypress	
				Separate	15	110	5	24		MCM6207-25	° Motorola	
					30	100	5	24		µPD43251B-25	NEC	
		CMOS	TTL		30	105	5	24		CY7C197-25M	† Cypress	
	35	CMOS					5	24		MCM6207-35	° Motorola	30
										PDM41257L-35B	† Paradigm	
					0.1	100	5	24		HM6207H-35L	Hitachi	
					30	100	5	24		HM6207H-35	Hitachi	
			TTL		0.5	35	3.3	24	2V Data Retention, Low Power	MT5LC2561-35LPAT	ℓ MicronSemi	
										MT5LC2561-35LPIT	ℓ MicronSemi	35
										MT5LC2561-35LPXT	ℓ† MicronSemi	
					1	150	5	24		MS62251A-35	Mosel-Vitelic	
					2	120	5	24		M5M5257C-35	Mitsubishi	
										M5M5257C-35L	Mitsubishi	
					6	40	3.3	24	2V Data Retention	MT5LC2561-35LAT	ℓ MicronSemi	40
										MT5LC2561-35LIT	ℓ MicronSemi	
										MT5LC2561-35LXT	ℓ† MicronSemi	
					7	80	5	24	2V Data Retention, Low Power	MT5C2561-35LPAT	MicronSemi	
										MT5C2561-35LPIT	MicronSemi	
										MT5C2561-35LPXT	† MicronSemi	45
					20	110	5	24		MCM62L07-35	Motorola	
										MCM62L07C-35	Motorola	
					25	90	5	24	2V Data Retention	MT5C2561-35LAT	MicronSemi	
										MT5C2561-35LIT	MicronSemi	
										MT5C2561-35LXT	† MicronSemi	50
					30	95	5	28		CY7C197-35C	Cypress	
						105	5	24		CY7C197-35M	† Cypress	
	45	CMOS					5	24		PDM41257S-45B	† Paradigm	
			TTL		1	150	5	24		MS62251A-45	Mosel-Vitelic	
					30	105	5	24		CY7C197-45M	† Cypress	55
				Common	0.03	300	5	24		MSM1256L-45	Mosaic Semi	
										MSM1256LI-45	Mosaic Semi	
										MSM1256LM-45	† Mosaic Semi	
										MSM1256LMB-45	† Mosaic Semi	
					30	100	5	24		MSM1256-45	Mosaic Semi	60
										MSM1256I-45	Mosaic Semi	
										MSM1256M-45	† Mosaic Semi	
										MSM1256MB-45	† Mosaic Semi	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx1											(Cont'd)	
	55	CMOS	TTL	Common	0.03	300	5	24		MSM1256L-55	Mosaic Semi	
										MSM1256LI-55	Mosaic Semi	
										MSM1256LM-55	† Mosaic Semi	
										MSM1256LMB-55	† Mosaic Semi	
					30	100	5	24		MSM1256-55	Mosaic Semi	5
										MSM1256I-55	Mosaic Semi	
										MSM1256M-55	† Mosaic Semi	
										MSM1256MB-55	† Mosaic Semi	
256Kx16	12	CMOS	TTL		40	190	5	36		KM741006-12	Samsung	
	15	CMOS	TTL	Common			5	44		KM6164002-15	Samsung	10
	20	CMOS	TTL				5	44	2V Data Retention, Output Enable	MT5C256K16B2-20LAT	MicronSemi	
										MT5C256K16B2-20LIT	MicronSemi	
										MT5C256K16B2-20LXT	† MicronSemi	
							3.3	44	2V Data Retention, Output Enable	MT5LC256K16D4-20LAT	ℓ MicronSemi	
										MT5LC256K16D4-20LIT	ℓ MicronSemi	15
										MT5LC256K16D4-20LXT	ℓ† MicronSemi	
				Common			5	44		KM6164002-20	Samsung	
	25	CMOS	TTL				5	44	2V Data Retention, Output Enable	MT5C256K16B2-25LAT	MicronSemi	
										MT5C256K16B2-25LIT	MicronSemi	
										MT5C256K16B2-25LXT	† MicronSemi	20
							3.3	44	2V Data Retention, Output Enable	MT5LC256K16D4-25LAT	ℓ MicronSemi	
										MT5LC256K16D4-25LIT	ℓ MicronSemi	
										MT5LC256K16D4-25LXT	ℓ† MicronSemi	
				Common			5	44		KM6164002-25	Samsung	
	35	CMOS	TTL				5	44	2V Data Retention, Output Enable	MT5C256K16B2-35LAT	MicronSemi	25
										MT5C256K16B2-35LIT	MicronSemi	
										MT5C256K16B2-35LXT	† MicronSemi	
							3.3	44	2V Data Retention, Output Enable	MT5LC256K16D4-35LAT	ℓ MicronSemi	
										MT5LC256K16D4-35LIT	ℓ MicronSemi	
										MT5LC256K16D4-35LXT	ℓ† MicronSemi	30
	45	CMOS			60	230	5	66		PUMA2S4000-45	Mosaic Semi	
										PUMA2S4000I-45	Mosaic Semi	
										PUMA2S4000M-45	† Mosaic Semi	
										PUMA2S4000MB-45	† Mosaic Semi	
	55	CMOS			60	230	5	66		PUMA2S4000-55	Mosaic Semi	35
										PUMA2S4000I-55	Mosaic Semi	
										PUMA2S4000M-55	† Mosaic Semi	
										PUMA2S4000MB-55	† Mosaic Semi	
	70	CMOS			60	230	5	66		PUMA2S4000-70	Mosaic Semi	
										PUMA2S4000I-70	Mosaic Semi	40
										PUMA2S4000M-70	† Mosaic Semi	
										PUMA2S4000MB-70	† Mosaic Semi	
	85	CMOS			18	200	5	40		M46Z256-85	SGS-Thomson	
										M46Z256Y-85	SGS-Thomson	
	100	CMOS				25	5	48		HC81640	Honeywell	45
	120	CMOS			18	200	5	40		M46Z256-120	SGS-Thomson	
										M46Z256Y-120	SGS-Thomson	
256Kx32	35	CMOS	TTL		160	1120	5	64		MCM32257-35	Motorola	
256Kx4	8	BiCMOS	TTL		60	175	5	28		MCM6728A-8	Motorola	
								32		MCM6729A-8	Motorola	50
	10	BiCMOS				−180	−5.2	32	ECL 100K	MCM101514-10	Motorola	
					40	140	5	32		HM674256UH-10	Hitachi	
			TTL		35	165	5	32		MCM67282-10	Motorola	
					40	200	5	32		MCM67P804-10	Motorola	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	10	BiCMOS	TTL		60	165	5	28		MCM6728-10	Motorola	
										MCM6728A-10	Motorola	
								32		MCM6729-10	Motorola	
										MCM6729A-10	Motorola	
				Common	60	150	5	28		KM64B1002-10	Samsung	5
								32		KM64B1003-10	Samsung	
				Separate		210	5	36		MCM67Q804-10	Motorola	
						200	5	36		**TC55BS4258-10**	**Toshiba (3816)**	
		CMOS	TTL	Separate		200	5	36		**CXK77410-10**	**Sony (3789)**	
	12	BiCMOS				−180	−5.2	32	ECL 100K	MCM101514-12	Motorola	10
					40	140	5	32		HM674256UH-12	Hitachi	
			TTL		10	130	5	32		TC55B4257-12	Toshiba	
					30	155	5	32		MCM67282-12	Motorola	
						130	5	28		TC55B4256-12	Samsung	
								32		TC55B4257-12	Samsung	15
					40	190	5	32		MCM67F804-12	Motorola	
						200	5	32		MCM67P804-12	Motorola	
					60	155	5	28		MCM6728-12	Motorola	
										MCM6728A-12	Motorola	
								32		MCM6729-12	Motorola	20
										MCM6729A-12	Motorola	
				Common	10	130	5	28		TC55B4256-12	Toshiba	
					60	140	5	28		KM64B1002-12	Samsung	
								32		KM64B1003-12	Samsung	
				Separate		200	5	36		MCM67Q804-12	Motorola	25
						190	5	36		**TC55BS4258-12**	**Toshiba (3816)**	
		CMOS	TTL		3	190	5	28	2V Data Retention, Low Power	MT5C1005-12LPAT	MicronSemi	
										MT5C1005-12LPIT	MicronSemi	
										MT5C1005-12LPXT †	MicronSemi	
					45	190	5	28	2V Data Retention	MT5C1005-12LAT	MicronSemi	30
										MT5C1005-12LIT	MicronSemi	
										MT5C1005-12LXT †	MicronSemi	
					50	300	5	32	Single Chip Enable	MT5C256K4A1-12	MicronSemi	
				Separate		190	5	36		**CXK77410-12**	**Sony (3789)**	
	15	BiCMOS				180	−4.5	32	100K ECL	HM100514-15	Hitachi	35
									101K ECL	HM101514-15	Hitachi	
					40	140	5	32		HM674256UH-15	Hitachi	
			TTL		30	130	5	28		TC55B4256-15	Samsung	
								32		TC55B4257-15	Samsung	
					40	190	5	32		MCM67F804-15	Motorola	40
					60	145	5	28		MCM6728-15	Motorola	
										MCM6728A-15	Motorola	
								32		MCM6729-15	Motorola	
										MCM6729A-15	Motorola	
				Common	10	130	5	28		TC55B4256-15	Toshiba	45
								32		TC55B4257-15	Toshiba	
		CMOS	TTL		3	165	5	28	2V Data Retention, Low Power	MT5C1005-15LPAT	MicronSemi	
										MT5C1005-15LPIT	MicronSemi	
										MT5C1005-15LPXT †	MicronSemi	
					40	155	5	28		CY7C1006-15C	Cypress	50
						165	5	28	2V Data Retention	MT5C1005-15LAT	MicronSemi	
										MT5C1005-15LIT	MicronSemi	
										MT5C1005-15LXT †	MicronSemi	
					45	260	5	32	Single Chip Enable	MT5C256K4A1-15	MicronSemi	
				Common	25	160	5	28		M624256-15	SGS-Thomson	55
				Separate		170	5	36		**CXK77410-15**	**Sony (3789)**	
					40	155	5	32		CY7C1001-15C	Cypress	
										CY7C1002-15C	Cypress	
	17	CMOS	TTL		3	155	5	28	2V Data Retention, Low Power	MT5C1005-17LPAT	MicronSemi	
										MT5C1005-17LPIT	MicronSemi	60
										MT5C1005-17LPXT †	MicronSemi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
256Kx4	17	CMOS	TTL								(Cont'd)	
					40	155	5	28	2V Data Retention	MT5C1005-17LAT	MicronSemi	
										MT5C1005-17LIT	MicronSemi	
										MT5C1005-17LXT †	MicronSemi	
				Common	25	160	5	28		M624256-17	SGS-Thomson	
	20	BiCMOS										
			TTL		30	130	5	28		TC55B4256-20	Samsung	5
								32		TC55B4257-20	Samsung	
				Common	10	130	5	28		TC55B4256-20	Toshiba	
								32		TC55B4257-20	Toshiba	
		CMOS			2	120	5	28		HM624256A-20L	Hitachi	
					60	120	5	28		HM624256A-20	Hitachi	10
			TTL		0.5	65	3.3	28	2V Data Retention, Lower Power, Output Enable	MT5LC1005-20LPAT ℓ	MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5LC1005-20LPIT ℓ	MicronSemi	
										MT5LC1005-20LPXT ℓ†	MicronSemi	
					1	130	5	28		**MS621002-20**	**Mosel-Vitelic (3697)**	
					3	140	5	28	2V Data Retention, Low Power	MT5C1005-20LPAT	MicronSemi	15
										MT5C1005-20LPIT	MicronSemi	
										MT5C1005-20LPXT †	MicronSemi	
					14	65	3.3	28	2V Data Retention, Output Enable	MT5LC1005-20LAT ℓ	MicronSemi	
										MT5LC1005-20LIT ℓ	MicronSemi	
										MT5LC1005-20LXT ℓ†	MicronSemi	20
					16	88	3.3	32	2V Data Retention, Output Enable	MT5LC256K4D4-20 ℓ	MicronSemi	
					20	170	5	28		MCM6229A-20	Motorola	
					30	140	5	28		CY7C1006-20C	Cypress	
						150	5	28		CY7C1006-20M †	Cypress	
					35	140	5	28	2V Data Retention	MT5C1005-20LAT	MicronSemi	25
										MT5C1005-20LIT	MicronSemi	
										MT5C1005-20LXT †	MicronSemi	
					40	220	5	32	Single Chip Enable	MT5C256K4A1-20	MicronSemi	
				Common	20	180	5	28		**LH521002-20**	**Sharp (3764)**	
					25	140	5	28		M624256-20	SGS-Thomson	30
					40	150	5	28		KM641001-20	Samsung	
				Separate	30	140	5	32		CY7C1001-20C	Cypress	
						150	5	32		CY7C1001-20M †	Cypress	
						140	5	32		CY7C1002-20C	Cypress	
						150	5	32		CY7C1002-20M †	Cypress	35
	25	CMOS			2	120	5	28		HM624256A-25L	Hitachi	
					60	120	5	28		HM624256A-25	Hitachi	
			TTL				5	28		M5M51004J-25	Mitsubishi	
										M5M51004P-25	Mitsubishi	
					0.1	120	5	28		MSM4256L-25	Mosaic Semi	40
										MSM4256LI-25	Mosaic Semi	
										MSM4256LM-25 †	Mosaic Semi	
										MSM4256LMB-25 †	Mosaic Semi	
					0.5	55	3.3	28	2V Data Retention, Lower Power, Output Enable	MT5LC1005-25LPAT ℓ	MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5LC1005-25LPIT ℓ	MicronSemi	45
										MT5LC1005-25LPXT ℓ†	MicronSemi	
					1	130	5	28		**MS621002-25**	**Mosel-Vitelic (3697)**	
					3	125	5	28	2V Data Retention, Low Power	MT5C1005-25LPAT	MicronSemi	
										MT5C1005-25LPIT	MicronSemi	
										MT5C1005-25LPXT †	MicronSemi	50
					12	55	3.3	28	2V Data Retention, Output Enable	MT5LC1005-25LAT ℓ	MicronSemi	
										MT5LC1005-25LIT ℓ	MicronSemi	
										MT5LC1005-25LXT ℓ†	MicronSemi	
					14	80	3.3	32	2V Data Retention, Output Enable	MT5LC256K4D4-25 ℓ†	MicronSemi	
					20	150	5	28		MCM62L29A-25	Motorola	55
										MCM6229A-25	Motorola	
					30	140	5	28		CY7C1006-25C	Cypress	
										CY7C1006-25M †	Cypress	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	25	CMOS	TTL		30	150	5	32		CY7C101-25C	(Cont'd) Cypress	
										CY7C102-25C	Cypress	
								28		CY7C106-25C	Cypress	
						125	5	28	2V Data Retention	MT5C1005-25LAT	MicronSemi	
										MT5C1005-25LIT	MicronSemi	5
										MT5C1005-25LXT	† MicronSemi	
					35	150	5	32		CY7C101-25M	† Cypress	
										CY7C102-25M	† Cypress	
								28		CY7C106-25M	† Cypress	
						200	5	32	Single Chip Enable	MT5C256K4A1-25	MicronSemi	10
					40	140	5	32		M5M51014-25	Mitsubishi	
						120	5	28		MSM4256-25	Mosaic Semi	
										MSM4256I-25	Mosaic Semi	
										MSM4256M-25	† Mosaic Semi	
										MSM4256MB-25	† Mosaic Semi	15
					60	170	5	28		MCM6229-25	Motorola	
				Common	20	180	5	28		**LH521002-25**	**Sharp (3764)**	
					25	130	5	28		M624256-25	SGS-Thomson	
					30	140	5	28		μPD431004-25	NEC	
					40	130	5	28		KM641001-25	Samsung	20
				Separate	30	130	5	32		CY7C1001-25C	Cypress	
						140	5	32		CY7C1001-25M	† Cypress	
						130	5	32		CY7C1002-25C	Cypress	
						140	5	32		CY7C1002-25M	† Cypress	
	30	CMOS	TTL		20	100	5	28		MCM6229A-30	Motorola	25
					55	165	5	28		MCM6229-30	Motorola	
	35	CMOS			2	120	5	28		HM624256A-35L	Hitachi	
					40	140	5	32	Separate I/O	M5M51014-35	Mitsubishi	
					60	120	5	28		HM624256A-35	Hitachi	
			TTL				5	28		M5M51004J-35	Mitsubishi	30
										M5M51004P-35	Mitsubishi	
					0.1	120	5	28		MSM4256L-35	Mosaic Semi	
										MSM4256LI-35	Mosaic Semi	
										MSM4256LM-35	† Mosaic Semi	
										MSM4256LMB-35	† Mosaic Semi	35
					0.5	45	3.3	28	2V Data Retention, Lower Power, Output Enable	MT5LC1005-35LPAT	ℓ MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5LC1005-35LPIT	ℓ MicronSemi	
										MT5LC1005-35LPXT	ℓ† MicronSemi	
					3	115	5	28	2V Data Retention, Low Power	MT5C1005-35LPAT	MicronSemi	
										MT5C1005-35LPIT	MicronSemi	40
										MT5C1005-35LPXT	† MicronSemi	
					8	45	3.3	28	2V Data Retention, Output Enable	MT5LC1005-35LAT	ℓ MicronSemi	
										MT5LC1005-35LIT	ℓ MicronSemi	
										MT5LC1005-35LXT	ℓ† MicronSemi	
					20	140	5	28		MCM62L29A-35	Motorola	45
										MCM6229A-35	Motorola	
					25	125	5	32		CY7C101-35C	Cypress	
										CY7C102-35C	Cypress	
								28		CY7C106-35C	Cypress	
						115	5	28	2V Data Retention	MT5C1005-35LAT	MicronSemi	50
										MT5C1005-35LIT	MicronSemi	
										MT5C1005-35LXT	† MicronSemi	
					30	125	5	32		CY7C101-35M	† Cypress	
										CY7C102-35M	† Cypress	
								28		CY7C106-35M	† Cypress	55
					40	120	5	28		MSM4256-35	Mosaic Semi	
										MSM4256I-35	Mosaic Semi	
										MSM4256M-35	† Mosaic Semi	
										MSM4256MB-35	† Mosaic Semi	
				Common	5	180	5	28		EDI84256CS-35C	EDI	60
					20	150	5	28		**LH521002-35**	**Sharp (3764)** (Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	35	CMOS	TTL	Common	30	120	5	28		μPD431004-35	NEC	
					40	110	5	28		KM641001-35	Samsung	
	45	CMOS	TTL				5	28		M5M51004J-45	Mitsubishi	
										M5M51004P-45	Mitsubishi	
					0.1	120	5	28		MSM4256L-45	Mosaic Semi	5
										MSM4256LI-45	Mosaic Semi	
										MSM4256LM-45	† Mosaic Semi	
										MSM4256LMB-45	† Mosaic Semi	
					0.5	40	3.3	28	2V Data Retention, Lower Power, Output Enable	MT5LC1005-45LPAT	ℓ MicronSemi	
									2V Data Retention, Low Power, Output Enable	MT5LC1005-45LPIT	ℓ MicronSemi	10
										MT5LC1005-45LPXT	ℓ† MicronSemi	
					3	110	5	28	2V Data Retention, Low Power	MT5C1005-45LPAT	MicronSemi	
										MT5C1005-45LPIT	MicronSemi	
										MT5C1005-45LPXT	† MicronSemi	
					6	40	3.3	28	2V Data Retention, Output Enable	MT5LC1005-45LAT	ℓ MicronSemi	15
										MT5LC1005-45LIT	ℓ MicronSemi	
										MT5LC1005-45LXT	ℓ† MicronSemi	
					20	130	5	28		MCM62L29A-45	Motorola	
										MCM6229A-45	Motorola	
					25	115	5	32		CY7C101-45C	Cypress	20
										CY7C102-45C	Cypress	
								28		CY7C106-45C	Cypress	
						110	5	28	2V Data Retention	MT5C1005-45LAT	MicronSemi	
										MT5C1005-45LIT	MicronSemi	
										MT5C1005-45LXT	† MicronSemi	25
					30	115	5	32		CY7C101-45M	† Cypress	
										CY7C102-45M	† Cypress	
								28		CY7C106-45M	† Cypress	
					40	140	5	32	Separate I/O	M5M51014-45	Mitsubishi	
						120	5	28		MSM4256-45	Mosaic Semi	30
										MSM4256I-45	Mosaic Semi	
										MSM4256M-45	† Mosaic Semi	
										MSM4256MB-45	† Mosaic Semi	
	55	CMOS	TTL		0.1	120	5	28		MSM4256L-55	Mosaic Semi	
										MSM4256LI-55	Mosaic Semi	35
										MSM4256LM-55	† Mosaic Semi	
										MSM4256LMB-55	† Mosaic Semi	
					40	120	5	28		MSM4256-55	Mosaic Semi	
										MSM4256I-55	Mosaic Semi	
										MSM4256M-55	† Mosaic Semi	40
										MSM4256MB-55	† Mosaic Semi	
	120	BiCMOS	TTL		20	170	5	28		KM64B1001-12	Samsung	
	150	BiCMOS	TTL		20	150	5	28		KM64B1001-15	Samsung	
256Kx8	25	CMOS	TTL		1.1	310	5	32		MSM8256L-25	Mosaic Semi	
										MSM8256LI-25	Mosaic Semi	45
										MSM8256LM-25	† Mosaic Semi	
										MSM8256LMB-25	† Mosaic Semi	
					20	310	5	32		MSM8256-25	Mosaic Semi	
										MSM8256I-25	Mosaic Semi	
										MSM8256M-25	† Mosaic Semi	50
										MSM8256MB-25	† Mosaic Semi	
					120	300	5	32		MSM4512X-25	Mosaic Semi	
				Common	20	650	5	32		MS8256L-025	Mosaic Semi	
										MS8256LI-025	Mosaic Semi	
										MS8256LM-025	† Mosaic Semi	55
										MS8256LMB-025	† Mosaic Semi	
					100	650	5	32		MS8256-025	Mosaic Semi	
										MS8256I-025	Mosaic Semi	
										MS8256M-025	† Mosaic Semi	
										MS8256MB-025	† Mosaic Semi	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—General Purpose											**(Cont'd)**	
256Kx8											(Cont'd)	
	35	CMOS	TTL		1	130	5	28		**MS621002-35**	**Mosel-Vitelic (3697)**	
					1.1	310	5	32		MSM8256L-35	Mosaic Semi	
										MSM8256LI-35	Mosaic Semi	
										MSM8256LM-35	† Mosaic Semi	
										MSM8256LMB-35	† Mosaic Semi	5
					20	310	5	32		MSM8256-35	Mosaic Semi	
										MSM8256I-35	Mosaic Semi	
										MSM8256M-35	† Mosaic Semi	
										MSM8256MB-35	† Mosaic Semi	
					120	300	5	32		MSM4512X-35	Mosaic Semi	10
				Common	20	650	5	32		MS8256L-35	Mosaic Semi	
										MS8256LI-35	Mosaic Semi	
										MS8256LM-35	† Mosaic Semi	
										MS8256LMB-35	† Mosaic Semi	
					100	650	5	32		MS8256-35	Mosaic Semi	15
										MS8256I-35	Mosaic Semi	
										MS8256M-35	† Mosaic Semi	
										MS8256MB-35	† Mosaic Semi	
	45	CMOS	TTL		1.1	310	5	32		MSM8256L-45	Mosaic Semi	
										MSM8256LI-45	Mosaic Semi	20
										MSM8256LM-45	† Mosaic Semi	
										MSM8256LMB-45	† Mosaic Semi	
					1.2	240	5	32		MSM8256L-45	Mosaic Semi	
					20	310	5	32		MSM8256-45	Mosaic Semi	
										MSM8256I-45	Mosaic Semi	25
										MSM8256M-45	† Mosaic Semi	
										MSM8256MB-45	† Mosaic Semi	
					120	300	5	32		MSM4512X-45	Mosaic Semi	
				Common	20	650	5	32		MS8256L-45	Mosaic Semi	
										MS8256LI-45	Mosaic Semi	30
										MS8256LM-45	† Mosaic Semi	
										MS8256LMB-45	† Mosaic Semi	
					100	650	5	32		MS8256-45	Mosaic Semi	
										MS8256I-45	Mosaic Semi	
										MS8256M-45	† Mosaic Semi	35
										MS8256MB-45	† Mosaic Semi	
	50	CMOS					5	122		HC80820	‡ Honeywell	
	55	CMOS	TTL		1.1	310	5	32		MSM8256L-55	Mosaic Semi	
										MSM8256LI-55	Mosaic Semi	
										MSM8256LM-55	† Mosaic Semi	40
										MSM8256LMB-55	† Mosaic Semi	
					1.2	240	5	32		MSM8256L-55	Mosaic Semi	
					20	310	5	32		MSM8256-55	Mosaic Semi	
										MSM8256I-55	Mosaic Semi	
										MSM8256M-55	† Mosaic Semi	45
										MSM8256MB-55	† Mosaic Semi	
					120	300	5	32		MSM4512X-55	Mosaic Semi	
	70				0.4	130	5	32		EDI8F8257LP-70	EDI	
		CMOS	TTL		1.2	240	5	32		MSM8256L-70	Mosaic Semi	
					120	240	5	32		MSM8256-70	Mosaic Semi	50
	85	CMOS			12	110	5	32		M48Z256-85	SGS-Thomson	
										M48Z256Y-85	SGS-Thomson	
	120	CMOS					5	40		MBM27C4096-12	Fujitsu	
								32		WS256K8-120	White Tech	
					12	110	5	32		M48Z256-120	SGS-Thomson	55
										M48Z256Y-120	SGS-Thomson	
	150				0.4	130	5	32		EDI8F8257LP-15	EDI	
		CMOS					5	40		MBM27C4096-15	Fujitsu	
512Kx8	25	CMOS	TTL		40	240	5	66		PUMA2S4000-025	† Mosaic Semi	
	35	CMOS	TTL		40	240	5	66		PUMA2S4000-35	† Mosaic Semi	60
	55	CMOS	TTL	Common	8	184	5	32		MS8512SC-55	† Mosaic Semi	
	70	CMOS					5	32		WS512K8-70CM	† White Tech	
			TTL				5	32		EDI88512C-70B	† EDI	
				Common	8	184	5	32		MS8512SC-70	† Mosaic Semi	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	85	CMOS	TTL				5	32		EDI88512C-85B	† EDI	
				Common	8	184	5	32		MS8512SC-85	† Mosaic Semi	
	100	CMOS	TTL				5	32		EDI88512C-100B	† EDI	
					8	90	5	32		MS8512SC-10	† Mosaic Semi	
	120	CMOS		Common	0.1	70	5	32		M5M5408-12L	Mitsubishi	5
					2	70	5	32		M5M5408-12	Mitsubishi	
			TTL		8	90	5	32		MS8512SC-12	† Mosaic Semi	
	150	CMOS					5	32		MBM27C4001	Fujitsu	
			TTL		8	90	5	32		MS8512SC-15	† Mosaic Semi	
512Kx16	85	CMOS	TTL		3.3	163	5	66		PUMA2S8000L-85	Mosaic Semi	10
					27	163	5	66		PUMA2S8000-85	Mosaic Semi	
	100	CMOS	TTL		3.3	163	5	66		PUMA2S8000L-10	Mosaic Semi	
					27	163	5	66		PUMA2S8000-10	Mosaic Semi	
	120	CMOS	TTL		3.3	163	5	66		PUMA2S8000L-12	Mosaic Semi	
					27	163	5	66		PUMA2S8000-12	Mosaic Semi	15
512Kx2	15	BiCMOS					–4.5	32	100K ECL	HM100513-15	Hitachi	
512Kx4	35	CMOS					5	32		MSM4512X-35	Mosaic Semi	
	45	CMOS					5	32		MSM4512X-45	Mosaic Semi	
	55	CMOS					5	32		MSM4512X-55	Mosaic Semi	
	70	CMOS					5	32		MSM4512X-70	Mosaic Semi	20
512Kx8	15	CMOS	TTL	Common			5	36		KM684002-15	Samsung	
	20	CMOS	TTL				5	32	2V Data Retention, Output Enable	MT5C512K8A1-20LAT	MicronSemi	
										MT5C512K8A1-20LIT	MicronSemi	
										MT5C512K8A1-20LXT	† MicronSemi	
							3.3	32	2V Data Retention, Output Enable	MT5LC512K8C3-20LAT	ℓ MicronSemi	25
										MT5LC512K8C3-20LIT	ℓ MicronSemi	
										MT5LC512K8C3-20LXT	ℓ† MicronSemi	
					1	55	3.3	36	2V Data Retention, Low Power, Output Enable	MT5LC512K8D4-20LP	ℓ MicronSemi	
					2	140	5	36	2V Data Retention, Low Power, Output Enable	MT5C512K8B2-20LP	MicronSemi	
					15	55	3.3	36	2V Data Retention, Output Enable	MT5LC512K8D4-20L	ℓ MicronSemi	30
					35	140	5	36	2V Data Retention, Output Enable	MT5C512K8B2-20L	MicronSemi	
				Common			5	36		KM684002-20	Samsung	
	25	CMOS	TTL				5	32	2V Data Retention, Output Enable	MT5C512K8A1-25LAT	MicronSemi	
										MT5C512K8A1-25LIT	MicronSemi	
										MT5C512K8A1-25LXT	† MicronSemi	35
							3.3	32	2V Data Retention, Output Enable	MT5LC512K8C3-25LAT	ℓ MicronSemi	
										MT5LC512K8C3-25LIT	ℓ MicronSemi	
										MT5LC512K8C3-25LXT	ℓ† MicronSemi	
					1	55	3.3	36	2V Data Retention, Low Power, Output Enable	MT5LC512K8D4-25LP	ℓ MicronSemi	
					2	120	5	36	2V Data Retention, Low Power, Output Enable	MT5C512K8B2-25LP	MicronSemi	40
					12	55	3.3	36	2V Data Retention, Output Enable	MT5LC512K8D4-25L	ℓ MicronSemi	
					30	120	5	36	2V Data Retention, Output Enable	MT5C512K8B2-25L	MicronSemi	
					60	160	5	36		MCM6246-25	Motorola	
				Common			5	36		KM684002-25	Samsung	
					20	650	5	32		MS8512-025L	Mosaic Semi	45
										MS8512-025LI	Mosaic Semi	
										MS8512-025LM	† Mosaic Semi	
										MS8512-025LMB	† Mosaic Semi	
										MS8512-025LMC	† Mosaic Semi	
					160	650	5	32		MS8512-025	Mosaic Semi	50
										MS8512-025I	Mosaic Semi	
										MS8512-025M	† Mosaic Semi	
										MS8512-025MB	† Mosaic Semi	
										MS8512-025MC	† Mosaic Semi	
	30	CMOS	TTL		50	150	5	36		MCM6246-30	Motorola	55
	35	CMOS	TTL				5	32	2V Data Retention, Output Enable	MT5C512K8A1-35LAT	MicronSemi	
										MT5C512K8A1-35LIT	MicronSemi	
										MT5C512K8A1-35LXT	† MicronSemi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	35	CMOS	TTL				3.3	32	2V Data Retention, Output Enable	MT5LC512K8C3-35LAT	ℓ MicronSemi	
										MT5LC512K8C3-35LIT	ℓ MicronSemi	
										MT5LC512K8C3-35LXT	ℓ† MicronSemi	
					1	50	3.3	36	2V Data Retention, Low Power, Output Enable	MT5LC512K8D4-35LP	ℓ MicronSemi	
					2	115	5	36	2V Data Retention, Low Power, Output Enable	MT5C512K8B2-35LP	MicronSemi	5
					10	50	3.3	36	2V Data Retention, Output Enable	MT5LC512K8D4-35L	ℓ MicronSemi	
					25	115	5	36	2V Data Retention, Output Enable	MT5C512K8B2-35L	MicronSemi	
					40	140	5	36		MCM6246-35	Motorola	
				Common	20	650	5	32		MS8512-35L	Mosaic Semi	
										MS8512-35LI	Mosaic Semi	10
										MS8512-35LM	† Mosaic Semi	
										MS8512-35LMB	† Mosaic Semi	
										MS8512-35LMC	† Mosaic Semi	
					160	650	5	32		MS8512-35	Mosaic Semi	
										MS8512-35I	Mosaic Semi	15
										MS8512-35M	† Mosaic Semi	
										MS8512-35MB	† Mosaic Semi	
										MS8512-35MC	† Mosaic Semi	
	45	CMOS			60	185	5	66		PUMA2S4000-45	Mosaic Semi	
										PUMA2S4000I-45	Mosaic Semi	20
										PUMA2S4000M-45	† Mosaic Semi	
										PUMA2S4000MB-45	† Mosaic Semi	
				Common	0.88	370	5	32		MS8512L-45	Mosaic Semi	
					250	370	5	32		MS8512I-45	Mosaic Semi	
			TTL	Common	20	650	5	32		MS8512-45L	Mosaic Semi	25
										MS8512-45LI	Mosaic Semi	
										MS8512-45LM	† Mosaic Semi	
										MS8512-45LMB	† Mosaic Semi	
										MS8512-45LMC	† Mosaic Semi	
					160	650	5	32		MS8512-45	Mosaic Semi	30
										MS8512-45I	Mosaic Semi	
										MS8512-45M	† Mosaic Semi	
										MS8512-45MB	† Mosaic Semi	
										MS8512-45MC	† Mosaic Semi	
	55	CMOS				90	5	32		HM628512-55	Hitachi	35
					0.05	90	5	32		HM628512-55SL	Hitachi	
					0.1	90	5	32		HM628512-55L	Hitachi	
					3	100	5	32		**CXK584000-55L**	**Sony (3787)**	
										CXK584000-55LL	**Sony (3787)**	
					60	185	5	66		PUMA2S4000-55	Mosaic Semi	40
										PUMA2S4000I-55	Mosaic Semi	
										PUMA2S4000M-55	† Mosaic Semi	
										PUMA2S4000MB-55	† Mosaic Semi	
				Common	0.02	70	5	32		M5M5408-55LL	Mitsubishi	
					0.1	70	5	32		M5M5408-55L	Mitsubishi	45
					0.88	370	5	32		MS8512L-55	Mosaic Semi	
					2	70	5	32		M5M5408-55	Mitsubishi	
					250	370	5	32		MS8512-55	Mosaic Semi	
										MS8512I-55	Mosaic Semi	
			TTL				5	32	2V Data Retention, Output Enable	MT5C512K8A1-55LAT	MicronSemi	50
										MT5C512K8A1-55LIT	MicronSemi	
										MT5C512K8A1-55LXT	† MicronSemi	
							3.3	32	2V Data Retention, Output Enable	MT5LC512K8C3-55LAT	ℓ MicronSemi	
										MT5LC512K8C3-55LIT	ℓ MicronSemi	
										MT5LC512K8C3-55LXT	ℓ† MicronSemi	55
					0.02	70	5	32		KM684000-5L	Samsung	
					0.1	70	5	32		KM684000-5	Samsung	
					3	80	5	32		**TC554002-55L**	**Toshiba (3814)**	
				Common	3	15	5	32		μPD434000-55L	NEC	
										μPD434000-55LL	NEC	60
					5	15	5	32		μPD434000-55	NEC	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8											(Cont'd)	
	70						5	32		EDI88512LP-70	EDI	
		CMOS				90	5	32		HM628512-70	Hitachi	
					0.05	90	5	32		HM628512-70SL	Hitachi	
					0.1	90	5	32		HM628512-70L	Hitachi	
					3	100	5	32		**CXK584000-70L**	**Sony (3787)**	5
										CXK584000-70LL	**Sony (3787)**	
					60	185	5	66		PUMA2S4000-70	Mosaic Semi	
										PUMA2S4000I-70	Mosaic Semi	
										PUMA2S4000M-70 †	Mosaic Semi	
										PUMA2S4000MB-70 †	Mosaic Semi	10
				Common	0.02	70	5	32		M5M5408-70LL	Mitsubishi	
					0.1	70	5	32		M5M5408-70L	Mitsubishi	
					0.88	370	5	32		MS8512L-70	Mosaic Semi	
					2	70	5	32		M5M5408-70	Mitsubishi	
					250	370	5	32		MS8512-70	Mosaic Semi	15
										MS8512I-70	Mosaic Semi	
			TTL		0.02	70	5	32		KM684000-7L	Samsung	
					0.1	90	5	32		MSM8512L-70	Mosaic Semi	
										MSM8512LI-70	Mosaic Semi	
										MSM8512LM-70 †	Mosaic Semi	20
										MSM8512LMB-70 †	Mosaic Semi	
										MSM8512LMC-70 †	Mosaic Semi	
						70	5	32		KM684000-7	Samsung	
					3	90	5	32		MSM8512-70	Mosaic Semi	
										MSM8512I-70	Mosaic Semi	25
										MSM8512M-70 †	Mosaic Semi	
										MSM8512MB-70 †	Mosaic Semi	
										MSM8512MC-70 †	Mosaic Semi	
						80	5	32		**TC554002-70L**	**Toshiba (3814)**	
					35	85	5	32		MS6M8512-70	Mosel-Vitelic	30
				Common	3	15	5	32		µPD434000-70L	NEC	
										µPD434000-70LL	NEC	
					5	15	5	32		µPD434000-70	NEC	
			TTL/CMOS		0.1	70	5	32		**CXK584000-70**	**Sony (3787)**	
	80						5		Pseudo Static	HM658512L-80V	Hitachi	35
					0.2	75	5	32	Pseudo Static	HM658512L80L	Hitachi	
					2	75	5	32	Pseudo Static	HM658512L80	Hitachi	
		CMOS	TTL		0.1	75	5	32	Pseudo-Static	KM658512L-8L	Samsung	
					0.2	75	5	32	Pseudo-Static	KM658512L-8	Samsung	
					1	100	5	32	Pseudo-Static	LH5P8512-80L	Sharp	40
	85	CMOS				90	5	32		HM628512-85	Hitachi	
										HM66205-85	Hitachi	
					0.05	90	5	32		HM628512-85SL	Hitachi	
					0.1	90	5	32		HM628512-85L	Hitachi	
					0.4	90	5	32		HM66205-85L	Hitachi	45
					3	100	5	32		**CXK584000-85L**	**Sony (3787)**	
										CXK584000-85LL	**Sony (3787)**	
					17	115	5	32		M48Z512-85	SGS-Thomson	
										M48Z512Y-85	SGS-Thomson	
				Common	0.02	70	5	32		M5M5408-85LL	Mitsubishi	50
					0.1	70	5	32		M5M5408-85L	Mitsubishi	
					2	70	5	32		M5M5408-85	Mitsubishi	
			TTL		0.02	70	5	32		KM684000-8L	Samsung	
					0.1	90	5	32		MSM8512L-85	Mosaic Semi	
										MSM8512LI-85	Mosaic Semi	55
										MSM8512LM-85 †	Mosaic Semi	
										MSM8512LMB-85 †	Mosaic Semi	
										MSM8512LMC-85 †	Mosaic Semi	
						70	5	32		KM684000-8	Samsung	
					3	90	5	32		MSM8512-85	Mosaic Semi	60
										MSM8512I-85	Mosaic Semi	
										MSM8512M-85 †	Mosaic Semi	
										MSM8512MB-85 †	Mosaic Semi	
										MSM8512MC-85 †	Mosaic Semi	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	85	CMOS	TTL		3	80	5	32		**TC554002-85L**	(Cont'd) **Toshiba (3814)**	
					35	85	5	32		MS6M8512-85	Mosel-Vitelic	
				Common	3	15	5	32		µPD434000-85L	NEC	
										µPD434000-85LL	NEC	
					5	15	5	32		µPD434000-85	NEC	5
			TTL/CMOS		0.1	70	5	32		**CXK584000-85**	**Sony (3787)**	
	100						5	32		EDI88512LP-100	EDI	
									Pseudo Static	HM658512L-10V	Hitachi	
					0.2	75	5	32	Pseudo Static	HM658512L10L	Hitachi	
					2	75	5	32	Pseudo Static	HM658512L10	Hitachi	10
		CMOS				90	5	32		HM628512-100	Hitachi	
										HM66205-10	Hitachi	
					0.05	90	5	32		HM628512-10SL	Hitachi	
					0.1	90	5	32		HM628512-10L	Hitachi	
					0.4	90	5	32		HM66205-10L	Hitachi	15
					3	100	5	32		**CXK584000-10L**	**Sony (3787)**	
										CXK584000-10LL	**Sony (3787)**	
										CXK584000-100L	**Sony (3787)**	
				Common	0.02	70	5	32		M5M5408-10LL	Mitsubishi	
					0.1	70	5	32		M5M5408-10L	Mitsubishi	20
					2	70	5	32		M5M5408-10	Mitsubishi	
			TTL		0.02	70	5	32		KM684000-10L	Samsung	
					0.03	40	5	32		CXK584001-10L	Sony	
							3	32		CXK584001-10LL	ℓ Sony	
					0.1	90	5	32		MSM8512L-10	Mosaic Semi	25
										MSM8512LI-10	Mosaic Semi	
										MSM8512LM-10	† Mosaic Semi	
										MSM8512LMB-10	† Mosaic Semi	
										MSM8512LMC-10	† Mosaic Semi	
						65	5	32	Pseudo-Static	KM658512L-10L	Samsung	30
						70	5	32		KM684000-10	Samsung	
					0.2	65	5	32	Pseudo-Static	KM658512L-10	Samsung	
					3	90	5	32		MSM8512-10	Mosaic Semi	
										MSM8512I-10	Mosaic Semi	
										MSM8512M-10	† Mosaic Semi	35
										MSM8512MB-10	† Mosaic Semi	
										MSM8512MC-10	† Mosaic Semi	
						80	5	32		**TC554002-10L**	**Toshiba (3814)**	
					35	85	5	32		MS6M8512-100	Mosel-Vitelic	
				Common	3	15	5	32		µPD434000-10L	NEC	40
										µPD434000-10LL	NEC	
					5	15	5	32		µPD434000-10	NEC	
			TTL/CMOS		0.05	15	3	32		CXK584001-100	Sony	
					0.1	70	5	32		**CXK584000-100**	ℓ **Sony (3787)**	
	120	CMOS					5	32		MBM27C4001-12	Fujitsu	45
						90	5	32		HM66205-12	Hitachi	
					0.002	9	5	32		**CXK584000-120L**	**Sony (3787)**	
					0.4	90	5	32		HM66205-12L	Hitachi	
					17	115	5	32		M48Z512-120	SGS-Thomson	
										M48Z512Y-120	SGS-Thomson	50
				Common	0.02	70	5	32		M5M5408-12LL	Mitsubishi	
			TTL		0.03	40	5	32		CXK584001-12L	Sony	
							3	32		CXK584001-12LL	ℓ Sony	
					0.1	55	5	32	Pseudo-Static	KM658512L-12L	Samsung	
					0.2	55	5	32	Pseudo-Static	KM658512L-12	Samsung	55
			TTL/CMOS		0.05	15	3	32		CXK584001-120	ℓ Sony	
	150				0.04	40	3	32	Pseudo Static	HM65V8512L15L	Hitachi	
					0.5	40	3	32	Pseudo Static	HM65V8512L15	ℓ Hitachi	
		CMOS					3			HM62V8512-15	ℓ Hitachi	
									Pseudo Static	HM65V8512-15	ℓ Hitachi	60
	250						5			HM628512-25	Hitachi	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx1	15	CMOS	CMOS/TTL	Separate	10	180	5	28		ATT7C107-15	AT&T	
	20	CMOS	CMOS/TTL	Separate	10	140	5	28		ATT7C107-20	AT&T	
			TTL	Common	35	140	5	28		MT5C1001-20	MicronSemi	
	25	CMOS	CMOS/TTL	Separate	10	180	5	28		ATT7C107-25	AT&T	
			TTL	Common	30	120	5	28		MT5C1001-25	MicronSemi	5
	35	CMOS					5	28		EDI811024C35B	† EDI	
			TTL	Common	30	120	5	28		MT5C1001-35	MicronSemi	
				Separate	2	120	5	32		MSM11000-35	† Mosaic Semi	
	45	CMOS					5	28		EDI811024C45B	† EDI	
										IDT71027L-45	‡ IDT	10
										IDT71027S-45	‡ IDT	
			TTL	Common	30	120	5	28		MT5C1001-45	MicronSemi	
				Separate	2	120	5	32		MSM11000-45	† Mosaic Semi	
	55	CMOS					5	28		EDI811024C55B	† EDI	
										IDT71027L-55	‡ IDT	15
										IDT71027L-55B	‡ IDT	
										IDT71027S-55	‡ IDT	
										IDT71027S-55B	‡ IDT	
								32		M5M51001-55	Mitsubishi	
			TTL	Separate	2	120	5	32		MSM11000-55	† Mosaic Semi	20
	70	CMOS					5	28		EDI811024C70B	† EDI	
										IDT71027L-70	‡ IDT	
										IDT71027L-70B	‡ IDT	
										IDT71027S-70	‡ IDT	
										IDT71027S-70B	‡ IDT	25
	90	CMOS					5	28		IDT71027L-90B	‡ IDT	
										IDT71027S-90B	‡ IDT	
1Mx8	85	CMOS	TTL		3.3	96	5	66		PUMA2S8000L-85	Mosaic Semi	
					27	96	5	66		PUMA2S8000-85	Mosaic Semi	
	100	CMOS	TTL		3.3	96	5	66		PUMA2S8000L-10	Mosaic Semi	30
					27	96	5	66		PUMA2S8000-10	Mosaic Semi	
	120	CMOS	TTL		3.3		5	66		PUMA2S8000L-12	Mosaic Semi	
					27	96	5	66		PUMA2S8000-12	Mosaic Semi	
1Mx1	8	BiCMOS	TTL		60	165	5	28		MCM6727A-8	Motorola	
	10	BiCMOS				–165	–5.2	28	ECL 100K	MCM101510-10	Motorola	35
			TTL		60	155	5	28		MCM6727-10	Motorola	
										MCM6727A-10	Motorola	
	12	BiCMOS				–165	–5.2	28	ECL 100K	MCM101510-12	Motorola	
			TTL		60	145	5	28		MCM6727-12	Motorola	
										MCM6727A-12	Motorola	40
		CMOS	TTL		3	190	5	28	2V Data Retention, Low Power	MT5C1001-12LPAT	MicronSemi	
										MT5C1001-12LPIT	MicronSemi	
										MT5C1001-12LPXT	† MicronSemi	
					45	190	5	28	2V Data Retention	MT5C1001-12LAT	MicronSemi	
										MT5C1001-12LIT	MicronSemi	45
										MT5C1001-12LXT	† MicronSemi	
	15	BiCMOS			180		–4.5	28	100K ECL	HM100510-15	Hitachi	
									101K ECL	HM101510-15	Hitachi	
			TTL		60	135	5	28		MCM6727-15	Motorola	
										MCM6727A-15	Motorola	50
		CMOS	TTL		3	165	5	28	2V Data Retention, Low Power	MT5C1001-15LPAT	MicronSemi	
										MT5C1001-15LPIT	MicronSemi	
										MT5C1001-15LPXT	† MicronSemi	
					40	135	5	28		CY7C1007-15C	Cypress	
						165	5	28	2V Data Retention	MT5C1001-15LAT	MicronSemi	55
										MT5C1001-15LIT	MicronSemi	
										MT5C1001-15LXT	† MicronSemi	
				Separate	25	160	5	28		M621100-15	SGS-Thomson	
	17	CMOS	TTL		3	155	5	28	2V Data Retention, Low Power	MT5C1001-17LPAT	MicronSemi	
										MT5C1001-17LPIT	MicronSemi	60
										MT5C1001-17LPXT	† MicronSemi	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
										(Cont'd)		
1Mx1	17	CMOS	TTL		40	155	5	28	2V Data Retention	MT5C1001-17LAT	MicronSemi	
										MT5C1001-17LIT	MicronSemi	
										MT5C1001-17LXT †	MicronSemi	
				Separate	25	160	5	28		M621100-17	SGS-Thomson	
	18	BiCMOS			180		-4.5	28	100K ECL	HM100510-18	Hitachi	5
									101K ECL	HM101510-18	Hitachi	
	20	CMOS			0.1	150	5	28		HM621100A-20L	Hitachi	
					60	150	5	28		HM621100A-20	Hitachi	
			TTL		0.5	65	3.3	28	2V Data Retention, Low Power	MT5LC1001-20LPAT ℓ	MicronSemi	
										MT5LC1001-20LPIT ℓ	MicronSemi	10
										MT5LC1001-20LPXT ℓ†	MicronSemi	
					3	140	5	28	2V Data Retention, Low Power	MT5C1001-20LPAT	MicronSemi	
										MT5C1001-20LPIT	MicronSemi	
										MT5C1001-20LPXT †	MicronSemi	
					14	65	3.3	28	2V Data Retention	MT5LC1001-20LAT ℓ	MicronSemi	15
										MT5LC1001-20LIT ℓ	MicronSemi	
										MT5LC1001-20LXT ℓ†	MicronSemi	
					30	125	5	28		CY7C1007-20C	Cypress	
						135	5	28		CY7C1007-20M †	Cypress	
						160	5	28		MCM6227A-20	Motorola	20
					35	140	5	28	2V Data Retention	MT5C1001-20LAT	MicronSemi	
										MT5C1001-20LIT	MicronSemi	
										MT5C1001-20LXT †	MicronSemi	
				Common	30	150	5	28		µPD431004-20	NEC	
				Separate	10	155	5	28		MSM11000-020	Mosaic Semi	25
					25	140	5	28		M621100-20	SGS-Thomson	
					30	140	5	28		µPD431001-20	NEC	
	25	CMOS			0.1	150	5	28		HM621100A-25L	Hitachi	
					60	150	5	28		HM621100A-25	Hitachi	
			TTL				5	28		M5M51001J-25	Mitsubishi	30
										M5M51001P-25	Mitsubishi	
					0.5	55	3.3	28	2V Data Retention, Low Power	MT5LC1001-25LPAT ℓ	MicronSemi	
										MT5LC1001-25LPIT ℓ	MicronSemi	
										MT5LC1001-25LPXT ℓ†	MicronSemi	
					3	125	5	28	2V Data Retention, Low Power	MT5C1001-25LPAT	MicronSemi	35
										MT5C1001-25LPIT	MicronSemi	
										MT5C1001-25LPXT †	MicronSemi	
					12	55	3.3	28	2V Data Retention	MT5LC1001-25LAT ℓ	MicronSemi	
										MT5LC1001-25LIT ℓ	MicronSemi	
										MT5LC1001-25LXT ℓ†	MicronSemi	40
					30	120	5	28		CY7C1007-25C	Cypress	
						130	5	28		CY7C1007-25M †	Cypress	
						150	5	28		CY7C107-25C	Cypress	
						125	5	28	2V Data Retention	MT5C1001-25LAT	MicronSemi	
										MT5C1001-25LIT	MicronSemi	45
										MT5C1001-25LXT †	MicronSemi	
						140	5	28		MCM62L27A-25	Motorola	
										MCM6227A-25	Motorola	
					35	150	5	28		CY7C107-25M †	Cypress	
				Separate	10	155	5	28		MSM11000-025	Mosaic Semi	50
					25	130	5	28		M621100-25	SGS-Thomson	
					30	120	5	28		µPD431001-25	NEC	
	35	CMOS			0.1	150	5	28		HM621100A-35L	Hitachi	
					60	150	5	28		HM621100A-35	Hitachi	
			TTL				5	28		M5M51001J-35	Mitsubishi	55
										M5M51001P-35	Mitsubishi	
					0.5	45	3.3	28	2V Data Retention, Low Power	MT5LC1001-35LPAT ℓ	MicronSemi	
										MT5LC1001-35LPIT ℓ	MicronSemi	
										MT5LC1001-35LPXT ℓ†	MicronSemi	
					3	115	5	28	2V Data Retention, Low Power	MT5C1001-35LPAT	MicronSemi	60
										MT5C1001-35LPIT	MicronSemi	
										MT5C1001-35LPXT †	MicronSemi	
					8	45	3.3	28	2V Data Retention	MT5LC1001-35LAT ℓ	MicronSemi	
										MT5LC1001-35LIT ℓ	MicronSemi	
										MT5LC1001-35LXT ℓ†	MicronSemi	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx1	35	CMOS	TTL								(Cont'd)	
					25	125	5	28		CY7C107-35C	Cypress	
						115	5	28	2V Data Retention	MT5C1001-35LAT	MicronSemi	
										MT5C1001-35LIT	MicronSemi	
										MT5C1001-35LXT †	MicronSemi	
					30	125	5	28		CY7C107-35M †	Cypress	5
						130	5	28		MCM62L27A-35	Motorola	
										MCM6227A-35	Motorola	
				Separate	30	100	5	28		μPD431001-35	NEC	
	45	CMOS	TTL				5	28		M5M51001J-45	Mitsubishi	
										M5M51001P-45	Mitsubishi	10
					0.5	40	3.3	28	2V Data Retention, Low Power	MT5LC1001-45LPAT ℓ	MicronSemi	
										MT5LC1001-45LPIT ℓ	MicronSemi	
										MT5LC1001-45LPXT ℓ†	MicronSemi	
					3	110	5	28	2V Data Retention, Low Power	MT5C1001-45LPAT	MicronSemi	
										MT5C1001-45LPIT	MicronSemi	15
										MT5C1001-45LPXT †	MicronSemi	
					6	40	3.3	28	2V Data Retention	MT5LC1001-45LAT ℓ	MicronSemi	
										MT5LC1001-45LIT ℓ	MicronSemi	
										MT5LC1001-45LXT ℓ†	MicronSemi	
					25	115	5	28		CY7C107-45C	Cypress	20
						110	5	28	2V Data Retention	MT5C1001-45LAT	MicronSemi	
										MT5C1001-45LIT	MicronSemi	
										MT5C1001-45LXT †	MicronSemi	
					30	115	5	28		CY7C107-45M †	Cypress	
						120	5	28		MCM62L27A-45	Motorola	25
										MCM6227A-45	Motorola	
1Mx4		BiCMOS										
			TTL	Separate			5	36		MCM67Q004	Motorola	
	10	BiCMOS				−190	−5.2	36	ECL	MCM101524-10	Motorola	
	12	BiCMOS				−190	−5.2	36	ECL	MCM101524-12	Motorola	
	15	BiCMOS				−200	−5.2	36	101K ECL	HM101524-15	Hitachi	30
						−190	−5.2	36	ECL	MCM101524-15	Motorola	
					60		5	32		HM674100H-15	Hitachi	
		CMOS		Common	1	120	5	28		DM2202J-15	Ramtron	
										DM2212J-15	Ramtron	
	20	BiCMOS			60		5	32		HM674100H-20	Hitachi	35
		CMOS		Common	1	120	5	28		DM2202J-20	Ramtron	
										DM2212J-20	Ramtron	
			TTL				3.3	32	2V Data Retention	MT5LC1M4C3-20LAT ℓ	MicronSemi	
										MT5LC1M4C3-20LIT ℓ	MicronSemi	
										MT5LC1M4C3-20LXT ℓ†	MicronSemi	40
					1	55	3.3	32	2V Data Retention	MT5LC1M4D4-20LP ℓ	MicronSemi	
					2	140	5	32		MT5C1M4B2-20LP	MicronSemi	
					15	55	3.3	32	2V Data Retention	MT5LC1M4D4-20L ℓ	MicronSemi	
					35	140	5	32		MT5C1M4B2-20L	MicronSemi	
				Common	30	160	5	32		**TC551402-20**	**Toshiba** **(3819)**	45
					60	150	5	32		μPD434004-20	NEC	
	25	CMOS			0.1	150	5	32		HM624100-25L	Hitachi	
					60	150	5	32		HM624100-25	Hitachi	
			TTL				3.3	32	2V Data Retention	MT5LC1M4C3-25LAT ℓ	MicronSemi	
										MT5LC1M4C3-25LIT ℓ	MicronSemi	50
										MT5LC1M4C3-25LXT ℓ†	MicronSemi	
					1	55	3.3	32	2V Data Retention	MT5LC1M4D4-25LP ℓ	MicronSemi	
					2	120	5	32		MT5C1M4B2-25LP	MicronSemi	
					12	55	3.3	32	2V Data Retention	MT5LC1M4D4-25L ℓ	MicronSemi	
					30	120	5	32		MT5C1M4B2-25L	MicronSemi	55
					60	160	5	32		MCM6249-25	Motorola	
				Common	50	140	5	32		μPD434004-25	NEC	
	30	CMOS			0.1	150	5	32		HM624100-30L	Hitachi	
					60	150	5	32		HM624100-30	Hitachi	
			TTL		50	150	5	32		MCM6249-30	Motorola	60
				Common	30	150	5	32		**TC551402-30**	**Toshiba** **(3819)**	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—General Purpose (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
	35	CMOS			0.1	150	5	32		HM624100-35L	Hitachi
					60	150	5	32		HM624100-35	Hitachi
			TTL				3.3	32	2V Data Retention	MT5LC1M4C3-35LAT ℓ	MicronSemi
										MT5LC1M4C3-35LIT ℓ	MicronSemi
										MT5LC1M4C3-35LXT ℓ†	MicronSemi
					1	50	3.3	32	2V Data Retention	MT5LC1M4D4-35LP ℓ	MicronSemi
					2	115	5	32		MT5C1M4B2-35LP	MicronSemi
					10	50	3.3	32	2V Data Retention, Output Enable	MT5LC1M4D4-35L ℓ	MicronSemi
					25	115	5	32		MT5C1M4B2-35L	MicronSemi
					40	140	5	32		MCM6249-35	Motorola
	45	CMOS			0.1	150	5	32		HM624100-45L	Hitachi
					60	150	5	32		HM624100-45	Hitachi
	55	CMOS	TTL				3.3	32	2V Data Retention	MT5LC1M4C3-55LAT ℓ	MicronSemi
										MT5LC1M4C3-55LIT ℓ	MicronSemi
										MT5LC1M4C3-55LXT ℓ†	MicronSemi
1Mx8	20	CMOS	TTL				5	60		MCM81100-20	Motorola
	25	CMOS	TTL				5	60		MCM81100-25	Motorola
	35	CMOS	TTL				5	60		MCM81100-35	Motorola
	80	CMOS			3	80	5	32		MS621000-80	Mosel-Vitelic
	100	CMOS	TTL		3	80	5	32		MS621000-10	Mosel-Vitelic
	120	CMOS	TTL		3	80	5	32		MS621000-12	Mosel-Vitelic
2Mx2	10	BiCMOS				−190	−5.2	36	ECL	MCM101524-10	Motorola
	12	BiCMOS				−190	−5.2	36	ECL	MCM101524-12	Motorola
	15	BiCMOS				−190	−5.2	36	ECL	MCM101524-15	Motorola
4Mx1	10	BiCMOS				−190	−5.2	36	ECL 100K	MCM101520-10	Motorola
	12	BiCMOS				−190	−5.2	36	ECL 100K	MCM101520-12	Motorola
	15	BiCMOS				−190	−5.2	36	ECL 100K	MCM101520-15	Motorola
		CMOS		Separate	1	120	5	28		DM2200J-15	Ramtron
	20	CMOS		Separate	1	120	5	28		DM2200J-20	Ramtron
			TTL	Separate	30	160	5	32		**TC551402-20**	**Toshiba (3819)**
					60	140	5	32		μPD434001-20	NEC
	25	CMOS			0.1	150	5	32		HM621400-25L	Hitachi
					60	150	5	32		HM621400-25	Hitachi
			TTL	Common	30	160	5	32		**TC551402-25**	**Toshiba (3819)**
				Separate	30	160	5	32		**TC551402-25**	**Toshiba (3819)**
					50	130	5	32		μPD434001-25	NEC
	30	CMOS	TTL	Separate	30	150	5	32		**TC551402-30**	**Toshiba (3819)**
	35	CMOS			0.1	150	5	32		HM621400-35L	Hitachi
					60	150	5	32		HM621400-35	Hitachi

Static—Modules

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
1.33Mx24	35	CMOS	TTL		320	1320	5	80		EDI9F321024C-35C	EDI
	45	CMOS	TTL		320	1320	5	80		EDI9F321024C-45C	EDI
	55	CMOS	TTL		320	1320	5	80		EDI9F321024C-55C	EDI
32Mx4	60	CMOS	TTL	Common			5	34	Fast Page, Static Column	DPD32MX4PH4-60	Dense-Pac
	70	CMOS	TTL	Common			5	34	Fast Page, Static Column	DPD32MX4PH4-70	Dense-Pac
	80	CMOS	TTL	Common			5	34	Fast Page, Static Column	DPD32MX4PH4-80	Dense-Pac
	100	CMOS	TTL	Common			5	34	Fast Page, Static Column	DPD32MX4PH4-10	Dense-Pac
	120	CMOS	TTL	Common			5	34	Fast Page, Static Column	DPD32MX4PH4-12	Dense-Pac
64x36	12	BiCMOS	TTL			1850	5	80		MCM44A64-12	Motorola
										MCM44B64-12	Motorola
										MCM44C64-12	Motorola
										MCM44D64-12	Motorola
										MCM44E64-12	Motorola
										MCM44F64-12	Motorola
										MCM44G64-12	Motorola
										MCM44H64-12	Motorola
	15	BiCMOS	TTL			1850	5	80		MCM44A64-15	Motorola
										MCM44B64-15	Motorola
										MCM44C64-15	Motorola
										MCM44D64-15	Motorola

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Modules											(Cont'd)	
64x36	15	BiCMOS	TTL			1850	5	80			(Cont'd)	
										MCM44E64-15	Motorola	
										MCM44F64-15	Motorola	
										MCM44G64-15	Motorola	
										MCM44H64-15	Motorola	
	17	BiCMOS	TTL			1850	5	80		MCM44A64-17	Motorola	5
										MCM44B64-17	Motorola	
										MCM44C64-17	Motorola	
										MCM44D64-17	Motorola	
										MCM44E64-17	Motorola	
										MCM44F64-17	Motorola	10
										MCM44G64-17	Motorola	
										MCM44H64-17	Motorola	
126Kx16	35	CMOS	TTL		52	150	5	66	Also has 2M UVEPROM	PUMA2X0214-1235	Mosaic Semi	
	70	CMOS	TTL		52	100	5	66	Also has 2M UVEPROM	PUMA2X0214-9070	Mosaic Semi	
384Kx8	70	CMOS	TTL	Common	9	80	5	66		DPS128X24-70C	Dense-Pac	15
	85	CMOS	TTL	Common	9	80	5	66		DPS128X24-85C	Dense-Pac	
						85	5	66		DPS128X24-85I	Dense-Pac	
						90	5	66		DPS128X24-85M	† Dense-Pac	
	100	CMOS	TTL	Common	9	80	5	66		DPS128X24-10C	Dense-Pac	
						85	5	66		DPS128X24-10I	Dense-Pac	20
						90	5	66		DPS128X24-10M	† Dense-Pac	
	120	CMOS	TTL	Common	9	80	5	66		DPS128X24-12C	Dense-Pac	
						85	5	66		DPS128X24-12I	Dense-Pac	
						90	5	66		DPS128X24-12M	† Dense-Pac	
	150	CMOS	TTL	Common	9	80	5	66		DPS128X24-15C	Dense-Pac	25
						85	5	66		DPS128X24-15I	Dense-Pac	
						90	5	66		DPS128X24-15M	† Dense-Pac	
2Kx16x2	17	CMOS	TTL	Common	500	500	5	144	4 16-bit Bi-directional Bus Interfaces	a66311ACG	Array Micro	
										a66311BCG	Array Micro	
										a66311BEG	Array Micro	30
										a66311BIG	Array Micro	
										a66311BMG	† Array Micro	
2Kx32	17	CMOS	TTL	Common	500	500	5	144	4 16-bit Bi-directional Bus Interfaces	a66311ACG	Array Micro	
										a66311BCG	Array Micro	
										a66311BEG	Array Micro	35
										a66311BIG	Array Micro	
										a66311BMG	† Array Micro	
2Kx36	25	CMOS	TTL		700	1240	5	121	Two Port	IDT7M1012-25	IDT	
	30	CMOS	TTL		700	1240	5	121	Two Port	IDT7M1012-30	IDT	
										IDT7M1012-30M	† IDT	40
	40	CMOS	TTL		700	1240	5	121	Two Port	IDT7M1012-40	IDT	
										IDT7M1012-40M	† IDT	
	50	CMOS	TTL		700	1240	5	121	Two Port	IDT7M1012-50	IDT	
										IDT7M1012-50M	† IDT	
	60	CMOS	TTL		700	1240	5	121	Two Port	IDT7M1012-60	IDT	45
										IDT7M1012-60M	† IDT	
	70	CMOS	TTL		700	1240	5	121	Two Port	IDT7M1012-70M	† IDT	
4Kx16	25	CMOS	TTL	Separate	340	1400	5	180	Four-Port	IDT70M74-25	IDT	
	30	CMOS	TTL	Separate	320	1360	5	180	Four-Port	IDT70M74-30	IDT	
					460	1600	5	180	Four-Port	IDT70M74-30M	† IDT	50
	35	CMOS	TTL	Separate	300	1340	5	180	Four-Port	IDT70M74-35	IDT	
					440	1580	5	180	Four-Port	IDT70M74-35M	† IDT	
	45	CMOS	TTL	Separate	280	1320	5	180	Four-Port	IDT70M74-45	IDT	
					420	1560	5	180	Four-Port	IDT70M74-45M	† IDT	
4Kx32	19	CMOS	TTL	Common	36	1550	5	92	Reg Bi-directional Bus Interfaces, Reg Transceivers	a66404A	Array Micro	55
	32	CMOS	TTL	Common	36	1110	5	92	Reg Bi-directional Bus Interfaces, Reg Transceivers	a66404B	Array Micro	
4Kx36	15	BiCMOS	TTL	Separate		1040	5		Two Port	IDT7M1014-15	IDT	
	20	BiCMOS	TTL	Separate		1040	5		Two Port	IDT7M1014-20	IDT	
										IDT7M1014-20M	† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
4Kx36	25	BiCMOS	TTL	Separate		1040	5		Two Port	IDT7M1014-25	IDT
										IDT7M1014-25M	† IDT
	30	BiCMOS	TTL	Separate		1040	5		Two Port	IDT7M1014-30	IDT
										IDT7M1014-30M	† IDT
4Kx9	30	CMOS	TTL		650	870	5	60	Two Port	IDT7M1004-30	IDT
	35	CMOS	TTL		650	870	5	60	Two Port	IDT7M1004-35	IDT
	40	CMOS	TTL		750	860	5	60	Two Port	IDT7M1004-40M	† IDT
	45	CMOS	TTL		650	870	5	60	Two Port	IDT7M1004-45	IDT
					750	860	5	60	Two Port	IDT7M1004-45M	† IDT
	55	CMOS	TTL		650	870	5	60	Two Port	IDT7M1004-55	IDT
					750	860	5	60	Two Port	IDT7M1004-55M	† IDT
	65	CMOS	TTL		650	870	5	60	Two Port	IDT7M1004-65	IDT
					750	860	5	60	Two Port	IDT7M1004-65M	† IDT
	80	CMOS	TTL		750	860	5	60	Two Port	IDT7M1004-80M	† IDT
	100	CMOS	TTL		750	860	5	60	Two Port	IDT7M1004-100M	† IDT
8Kx8	70						5	58	Two Port	IDT7M134S-70	IDT
									Two Port Slave	IDT7M144S-70	IDT
	90						5	58	Two Port	IDT7M134S-90	IDT
										IDT7M134S-90B	† IDT
										IDT7M144S-90	IDT
									Two Port Slave	IDT7M144S-90B	† IDT
	120						5	58	Two Port	IDT7M134S-120B	† IDT
									Two Port Slave	IDT7M144S-120B	† IDT
	140						5	58	Two Port	IDT7M134S-140B	† IDT
									Two Port Slave	IDT7M144S-140B	† IDT
8Kx16	50						5	40		IDT8MP628-50	IDT
										IDT8M628S-50	IDT
	55	CMOS	TTL		8	112	5	66	Also has 2M UVEPROM	PUMA2X0211-1255	Mosaic Semi
										PUMA2X0211-1555	Mosaic Semi
										PUMA2X0211-9055	Mosaic Semi
	60						5	40		IDT8M628S-60	IDT
										IDT8M628S-60B	† IDT
	70						5	40		IDT8M628S-70	IDT
										IDT8M628S-70B	† IDT
		CMOS	TTL		8	112	5	66	Also has 2M UVEPROM	PUMA2X0211-1270	Mosaic Semi
										PUMA2X0211-1570	Mosaic Semi
										PUMA2X0211-9070	Mosaic Semi
	85						5	40		IDT8M628S-85	IDT
										IDT8M628S-85B	† IDT
		CMOS	TTL		8	112	5	66	Also has 2M UVEPROM	PUMA2X0211-1585	Mosaic Semi
										PUMA2X0211-9085	Mosaic Semi
	100						5	40		IDT8M628S-100B	† IDT
8Kx16	25	CMOS	TTL		60	320	5	40		DPS8X16-25C	Dense-Pac
										DPS8X16-25I	Dense-Pac
										DPS8X16-25M	† Dense-Pac
	35	CMOS	TTL		60	320	5	40		DPS8X16-35C	Dense-Pac
										DPS8X16-35I	Dense-Pac
										DPS8X16-35M	† Dense-Pac
				Common	35	320	5	40		DPS8M628-35C	Dense-Pac
										DPS8M628-35I	Dense-Pac
										DPS8M628-35M	† Dense-Pac
	45	CMOS	TTL		60	320	5	40		DPS8X16-45C	Dense-Pac
										DPS8X16-45I	Dense-Pac
										DPS8X16-45M	† Dense-Pac
				Common	35	320	5	40		DPS8M628-45C	Dense-Pac
										DPS8M628-45I	Dense-Pac
										DPS8M628-45M	† Dense-Pac
	55	CMOS	TTL		60	320	5	40		DPS8X16-55C	Dense-Pac
										DPS8X16-55I	Dense-Pac
										DPS8X16-55M	† Dense-Pac

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx16	55	CMOS	TTL								(Cont'd)	
				Common	35	320	5	40		DPS8M628-55C	Dense-Pac	
										DPS8M628-55I	Dense-Pac	
										DPS8M628-55M	† Dense-Pac	
	70	CMOS	TTL		60	320	5	40		DPS8X16-70C	Dense-Pac	
										DPS8X16-70I	Dense-Pac	5
										DPS8X16-70M	† Dense-Pac	
				Common	35	320	5	40		DPS8M628-70C	Dense-Pac	
										DPS8M628-70I	Dense-Pac	
										DPS8M628-70M	† Dense-Pac	
	85	CMOS	TTL		60	320	5	40		DPS8X16-85C	Dense-Pac	10
										DPS8X16-85I	Dense-Pac	
										DPS8X16-85M	† Dense-Pac	
				Common	35	320	5	40		DPS8M628-85C	Dense-Pac	
										DPS8M628-85I	Dense-Pac	
	100	CMOS	TTL		8	120	5	40		DPS8X16-100C	Dense-Pac	15
						130	5	40		DPS8X16-100I	Dense-Pac	
						140	5	40		DPS8X16-100M	† Dense-Pac	
				Common	4	120	5	40		DPS8M628-100C	Dense-Pac	
						130	5	40		DPS8M628-100I	Dense-Pac	
						140	5	40		DPS8M628-100M	† Dense-Pac	20
	120	CMOS	TTL		8	120	5	40		DPS8X16-120C	Dense-Pac	
						130	5	40		DPS8X16-120I	Dense-Pac	
						140	5	40		DPS8X16-120M	† Dense-Pac	
				Common	4	120	5	40		DPS8M628-120C	Dense-Pac	
						130	5	40		DPS8M628-120I	Dense-Pac	25
						140	5	40		DPS8M628-120M	† Dense-Pac	
	150	CMOS	TTL		8	120	5	40		DPS8X16-150C	Dense-Pac	
						130	5	40		DPS8X16-150I	Dense-Pac	
						140	5	40		DPS8X16-150M	† Dense-Pac	
				Common	4	120	5	40		DPS8M628-150C	Dense-Pac	30
						130	5	40		DPS8M628-150I	Dense-Pac	
						140	5	40		DPS8M628-150M	† Dense-Pac	
8Kx32	25	CMOS	TTL		120	640	5	66		DPS832-25C	Dense-Pac	
										DPS832-25I	Dense-Pac	
										DPS832-25M	† Dense-Pac	35
	35	CMOS	TTL		120	640	5	66		DPS832-35C	Dense-Pac	
										DPS832-35I	Dense-Pac	
										DPS832-35M	† Dense-Pac	
	45	CMOS	TTL		120	640	5	66		DPS832-45C	Dense-Pac	
										DPS832-45I	Dense-Pac	40
										DPS832-45M	† Dense-Pac	
	55	CMOS	TTL		120	640	5	66		DPS832-55C	Dense-Pac	
										DPS832-55I	Dense-Pac	
										DPS832-55M	† Dense-Pac	
	70	CMOS	TTL		120	640	5	66		DPS832-70C	Dense-Pac	45
										DPS832-70I	Dense-Pac	
										DPS832-70M	† Dense-Pac	
	85	CMOS	TTL		120	640	5	66		DPS832-85C	Dense-Pac	
										DPS832-85I	Dense-Pac	
										DPS832-85M	† Dense-Pac	50
	100	CMOS	TTL		8	240	5	66		DPS832-100C	Dense-Pac	
						260	5	66		DPS832-100I	Dense-Pac	
						280	5	66		DPS832-100M	† Dense-Pac	
	120	CMOS	TTL		8	240	5	66		DPS832-120C	Dense-Pac	
						260	5	66		DPS832-120I	Dense-Pac	55
						280	5	66		DPS832-120M	† Dense-Pac	
	150	CMOS	TTL		8	240	5	66		DPS832-150C	Dense-Pac	
						260	5	66		DPS832-150I	Dense-Pac	
						280	5	66		DPS832-150M	† Dense-Pac	
8Kx8	400	CMOS	TTL		1.6	56	5	40		HS6564RH	‡ Harris	60
16Kx8	55	CMOS	TTL		8	63	5	66	Also has 2M UVEPROM	PUMA2X0211-1255	Mosaic Semi	
										PUMA2X0211-1555	Mosaic Semi	
										PUMA2X0211-9055	Mosaic Semi	
	70						5	58	Two Port	IDT7M135S-70	° IDT	
									Two Port Slave	IDT7M145S-70	IDT	65

(Continued)

† Mil Temp Range (−55° to 125°C)　‡ High Rad Resistance　*Typical Value　°Behavioral Model Available　ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device		Source	Line
16Kx8	70											(Cont'd)	
		CMOS	TTL		8	63	5	66	Also has 2M UVEPROM	PUMA2X0211-1270		Mosaic Semi	
										PUMA2X0211-1570		Mosaic Semi	
										PUMA2X0211-9070		Mosaic Semi	
	85	CMOS	TTL		8	63	5	66	Also has 2M UVEPROM	PUMA2X0211-1285		Mosaic Semi	
										PUMA2X0211-1585		Mosaic Semi	5
										PUMA2X0211-9085		Mosaic Semi	
	90						5	58	Two Port	IDT7M135S-90	°	IDT	
										IDT7M135S-90B	°†	IDT	
									Two Port Slave	IDT7M145S-90		IDT	
										IDT7M145S-90B	†	IDT	10
	120						5	58	Two Port	IDT7M135S-120B	°†	IDT	
									Two Port Slave	IDT7M145S-120B	†	IDT	
	140						5	58	Two Port	IDT7M135S-140B	°†	IDT	
									Two Port Slave	IDT7M145S-140B	†	IDT	
16Kx16	12	CMOS	TTL		250	550	5	40		CYM1610-12C		Cypress	15
	15	CMOS	TTL		250	550	5	40		CYM1610-15C		Cypress	
										CYM1610-15M	†	Cypress	
	20	CMOS	TTL		60	330	5	40		CYM1610-20C		Cypress	
					250	550	5	40		CYM1610-20M	†	Cypress	
	25						5	40		IDT7M656L-25		IDT	20
		CMOS					5	36		EDH816H16C-25C		EDI	
										EDH816H16C-25MHR	†	EDI	
										MS1616-25		Mosaic Semi	
			TTL		60	330	5	40		CYM1610-25C		Cypress	
						360	5	40		CYM1610-25M	†	Cypress	25
	35						5	40		IDT7M656L-35		IDT	
										IDT7M656L-35B	†	IDT	
		CMOS					5	36		EDH816H16C-35MHR	†	EDI	
										MS1616-35		Mosaic Semi	
			TTL		60	330	5	40		CYM1610-35C		Cypress	30
										CYM1610-35M	†	Cypress	
	45	CMOS					5	36		EDH816H16C-45MHR	†	EDI	
										MS1616-45		Mosaic Semi	
			TTL		60	330	5	40		CYM1610-45C		Cypress	
										CYM1610-45M	†	Cypress	35
	50						5	40		IDT8MP656-50		IDT	
		CMOS	TTL		60	330	5	40		CYM1610-50C		Cypress	
										CYM1610-50M	†	Cypress	
	55	CMOS					5	40		IDT7M656L-55B	†	IDT	
	60						5	40		IDT8M656S-60B	†	IDT	40
	70						5	40		IDT8M656S-70B	†	IDT	
	85						5	40		IDT8M656S-85B	†	IDT	
	100						5	40		IDT8M656S-100B	†	IDT	
16Kx32	15	CMOS	TTL	Common	40	1040	5	64		MT8S1632-15		MicronSemi	
	20	CMOS					5	64		CYM1821L-20C		Cypress	45
			TTL	Common	40	960	5	64		MT8S1632-20		MicronSemi	
				Separate	160	720	5	88		CYM1822L-20C		Cypress	
	25	CMOS					5	64		CYM1821L-25C		Cypress	
			TTL	Common	40	880	5	64		MT8S1632-25		MicronSemi	
				Separate	160	720	5	88		CYM1822L-25C		Cypress	50
										CYM1822L-25M	†	Cypress	
	30	CMOS	TTL	Separate	160	720	5	88		CYM1822L-30C		Cypress	
										CYM1822L-30M	†	Cypress	
	35	CMOS					5	64		CYM11821L-35C		Cypress	
			TTL	Common	40	800	5	64		MT8S1632-35		MicronSemi	55
				Separate	160	720	5	88		CYM1822-35C		Cypress	
										CYM1822L-35C		Cypress	
										CYM1822L-35M	†	Cypress	
	45	CMOS					5	64		CYM1821L-45C		Cypress	
			TTL	Separate	160	720	5	88		CYM1822L-45C		Cypress	60
										CYM1822L-45M	†	Cypress	
16Kx68	25	CMOS					5	104		CYM1910-25C		Cypress	
										CYM1911-25C		Cypress	
	35	CMOS			650	1900	5	104		CYM1910-35C		Cypress	
										CYM1911-35C		Cypress	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
16Kx68											(Cont'd)	
	45	CMOS			650	1900	5	104		CYM1910-45C	Cypress	
										CYM1911-45C	Cypress	
16Kx16	12	CMOS	TTL		250	550	5	36		CYM1611-12C	Cypress	
	15	CMOS	TTL		250	550	5	36		CYM1611-15C	Cypress	
	20	CMOS	TTL		80	330	5	36		CYM1611-20C	Cypress	5
	25	CMOS					5	36		MS1616VKX-25	Mosaic Semi	
				Common	220	540	5	36		DPS16X17-25C	Dense-Pac	
					235	600	5	36		DPS16X17-25I	Dense-Pac	
					240	620	5	36		DPS16X17-25M	† Dense-Pac	
			TTL		80	330	5	36		CYM1611-25C	Cypress	10
					120	640	5	66		DPS832-25C	Dense-Pac	
										DPS832-25I	Dense-Pac	
										DPS832-25M	† Dense-Pac	
	30	CMOS	TTL		80	330	5	36		CYM1611-30C	Cypress	
	35	CMOS					5	36		MS1616VKX-35	Mosaic Semi	15
				Common	220	540	5	36		DPS16X17-35C	Dense-Pac	
					235	600	5	36		DPS16X17-35I	Dense-Pac	
					240	620	5	36		DPS16X17-35M	† Dense-Pac	
			TTL		80	330	5	36		CYM1611-35C	Cypress	
					120	640	5	66		DPS832-35C	Dense-Pac	20
										DPS832-35I	Dense-Pac	
										DPS832-35M	† Dense-Pac	
				Common	70	640	5	40		DPS8M656-35C	Dense-Pac	
										DPS8M656-35I	Dense-Pac	
										DPS8M656-35M	† Dense-Pac	25
	45	CMOS					5	36		MS1616VKX-45	Mosaic Semi	
				Common	220	540	5	36		DPS16X17-45C	Dense-Pac	
					235	600	5	36		DPS16X17-45I	Dense-Pac	
					240	620	5	36		DPS16X17-45M	† Dense-Pac	
			TTL		80	330	5	36		CYM1611-45C	Cypress	30
					120	640	5	66		DPS832-45C	Dense-Pac	
										DPS832-45I	Dense-Pac	
										DPS832-45M	† Dense-Pac	
				Common	70	640	5	40		DPS8M656-45C	Dense-Pac	
										DPS8M656-45I	Dense-Pac	35
										DPS8M656-45M	† Dense-Pac	
	55	CMOS		Common	220	540	5	36		DPS16X17-55C	Dense-Pac	
					235	600	5	36		DPS16X17-55I	Dense-Pac	
					240	620	5	36		DPS16X17-55M	† Dense-Pac	
			TTL		120	640	5	66		DPS832-55C	Dense-Pac	40
										DPS832-55I	Dense-Pac	
										DPS832-55M	† Dense-Pac	
				Common	70	640	5	40		DPS8M656-55C	Dense-Pac	
										DPS8M656-55I	Dense-Pac	
										DPS8M656-55M	† Dense-Pac	45
	70	CMOS	TTL		120	640	5	66		DPS832-70C	Dense-Pac	
										DPS832-70I	Dense-Pac	
										DPS832-70M	† Dense-Pac	
				Common	70	640	5	40		DPS8M656-70C	Dense-Pac	
										DPS8M656-70I	Dense-Pac	50
										DPS8M656-70M	† Dense-Pac	
	85	CMOS	TTL		120	640	5	66		DPS832-85C	Dense-Pac	
										DPS832-85I	Dense-Pac	
										DPS832-85M	† Dense-Pac	
				Common	70	640	5	40		DPS8M656-85C	Dense-Pac	55
										DPS8M656-85I	Dense-Pac	
										DPS8M656-85M	† Dense-Pac	
	100	CMOS	TTL		8	240	5	66		DPS832-100C	Dense-Pac	
						260	5	66		DPS832-100I	Dense-Pac	
						280	5	66		DPS832-100M	† Dense-Pac	60
				Common	8	240	5	40		DPS8M656-100C	Dense-Pac	
						260	5	40		DPS8M656-100I	Dense-Pac	
						280	5	40		DPS8M656-100M	† Dense-Pac	
	120	CMOS	TTL		8	240	5	66		DPS832-120C	Dense-Pac	
						260	5	66		DPS832-120I	Dense-Pac	65
						280	5	66		DPS832-120M	† Dense-Pac	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static–Modules											**(Cont'd)**	
				Common	8	240	5	40		DPS8M656-120C	Dense-Pac	
						260	5	40		DPS8M656-120I	Dense-Pac	
						280	5	40		DPS8M656-120M	† Dense-Pac	
	150	CMOS	TTL		8	240	5	66		DPS832-150C	Dense-Pac	
						260	5	66		DPS832-150I	Dense-Pac	5
						280	5	66		DPS832-150M	† Dense-Pac	
				Common	8	240	5	40		DPS8M656-150C	Dense-Pac	
						260	5	40		DPS8M656-150I	Dense-Pac	
						280	5	40		DPS8M656-150M	† Dense-Pac	
16Kx32	8	CMOS	TTL			1600	5	64		IDT7MP4031-8	IDT	10
	10	CMOS	TTL			1600	5	64		IDT7MP4031-10	IDT	
	12	CMOS	TTL			1600	5	64		IDT7MP4031-12	IDT	
					450	960	5	64		CYM1821-12C	Cypress	
				Separate	450	960	5	88		CYM1822-12C	Cypress	
	15	CMOS	TTL			1600	5	64		IDT7MP4031-15	IDT	15
					450	960	5	64		CYM1821-15C	Cypress	
				Separate	450	960	5	88		CYM1822-15C	Cypress	
										CYM1822-15M	† Cypress	
	19	CMOS	TTL	Common	52	1550	5	92	Reg Bi-directional Bus Interfaces, Reg Transceivers	a66416A	Array Micro	
	20	CMOS	TTL		160	720	5	64		CYM1821-20C	Cypress	20
					480	1200	5	64		IDT7MP4031-20	IDT	
				Separate	160	720	5	88		CYM1822-20C	Cypress	
					450	960	5	88		CYM1822-20M	† Cypress	
	25	CMOS	TTL		160	720	5	64		CYM1821-25C	Cypress	
					480	1200	5	64		IDT7MP4031-25	IDT	25
				Separate	160	720	5	88		CYM1822-25C	Cypress	
										CYM1822-25M	† Cypress	
					1000	1300	5	121	Two Port	IDT7M1002-25	IDT	
	30	CMOS	TTL	Separate	160	720	5	88		CYM1822-30C	Cypress	
										CYM1822-30M	† Cypress	30
					1000	1300	5	121	Two Port	IDT7M1002-30	IDT	
					1160	1600	5	121	Two Port	IDT7M1002-30M	† IDT	
	32	CMOS	TTL	Common	52	1160	5	92	Reg Bi-directional Bus Interfaces, Reg Transceivers	a66416B	Array Micro	
	35	CMOS	TTL		160	720	5	64		CYM1821-35C	Cypress	
					480	1200	5	64		IDT7MP4031-35	IDT	35
				Separate	160	720	5	88		CYM1822-35M	† Cypress	
					1000	1300	5	121	Two Port	IDT7M1002-35	IDT	
	40	CMOS	TTL	Separate	1000	1300	5	121	Two Port	IDT7M1002-40	IDT	
					1160	1600	5	121	Two Port	IDT7M1002-40M	† IDT	
	45	CMOS	TTL		160	720	5	64		CYM1821-45C	Cypress	40
				Separate	160	720	5	88		CYM1822-45C	Cypress	
										CYM1822-45M	† Cypress	
					1000	1300	5	121	Two Port	IDT7M1002-45	IDT	
					1160	1600	5	121	Two Port	IDT7M1002-45M	† IDT	
	55	CMOS	TTL	Separate	1000	1300	5	121	Two Port	IDT7M1002-55	IDT	45
					1160	1600	5	121	Two Port	IDT7M1002-55M	† IDT	
	65	CMOS	TTL	Separate	1000	1300	5	121	Two Port	IDT7M1002-65	IDT	
					1160	1600	5	121	Two Port	IDT7M1002-65M	† IDT	
16Kx4	25	CMOS					5	36		MH1616FNA-25	Mitsubishi	
16Kx9	30	CMOS	TTL		650	870	5	60	Two Port	IDT7M1005-30	IDT	50
	35	CMOS	TTL		650	870	5	60	Two Port	IDT7M1005-35	IDT	
	40	CMOS	TTL		750	860	5	60	Two Port	IDT7M1005-40M	† IDT	
	45	CMOS	TTL		650	870	5	60	Two Port	IDT7M1005-45	IDT	
					750	860	5	60	Two Port	IDT7M1005-45M	† IDT	
	55	CMOS	TTL		650	870	5	60	Two Port	IDT7M1005-55	IDT	55
					750	860	5	60	Two Port	IDT7M1005-55M	† IDT	
	65	CMOS	TTL		650	870	5	60	Two Port	IDT7M1005-65	IDT	
					750	860	5	60	Two Port	IDT7M1005-65M	† IDT	
	80	CMOS	TTL		750	860	5	60	Two Port	IDT7M1005-80M	† IDT	
	100	CMOS	TTL		750	860	5	60	Two Port	IDT7M1005-100M	† IDT	60
32Kx8	10	BiCMOS	TTL		200	375	5	28		CY7M199-10C	Cypress	
		CMOS					5	28		CYM1400-10	Cypress	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx8	12	BiCMOS	TTL		200	375	5	28		CY7M199-12C	Cypress
					250	425	5	28		CY7M199-12M	† Cypress
	15	BiCMOS	TTL		200	375	5	28		CY7M199-15C	Cypress
					250	425	5	28		CY7M199-15M	† Cypress
	20	BiCMOS	TTL		250	425	5	28		CY7M199-20M	† Cypress
	25						5	40		IDT7M656L-25	IDT
	35						5	40		IDT7M656L-35	IDT
										IDT7M656L-35B	† IDT
	40						5	28		IDT7M856S-40	IDT
	45						5	28		IDT8M856L-45	IDT
	50						5	28		IDT7M856S-50	IDT
										IDT8M856L-50	IDT
	55						5	28		IDT7M856S-55B	† IDT
										IDT8M856L-55B	† IDT
	60						5	28		IDT8M856L-60	IDT
		CMOS					5	28		IDT7M856S-60	IDT
	65						5	28		IDT7M856S-65B	† IDT
										IDT8M856L-65B	† IDT
	70						5	28		IDT8M856L-70	IDT
		CMOS	TTL		0.85	80	5	32		EDI8832C-70B	† EDI
	75						5	28		IDT8M856L-75B	† IDT
		CMOS					5	28		IDT7M856S-75B	† IDT
	85						5	28		IDT8M856L-85	IDT
		CMOS	TTL		0.85	80	5	32		EDI8832C-85B	† EDI
	90						5	28		IDT8M856L-90B	† IDT
		CMOS					5	28		IDT7M856S-90B	† IDT
	100						5	28		IDT8M856L-100B	† IDT
		CMOS					5	28		IDT7M856S-100B	† IDT
			TTL		0.85	80	5	32		EDI8832C-100B	† EDI
	120	CMOS	TTL		0.85	80	5	32		EDI8832C-120B	† EDI
	150	CMOS	TTL		0.85	80	5	32		EDI8832C-150B	† EDI
	180	CMOS					5	28		HM8832	Harris
32Kx16	20	CMOS					5	40		MS1632-020	Mosaic Semi
	25	CMOS					5	40		MS1632-025	Mosaic Semi
	35	CMOS	TTL		56	210	5	66	Also has 512K EEPROM	PUMA2X0215-1235	Mosaic Semi
										PUMA2X0215-9035	Mosaic Semi
	45	CMOS	TTL		56	210	5	66	Also has 512K EEPROM	PUMA2X0215-1245	Mosaic Semi
									Also has 512K EEPROM, 90 ns	PUMA2X0215-9045	Mosaic Semi
	55	CMOS	TTL		56	210	5	66	Also has 512K EEPROM	PUMA2X0215-1255	Mosaic Semi
										PUMA2X0215-9055	Mosaic Semi
	60						5	40		IDT8MP612	IDT
										IDT8M612	IDT
	70	CMOS	TTL		56	210	5	66	Also has 512K EEPROM	PUMA2X0215-1270	Mosaic Semi
										PUMA2X0215-9070	Mosaic Semi
	75						5	40		IDT8M612-B	† IDT
	85	CMOS	TTL		12	166	5	66	Also has 512K EEPROM	PUMA2X0212-1585	Mosaic Semi
										PUMA2X0212-2585	Mosaic Semi
	100	CMOS	TTL		12	166	5	66	Also has 512K EEPROM	PUMA2X0212-1510	Mosaic Semi
										PUMA2X0212-2010	Mosaic Semi
										PUMA2X0212-2510	Mosaic Semi
	120	CMOS	TTL		12	166	5	66	Also has 512K EEPROM	PUMA2X0212-1512	Mosaic Semi
										PUMA2X0212-2012	Mosaic Semi
										PUMA2X0212-2512	Mosaic Semi
	150	CMOS	TTL		12	166	5	66	Also has 512K EEPROM	PUMA2X0212-1515	Mosaic Semi
										PUMA2X0212-2515	Mosaic Semi
32Kx24	25	CMOS	TTL	Common	45	500	5	56		EDI8F2432C-25C	EDI
	30	CMOS	TTL	Common	45	500	5	56		EDI8F2432C-30C	EDI
	35	CMOS	TTL	Common	45	500	5	56		EDI8F2432C-35C	EDI
	45	CMOS	TTL	Common	45	500	5	56		EDI8F2432C-45C	EDI
	55	CMOS	TTL	Common	45	500	5	56		EDI8F2432C-55C	EDI
32Kx32	35	CMOS					5	66		CYM1828L-35C	† Cypress
										CYM1828L-35M	† Cypress

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx32	35	CMOS									(Cont'd)	
					120	480	5	66		PUMA2S1000-35	Mosaic Semi	
	45	CMOS					5	66		CYM1828L-45C	Cypress	
										CYM1828L-45M	† Cypress	
					120	480	5	66		PUMA2S1000-45	Mosaic Semi	
	55	CMOS					5	66		CYM1828L-55C	Cypress	5
										CYM1828L-55M	† Cypress	
					120	480	5	66		PUMA2S1000-55	Mosaic Semi	
	70	CMOS					5	66		CYM1828L-70C	Cypress	
										CYM1828L-70M	† Cypress	
					120	480	5	66		PUMA2S1000-70	Mosaic Semi	10
	85	CMOS					5	66		PUMA2S1000-85	Mosaic Semi	
	100	CMOS					5	66		PUMA2S1000-10	Mosaic Semi	
	120	CMOS					5	66		PUMA2S1000-12	Mosaic Semi	
	150	CMOS					5	66		PUMA2S1000-15	Mosaic Semi	
32Kx44	15	CMOS	TTL			195	5	80		EDI18F4432C-15C	EDI	15
	20	CMOS	TTL		1700	195	5	80		EDI18F4432C-20C	EDI	
	25	CMOS	TTL		1600	195	5	80		EDI18F4432C-25C	EDI	
32Kx12	40	CMOS	TTL		200	520	5	100		IDT7MB6056-40	IDT	
	50	CMOS	TTL		200	520	5	100		IDT7MB6056-50	IDT	
	60	CMOS	TTL		200	520	5	100		IDT7MB6056-60	IDT	20
	70	CMOS	TTL		200	520	5	100		IDT7MB6056-70	IDT	
	85	CMOS	TTL		200	520	5	100		IDT7MB6056-85	IDT	
	100	CMOS	TTL		200	520	5	100		IDT7MB6056-10	IDT	
32Kx16	20	CMOS					5	40		MS1632RKX-20	Mosaic Semi	
	25	CMOS					5	40		MS1632RKX-25	Mosaic Semi	25
			TTL		60	140	5	40		DPS32X16-25C	Dense-Pac	
					70	320	5	40		DPS32X16-25I	Dense-Pac	
										DPS32X16-25M	† Dense-Pac	
					285	680	5	132		IDT7MB1008-25	IDT	
	30	CMOS	TTL		285	680	5	132		IDT7MB1008-30	IDT	30
	35	CMOS	TTL		60	140	5	40		DPS32X16-35C	Dense-Pac	
					70	320	5	40		DPS32X16-35I	Dense-Pac	
										DPS32X16-35M	† Dense-Pac	
					285	680	5	132		IDT7MB1008-35	IDT	
				Common	4	290	5	40		DPS8M612-35C	Dense-Pac	35
						330	5	40		DPS8M612-35I	Dense-Pac	
										DPS8M612-35M	† Dense-Pac	
	40	CMOS	TTL		285	680	5	132		IDT7MB1008-40	IDT	
	45	CMOS	TTL		60	140	5	40		DPS32X16-45C	Dense-Pac	
					70	320	5	40		DPS32X16-45I	Dense-Pac	40
										DPS32X16-45M	† Dense-Pac	
				Common	4	290	5	40		DPS8M612-45C	Dense-Pac	
						330	5	40		DPS8M612-45I	Dense-Pac	
										DPS8M612-45M	† Dense-Pac	
	50	CMOS	TTL		285	680	5	132		IDT7MB1008-50	IDT	45
	55	CMOS	TTL		60	140	5	40		DPS32X16-55C	Dense-Pac	
					70	320	5	40		DPS32X16-55I	Dense-Pac	
										DPS32X16-55M	† Dense-Pac	
				Common	4	290	5	40		DPS8M612-55C	Dense-Pac	
						330	5	40		DPS8M612-55I	Dense-Pac	50
										DPS8M612-55M	† Dense-Pac	
	65	CMOS	TTL		285	680	5	132		IDT7MB1008-65	IDT	
	70	CMOS	TTL		70	320	5	40		DPS32X16-70I	Dense-Pac	
										DPS32X16-70M	† Dense-Pac	
				Common	4	290	5	40		DPS8M612-70C	Dense-Pac	55
						330	5	40		DPS8M612-70I	Dense-Pac	
										DPS8M612-70M	† Dense-Pac	
	75	CMOS	TTL		60	140	5	40		DPS32X16-70C	Dense-Pac	
	80	CMOS	TTL		285	680	5	132		IDT7MB1008-80	IDT	
	85	CMOS	TTL		60	140	5	40		DPS32X16-85C	Dense-Pac	60
					70	320	5	40		DPS32X16-85I	Dense-Pac	
										DPS32X16-85M	† Dense-Pac	
				Common	4	290	5	40		DPS8M612-85C	Dense-Pac	
						330	5	40		DPS8M612-85I	Dense-Pac	
										DPS8M612-85M	† Dense-Pac	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx16										(Cont'd)	
	100	CMOS	TTL		60	140	5	40		DPS32X16-100C	Dense-Pac
					70	320	5	40		DPS32X16-100I	Dense-Pac
										DPS32X16-100M	† Dense-Pac
				Common	4	290	5	40		DPS8M612-100C	Dense-Pac
						330	5	40		DPS8M612-100I	Dense-Pac
										DPS8M612-100M	† Dense-Pac
	120	CMOS	TTL		4	120	5	40		DPS32X16-120C	Dense-Pac
						130	5	40		DPS32X16-120I	Dense-Pac
						140	5	40		DPS32X16-120M	† Dense-Pac
				Common	4	130	5	40		DPS8M612-120C	Dense-Pac
						140	5	40		DPS8M612-120I	Dense-Pac
						150	5	40		DPS8M612-120M	† Dense-Pac
	150	CMOS	TTL		4	120	5	40		DPS32X16-150C	Dense-Pac
						130	5	40		DPS32X16-150I	Dense-Pac
						140	5	40		DPS32X16-150M	† Dense-Pac
				Common	4	130	5	40		DPS8M612-150C	Dense-Pac
						140	5	40		DPS8M612-150I	Dense-Pac
						150	5	40		DPS8M612-150M	† Dense-Pac
32Kx24	15	CMOS	TTL		120	450	5	56		CYM1720-15C	Cypress
	20	CMOS	TTL		120	450	5	56		CYM1720-20C	Cypress
	25	CMOS	TTL		60	330	5	56		CYM1720-25C	Cypress
	30	CMOS	TTL		60	330	5	56		CYM1720-30C	Cypress
	35	CMOS	TTL		60	330	5	56		CYM1720-35C	Cypress
32Kx32	15	CMOS	TTL		80	800	5	66		IDT7M4003-15	IDT
										IDT7M4003-15M	† IDT
	17	CMOS	TTL		80	800	5	66		IDT7M4003-17	IDT
										IDT7M4003-17M	† IDT
	20	CMOS	TTL		80	800	5	66		IDT7M4003-20	IDT
										IDT7M4003-20M	† IDT
	25	CMOS	TTL		80	800	5	66		IDT7M4003-25	IDT
										IDT7M4003-25M	† IDT
					120	560	5	66		DPS3232-25C	Dense-Pac
					140	640	5	66		DPS3232-25I	Dense-Pac
										DPS3232-25M	† Dense-Pac
					200	600	5	66		CYM1828-25C	Cypress
	30	CMOS	TTL		80	800	5	66		IDT7M4003-30	IDT
										IDT7M4003-30M	† IDT
					200	600	5	66		CYM1828-30C	Cypress
	35	CMOS	TTL		80	800	5	66		IDT7M4003-35	IDT
										IDT7M4003-35M	† IDT
					120	560	5	66		DPS3232-35C	Dense-Pac
					140	640	5	66		DPS3232-35I	Dense-Pac
										DPS3232-35M	† Dense-Pac
					200	600	5	66		CYM1828-35C	Cypress
										CYM1828-35M	† Cypress
	40	CMOS	TTL		80	800	5	66		IDT7M4003-40	IDT
										IDT7M4003-40M	† IDT
	45	CMOS	TTL		120	560	5	66		DPS3232-45C	Dense-Pac
					140	640	5	66		DPS3232-45I	Dense-Pac
										DPS3232-45M	† Dense-Pac
					200	600	5	66		CYM1828-45C	Cypress
										CYM1828-45M	† Cypress
	50	CMOS	TTL		80	800	5	66		IDT7M4003-50	IDT
										IDT7M4003-50M	† IDT
	55	CMOS	TTL		120	560	5	66		DPS3232-55C	Dense-Pac
					140	640	5	66		DPS3232-55I	Dense-Pac
										DPS3232-55M	† Dense-Pac
					200	600	5	66		CYM1828-55C	Cypress
										CYM1828-55M	† Cypress
	60	CMOS	TTL		80	800	5	66		IDT7M4003-60M	† IDT
	70	CMOS	TTL		80	800	5	66		IDT7M4003-70M	† IDT
					120	560	5	66		DPS3232-70C	Dense-Pac
					140	640	5	66		DPS3232-70I	Dense-Pac
										DPS3232-70M	† Dense-Pac

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
Static—Modules											**(Cont'd)**
					200	600	5	66		CYM1828-70C	Cypress
										CYM1828-70M	† Cypress
	85	CMOS	TTL		80	800	5	66		IDT7M4003-85M	† IDT
					120	560	5	66		DPS3232-85C	Dense-Pac
					140	640	5	66		DPS3232-85I	Dense-Pac
										DPS3232-85M	† Dense-Pac
	100	CMOS	TTL		120	560	5	66		DPS3232-100C	Dense-Pac
					140	640	5	66		DPS3232-100I	Dense-Pac
										DPS3232-100M	† Dense-Pac
	120	CMOS	TTL		8	240	5	66		DPS3232-120C	Dense-Pac
						260	5	66		DPS3232-120I	Dense-Pac
						280	5	66		DPS3232-120M	† Dense-Pac
	150	CMOS	TTL		8	240	5	66		DPS3232-150C	Dense-Pac
						260	5	66		DPS3232-150I	Dense-Pac
						280	5	66		DPS3232-150M	† Dense-Pac
32Kx8	25	CMOS	TTL		120	640	5	66		DPS832-25C	Dense-Pac
										DPS832-25I	Dense-Pac
										DPS832-25M	† Dense-Pac
	35	CMOS	TTL		120	640	5	66		DPS832-35C	Dense-Pac
										DPS832-35I	Dense-Pac
										DPS832-35M	† Dense-Pac
	45	CMOS	TTL		120	640	5	66		DPS832-45C	Dense-Pac
										DPS832-45I	Dense-Pac
										DPS832-45M	† Dense-Pac
	55	CMOS	TTL		120	640	5	66		DPS832-55C	Dense-Pac
										DPS832-55I	Dense-Pac
										DPS832-55M	† Dense-Pac
	70	CMOS	TTL		120	640	5	66		DPS832-70C	Dense-Pac
										DPS832-70I	Dense-Pac
										DPS832-70M	† Dense-Pac
	85	CMOS	TTL		120	640	5	66		DPS832-85C	Dense-Pac
										DPS832-85I	Dense-Pac
										DPS832-85M	† Dense-Pac
	100	CMOS	TTL		8	240	5	66		DPS832-100C	Dense-Pac
						260	5	66		DPS832-100I	Dense-Pac
						280	5	66		DPS832-100M	† Dense-Pac
	120	CMOS	TTL		8	240	5	66		DPS832-120C	Dense-Pac
						260	5	66		DPS832-120I	Dense-Pac
						280	5	66		DPS832-120M	† Dense-Pac
	150	CMOS	TTL		8	240	5	66		DPS832-150C	Dense-Pac
						260	5	66		DPS832-150I	Dense-Pac
						280	5	66		DPS832-150M	† Dense-Pac
64Kx4	10	CMOS	TTL	200	325	5	24			CY7M194-10C	Cypress
	12	CMOS	TTL		20	325	5	24		CY7M194-12C	Cypress
					250	375	5	24		CY7M194-12M	Cypress
	15	CMOS	TTL		200	325	5	24		CY7M194-15C	Cypress
					250	375	5	24		CY7M194-15M	† Cypress
	20	CMOS	TTL			20	5	24		CY7M194-20C	Cypress
					250	375	5	24		CY7M194-20M	† Cypress
	25						5	40		IDT7M656L-25	IDT
	35						5	40		IDT7M656L-35	IDT
										IDT7M656L-35B	† IDT
64Kx8	35	CMOS	TTL		56	133	5	66	Also has 512K EEPROM	PUMA2X0215-1235	Mosaic Semi
										PUMA2X0215-9035	Mosaic Semi
	45						5	40		IDT7M812S-45	IDT
		CMOS	TTL		56	133	5	66	Also has 512K EEPROM	PUMA2X0215-1245	Mosaic Semi
									Also has 512K EEPROM, 90 ns	PUMA2X0215-9045	Mosaic Semi
	50	CMOS					5	32		EDI8M864C50B	† EDI
										EDI8M864C50C	EDI
	55						5	40		IDT7M812S-55	IDT
										IDT7M812S-55B	† IDT
		CMOS	TTL		56	133	5	66	Also has 512K EEPROM	PUMA2X0215-1255	Mosaic Semi
										PUMA2X0215-9055	Mosaic Semi
	60	CMOS					5	32		EDI8M864C60B	† EDI
	65						5	40		IDT7M812S-65B	† IDT

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8											(Cont'd)	
	70	CMOS	TTL		56	133	5	66	Also has 512K EEPROM	PUMA2X0215-1270	Mosaic Semi	
										PUMA2X0215-9070	Mosaic Semi	
	80	CMOS					5	32		EDI8M864C80C	EDI	
	85						5	40		IDT7M812S-85B	† IDT	
		CMOS	TTL		12	89	5	66	Also has 512K EEPROM	PUMA2X0212-1585	Mosaic Semi	5
										PUMA2X0212-2085	Mosaic Semi	
										PUMA2X0212-2585	Mosaic Semi	
	100	CMOS	TTL		12	89	5	66	Also has 512K EEPROM	PUMA2X0212-1510	Mosaic Semi	
										PUMA2X0212-2010	Mosaic Semi	
										PUMA2X0212-2510	Mosaic Semi	10
	120	CMOS	TTL		12	89	5	66	Also has 512K EEPROM	PUMA2X0212-1512	Mosaic Semi	
										PUMA2X0212-2012	Mosaic Semi	
										PUMA2X0212-2512	Mosaic Semi	
	150	CMOS	TTL		12	89	5	66	Also has 512K EEPROM	PUMA2X0212-1515	Mosaic Semi	
									Also has 512K EEPROM, 200 ns	PUMA2X0212-2015	Mosaic Semi	15
									Also has 512K EEPROM	PUMA2X0212-2515	Mosaic Semi	
64Kx9	45						5	40		IDT7M912S-45	IDT	
	55						5	40		IDT7M912S-55	IDT	
										IDT7M912S-55B	† IDT	
	65						5	40		IDT7M912S-65B	† IDT	20
	85						5	40		IDT7M912S-85B	† IDT	
	100						5	40		IDT7M912S-100B	† IDT	
	120						5	33		S64KX9	Peps	
64Kx16	20	CMOS					5	40		CYM1621-20C	Cypress	
			TTL		140	340	5	40		CYM1620-20C	Cypress	25
				Common	150	500	5	64		EDI8F1665C-20C	EDI	
										EDI8F1665C-20I	EDI	
	25	CMOS	TTL		140	340	5	40		CYM1620-25C	Cypress	
					160	500	5	40		CYM1624-25C	Cypress	
					320	1250	5	40		CYM1621-25C	Cypress	30
										CYM1621-25M	† Cypress	
				Common	150	500	5	64		EDI8F1665C-25C	EDI	
										EDI8F1665C-25I	EDI	
	30						5	40		IDT7M624S-30	IDT	
		CMOS	TTL		50	395	5	40		EDI8F1664C-30C	EDI	35
					140	340	5	40		CYM1620-30C	Cypress	
										CYM1620-30M	† Cypress	
					320	1250	5	40		CYM1621-30C	Cypress	
										CYM1621-30M	† Cypress	
				Common	150	500	5	64		EDI8F1665C-30C	EDI	40
										EDI851665C-30I	EDI	
	35	CMOS					5	40		MS1664-35	Mosaic Semi	
			TTL		50	395	5	40		EDI8F1664C-35C	EDI	
					80	480	5	40		EDI8M1665C-35B	† EDI	
					140	340	5	40		CYM1620-35C	Cypress	45
										CYM1620-35M	† Cypress	
					160	500	5	40		CYM1624-35C	Cypress	
					320	1250	5	40		CYM1621-35C	Cypress	
										CYM1621-35M	† Cypress	
				Common	150	500	5	64		EDI8F1665C-35C	EDI	50
										EDI8F1665C-35I	EDI	
	45						5	40		IDT7M624S-45	IDT	
										IDT7M624S-45B	† IDT	
		CMOS					5	40		MS1664-45	Mosaic Semi	
			TTL		25	280	5	40		EDI8M1664C-45B	† EDI	55
					50	395	5	40		EDI8F1664C-45C	EDI	
					80	480	5	40		EDI8M1665C-45B	† EDI	
					140	340	5	40		CYM1620-45C	Cypress	
										CYM1620-45M	† Cypress	
					160	500	5	40		CYM1624-45C	Cypress	60
					320	1250	5	40		CYM1621-45C	Cypress	
										CYM1621-45M	† Cypress	
				Common	150	500	5	64		EDI8F1665C-45C	EDI	
										EDI8F1665C-45I	EDI	
	50	CMOS					5	40		EDI8M1664C50B	† EDI	65
										EDI8M1664C50C	EDI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx16											(Cont'd)	
	55						5	40		IDT7M624S-55	IDT	
										IDT7M624S-55B	† IDT	
		CMOS					5	40		MS1664-55	Mosaic Semi	
			TTL		25	280	5	40		EDI8M1664C-55B	† EDI	
					50	395	5	40		EDI8F1664C-55C	EDI	5
					80	480	5	40		EDI8M1665C-55B	† EDI	
					140	340	5	40		CYM1620-55C	Cypress	
										CYM1620-55M	† Cypress	
				Common	150	500	5	64		EDI8F1665C-55C	EDI	
	60						5	40		IDT8MP624	IDT	10
										IDT8M624	IDT	
		CMOS					5	40		EDI8M1664C60B	† EDI	
	65	CMOS					5	48		IDT7M624S-65	IDT	
										IDT7M624S-65B	IDT	
	70	CMOS	TTL		25	280	5	40		EDI8M1664C-70B	† EDI	15
					80	480	5	40		EDI8M1665C-70B	† EDI	
	75						5	40		IDT8M624-B	† IDT	
	85	CMOS					5	48		IDT7M624S-85B	IDT	
			TTL		15	195	5	40		EDI8M1664C-85B	† EDI	
										EDI8M1664LP-85B	† EDI	20
	100	CMOS					5	40		EDI8F1664C100C	EDI	
			TTL		15	195	5	40		EDI8M1664C-100B	† EDI	
										EDI8M1664LP-100B	† EDI	
	120	CMOS					5	40		EDI8F1664C120C	EDI	
	150	CMOS					5	40		EDI8F1664C150C	EDI	25
64Kx16/128Kx8												
	180	CMOS	TTL/CMOS		2	20	5	48		HM91M2B-8	† Harris	
	200	CMOS	TTL/CMOS		2	20	5	48		HM91M2-8	† Harris	
64Kx24	20	CMOS	TTL	Common	210	750	5	64		EDI8F2465C-20C	EDI	
										EDI8F2465C-20I	EDI	
	25	CMOS	TTL	Common	210	720	5	56		EDI8F2464C-25C	EDI	30
						750	5	64		EDI8F2465C-25C	EDI	
										EDI8F2465C-25I	EDI	
	30	CMOS	TTL	Common	210	720	5	56		EDI8F2464C-30C	EDI	
						750	5	64		EDI8F2465C-30C	EDI	
										EDI8F2465C-30I	EDI	35
	35	CMOS	TTL	Common	210	720	5	56		EDI8F2464C-35C	EDI	
						750	5	64		EDI8F2465C-35C	EDI	
										EDI8F2465C-35I	EDI	
	45	CMOS	TTL	Common	210	720	5	56		EDI8F2464C-45C	EDI	
						750	5	64		EDI8F2465C-45C	EDI	40
										EDI8F2465C-45I	EDI	
	55	CMOS	TTL	Common	210	720	5	56		EDI8F2464C-55C	EDI	
						750	5	64		EDI8F2465C-55C	EDI	
										EDI8F2465C-55I	EDI	
64Kx32	15	CMOS					5	64		MCM3264Z15	Motorola	45
	20	CMOS					5	64		EDI8F3264C20C	EDI	
										MCM3264Z20	Motorola	
			TTL		240	960	5	64		MT8S6432-20	MicronSemi	
				Common	220	1200	5	60		EDI8F3264C-20C	EDI	
					280	980	5	64		EDI8F3265C-20C	EDI	50
										EDI8F3265C-20I	EDI	
	25	CMOS					5	60		MS3264-25	Mosaic Semi	
			TTL		140	1180	5	60		EDI8M3264C-25B	† EDI	
					320	880	5	60		CYM1830-25C	Cypress	
				Common	40	760	5	64		MT8S6432-25	MicronSemi	55
					220	1200	5	60		EDI8F3264C-25C	EDI	
					280	980	5	64		EDI8F3265C-25C	EDI	
										EDI8F3265C-25I	EDI	
	30	CMOS	TTL		140	1180	5	60		EDI8M3264C-30B	† EDI	
				Common	40	760	5	64		MT8S6432-30	MicronSemi	60
					220	1200	5	60		EDI8F3264C-30C	EDI	
					280	980	5	64		EDI8F3265C-30C	EDI	
										EDI8F3265C-30I	EDI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx32										(Cont'd)		
	35	CMOS					5	64		EDI8M3264C35C	EDI	
								60		MS3264-35	Mosaic Semi	
			TTL		140	1180	5	60		EDI8M3264C-35B	† EDI	
				Common	56	720	5	64		MT8S6432-35	MicronSemi	
					220	1200	5	60		EDI8F3264C-35C	EDI	5
					280	980	5	64		EDI8F3265C-35C	EDI	
										EDI8F3265C-35I	EDI	
	45	CMOS					5	60		MS3264-45	Mosaic Semi	
			TTL		140	1180	5	60		EDI8M3264C-45B	† EDI	
					320	880	5	60		CYM1830-45M	† Cypress	10
				Common	220	1200	5	60		EDI8F3264C-45C	EDI	
					280	980	5	64		EDI8F3265C-45C	EDI	
										EDI8F3265C-45I	EDI	
	55	CMOS					5	64		EDI8F3264C55C	EDI	
										EDI8M3264C55C	EDI	15
			TTL		140	1180	5	60		EDI8M3264C-55B	† EDI	
				Common	220	1200	5	60		EDI8F3264C-55C	EDI	
					280	980	5	64		EDI8F3265C-55C	EDI	
										EDI8F3265C-55I	EDI	
64Kx44	15	CMOS	TTL		195		5	80	Supports R4000 CPU	EDI8F4464C-15C	EDI	20
	20	CMOS	TTL		195	1700	5	80	Supports R4000 CPU	EDI8F4464C-20C	EDI	
	25	CMOS	TTL		195	1600	5	80	Supports R4000 CPU	EDI8F4464C-25C	EDI	
64Kx16	10	CMOS	TTL		160	640	5	40		IDT7MP4027-10	IDT	
	12	CMOS	TTL		160	640	5	40		IDT7MP4027-12	IDT	
	15	CMOS	TTL		160	640	5	40		IDT7MP4027-15	IDT	25
	17	CMOS	TTL		160	640	5	40		IDT7MP4027-17	IDT	
	20	CMOS	TTL		160	640	5	40		IDT7MP4027-20	IDT	
	25	BiCMOS					5	40		MS1664BCX-25	Mosaic Semi	
								42		MS1664BCXA-25	Mosaic Semi	
		CMOS	TTL		120	560	5	66		DPS3232-25C	Dense-Pac	30
					140	400	5	40		CYM1622-25C	Cypress	
						640	5	66		DPS3232-25I	Dense-Pac	
										DPS3232-25M	† Dense-Pac	
					160	640	5	40		IDT7MP4027-25	IDT	
					565	960	5	132		IDT7MB1006-25	IDT	35
	30	CMOS	TTL		140	400	5	40		CYM1622-30C	Cypress	
					160	640	5	40		IDT7MP4027-30	IDT	
					565	960	5	132		IDT7MB1006-30	IDT	
	35	BiCMOS					5	40		MS1664BCX-35	Mosaic Semi	
								42		MS1664BCXA-35	Mosaic Semi	40
		CMOS					5	40		MS1664RKX-35	Mosaic Semi	
			TTL		120	560	5	66		DPS3232-35C	Dense-Pac	
					140	400	5	40		CYM1622-35C	Cypress	
						640	5	66		DPS3232-35I	Dense-Pac	
										DPS3232-35M	† Dense-Pac	45
					160	640	5	40		IDT7MP4027-35	IDT	
					565	960	5	132		IDT7MB1006-35	IDT	
				Common	8	350	5	40		DPS8M624-35C	Dense-Pac	
						400	5	40		DPS8M624-35I	Dense-Pac	
										DPS8M624-35M	† Dense-Pac	50
	40	CMOS	TTL		200	520	5	100		IDT7MB6046-40	IDT	
					565	960	5	132		IDT7MB1006-40	IDT	
	45	BiCMOS					5	40		MS1664BCX-45	Mosaic Semi	
								42		MS1664BCXA-45	Mosaic Semi	
		CMOS					5	40		MS1664RKX-45	Mosaic Semi	55
			TTL		120	560	5	66		DPS3232-45C	Dense-Pac	
					140	400	5	40		CYM1622-45C	Cypress	
						640	5	66		DPS3232-45I	Dense-Pac	
										DPS3232-45M	† Dense-Pac	
				Common	8	350	5	40		DPS8M624-45C	Dense-Pac	60
						400	5	40		DPS8M624-45I	Dense-Pac	
										DPS8M624-45M	† Dense-Pac	
	50	CMOS	TTL		200	520	5	100		IDT7MB6046-50	IDT	
					565	960	5	132		IDT7MB1006-50	IDT	
	55	BiCMOS					5	40		MS1664BCX-55	Mosaic Semi	65
								42		MS1664BCXA-55	Mosaic Semi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Modules											**(Cont'd)**	
64Kx16	55										(Cont'd)	
		CMOS					5	40		MS1664RKX-55	Mosaic Semi	
			TTL		120	560	5	66		DPS3232-55C	Dense-Pac	
					140	640	5	66		DPS3232-55I	Dense-Pac	
										DPS3232-55M	† Dense-Pac	
				Common	8	350	5	40		DPS8M624-55C	Dense-Pac	5
						400	5	40		DPS8M624-55I	Dense-Pac	
										DPS8M624-55M	† Dense-Pac	
	60	CMOS	TTL		200	520	5	100		IDT7MB6046-60	IDT	
	65	CMOS	TTL		565	960	5	132		IDT7MB1006-65	IDT	
	70	BiCMOS					5	40		MS1664BCX-70	Mosaic Semi	10
								42		MS1664BCXA-70	Mosaic Semi	
		CMOS	TTL		120	560	5	66		DPS3232-70C	Dense-Pac	
					140	640	5	66		DPS3232-70I	Dense-Pac	
										DPS3232-70M	† Dense-Pac	
					200	520	5	100		IDT7MB6046-70	IDT	15
				Common	8	350	5	40		DPS8M624-70C	Dense-Pac	
						400	5	40		DPS8M624-70I	Dense-Pac	
										DPS8M624-70M	† Dense-Pac	
	80	CMOS	TTL		565	960	5	132		IDT7MB1006-80	IDT	
	85	CMOS	TTL		120	560	5	66		DPS3232-85C	Dense-Pac	20
					140	640	5	66		DPS3232-85I	Dense-Pac	
										DPS3232-85M	† Dense-Pac	
					200	520	5	100		IDT7MB6046-85	IDT	
				Common	8	350	5	40		DPS8M624-85C	Dense-Pac	
						400	5	40		DPS8M624-85I	Dense-Pac	25
										DPS8M624-85M	† Dense-Pac	
	100	CMOS	TTL		120	560	5	66		DPS3232-100C	Dense-Pac	
					140	640	5	66		DPS3232-100I	Dense-Pac	
										DPS3232-100M	† Dense-Pac	
					200	520	5	100		IDT7MB6046-10	IDT	30
				Common	8	350	5	40		DPS8M624-100C	Dense-Pac	
						400	5	40		DPS8M624-100I	Dense-Pac	
										DPS8M624-100M	† Dense-Pac	
						350	5	40		100C	Dense-Pac	
	120	CMOS	TTL		8	240	5	66		DPS3232-120C	Dense-Pac	35
						260	5	66		DPS3232-120I	Dense-Pac	
						280	5	66		DPS3232-120M	† Dense-Pac	
				Common	8	135	5	40		DPS8M624-120C	Dense-Pac	
						145	5	40		DPS8M624-120I	Dense-Pac	
										DPS8M624-120M	† Dense-Pac	40
	150	CMOS	TTL		8	240	5	66		DPS3232-150C	Dense-Pac	
						260	5	66		DPS3232-150I	Dense-Pac	
						280	5	66		DPS3232-150M	† Dense-Pac	
				Common	8	135	5	40		DPS8M624-150C	Dense-Pac	
						145	5	40		DPS8M624-150I	Dense-Pac	45
										DPS8M624-150M	† Dense-Pac	
64Kx24	25	CMOS	TTL		180	510	5	56		CYM1730-25C	Cypress	
	30	CMOS	TTL		180	510	5	56		CYM1730-30C	Cypress	
	35	CMOS	TTL		180	510	5	56		CYM1730-35C	Cypress	
64Kx32	10	CMOS	TTL			1520	5	64		IDT7M4036-10	IDT	50
	12	CMOS	TTL			1520	5	64		IDT7M4036-12	IDT	
	15	CMOS	TTL			1520	5	64		IDT7M4036-15	IDT	
					400	1240	5	64		MCM3264-15	Motorola	
	17	CMOS	TTL			1520	5	64		IDT7M4036-17	IDT	
	19	CMOS	TTL	Common	52	1660	5	92	Reg Bi-directional Bus Interfaces, Reg Transceivers	a66464A	Array Micro	55
	20	CMOS	TTL		160	960	5	64		CYM1831-20C	Cypress	
					320	1280	5	64		IDT7M4036-20	IDT	
					360	1160	5	64		MCM3264-20	Motorola	
	25	CMOS					5	60		MS3264FKX-25	Mosaic Semi	
			TTL		160	720	5	64		CYM1831-25C	Cypress	60
					240	980	5	60		CYM1832-25C	Cypress	
					320	1280	5	64		IDT7M4036-25	IDT	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx32 (Cont'd)	30						5	60		**LI6432-30**	**Peps (3706)**	
		CMOS	TTL		160	720	5	64		CYM1831-30C	Cypress	
					320	880	5	60		CYM1830-30C	Cypress	
	32	CMOS	TTL	Common	52	1270	5	92	Reg Bi-directional Bus Interfaces, Reg Transceivers	a66464B	Array Micro	
	35	CMOS					5	60		MS3264FKX-35	Mosaic Semi	5
			TTL		16	690	5	60		DPS6433-35C	Dense-Pac	
						790	5	60		DPS6433-35I	Dense-Pac	
										DPS6433-35M	† Dense-Pac	
					160	720	5	64		CYM1831-35C	Cypress	
					240	980	5	60		CYM1832-35C	Cypress	10
					320	880	5	60		CYM1830-35C	Cypress	
										CYM1830-35M	† Cypress	
						1280	5	64		IDT7M4036-35	IDT	
	45						5	60		**LI6432-45**	**Peps (3706)**	
		CMOS					5	60		MS3264FKX-45	Mosaic Semi	15
			TTL		16	690	5	60		DPS6433-45C	Dense-Pac	
						790	5	60		DPS6433-45I	Dense-Pac	
										DPS6433-45M	† Dense-Pac	
					160	720	5	64		CYM1831-45C	Cypress	
					240	980	5	60		CYM1832-45C	Cypress	20
					320	880	5	60		CYM1830-45C	Cypress	
	55						5	60		**LI6432-55**	**Peps (3706)**	
		CMOS	TTL		16	690	5	60		DPS6433-55C	Dense-Pac	
						790	5	60		DPS6433-55I	Dense-Pac	
										DPS6433-55M	† Dense-Pac	25
					240	980	5	60		CYM1832-55C	Cypress	
					320	880	5	60		CYM1830-55C	Cypress	
										CYM1830-55M	† Cypress	
	70						5	60		**LI6432-70**	**Peps (3706)**	
		CMOS	TTL		16	690	5	60		DPS6433-70C	Dense-Pac	30
						790	5	60		DPS6433-70I	Dense-Pac	
										DPS6433-70M	† Dense-Pac	
	85	CMOS	TTL		16	690	5	60		DPS6433-85C	Dense-Pac	
						790	5	60		DPS6433-85I	Dense-Pac	
										DPS6433-85M	† Dense-Pac	35
	100						5	60		**LI6432-100**	**Peps (3706)**	
		CMOS	TTL		16	690	5	60		DPS6433-100C	Dense-Pac	
						790	5	60		DPS6433-100I	Dense-Pac	
										DPS6433-100M	† Dense-Pac	
	120						5	60		**LI6432-120**	**Peps (3706)**	40
		CMOS	TTL		20	255	5	60		DPS6433-120C	Dense-Pac	
						275	5	60		DPS6433-120I	Dense-Pac	
						295	5	60		DPS6433-120M	† Dense-Pac	
						275	5	60		DPS6434-120I	Dense-Pac	
						295	5	60		DPS6434-120M	† Dense-Pac	45
	150	CMOS	TTL		20	255	5	60		DPS6433-150C	Dense-Pac	
						275	5	60		DPS6433-150I	Dense-Pac	
						295	5	60		DPS6433-150M	† Dense-Pac	
64Kx36	15	CMOS	TTL		400	880	5	76		MCM36232-15	Motorola	
	20	CMOS	TTL		360	800	5	76		MCM36232-20	Motorola	50
64Kx8	25	CMOS	TTL		470	660	5	64		IDT7MP1023-25	IDT	
									Two Port	IDT7M1003-25	IDT	
	30	CMOS	TTL		470	660	5	64		IDT7MP1023-30	IDT	
									Two Port	IDT7M1003-30	IDT	
	35	CMOS	TTL		470	660	5	64		IDT7MP1023-35	IDT	55
									Two Port	IDT7M1003-35	IDT	
					565	790	5	64	Dual Port	IDT7M1003-35M	† IDT	
	40	CMOS	TTL		470	660	5	64		IDT7MP1023-40	IDT	
									Two Port	IDT7M1003-40	IDT	
					565	790	5	64	Two Port	IDT7M1003-40M	† IDT	60
	45	CMOS					5	32		MS864RKX-45	Mosaic Semi	
	50	CMOS	TTL		470	660	5	64		IDT7MP1023-50	IDT	
									Two Port	IDT7M1003-50	IDT	
					565	790	5	64	Dual Port	IDT7M1003-50M	† IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64Kx8 (Cont'd)	55	CMOS					5	32		MS864RKX-55	Mosaic Semi	
	65	CMOS	TTL		470	660	5	64	Two Port	IDT7M1003-65	IDT	
					565	790	5	64	Two Port	IDT7M1003-65M	† IDT	
	80	CMOS	TTL		565	790	5	64	Two Port	IDT7M1003-80M	IDT	
128Kx8	30	CMOS					5	32		CYM1420-30C	Cypress	5
	35	CMOS					5	32		EDI8F8128C35M6C	EDI	
										MS8128-35	Mosaic Semi	
			TTL		80	280	5	40		EDI8M1665C-35B	† EDI	
					140	200	5	30		CYM1422-35C	Cypress	
			TTL/CMOS				5	50	PGA	DPS128X8AA3-35	Dense-Pac	10
	45						5	40		IDT7M624S-45B	† IDT	
		CMOS					5	32		CYM1423-45C	Cypress	
										EDI8F8128C45M6C	EDI	
										MS8128-45	Mosaic Semi	
			TTL		80	280	5	40		EDI8M1665C-45B	† EDI	15
					140	200	5	30		CYM1422-45C	Cypress	
			TTL/CMOS				5	50	PGA	DPS128X8AA3-45	† Dense-Pac	
	50	CMOS					5	32		EDI8M8128C50B	† EDI	
										EDI8M8130C50B	† EDI	
										EDI8M8130C50C	EDI	20
	55						5	40		IDT7M624S-55	IDT	
										IDT7M624S-55B	† IDT	
		CMOS					5	32		EDI8F8128C55M6C	EDI	
										MS8128-55	Mosaic Semi	
			TTL		80	210	5	32		CYM1423-55C	Cypress	25
						280	5	40		EDI8M1665C-55B	† EDI	
					140	200	5	30		CYM1422-55C	Cypress	
			TTL/CMOS				5	50	PGA	DPS128X8AA3-55	† Dense-Pac	
	60						5	64		IDT7M824	IDT	
								32		IDT8M824	IDT	30
		CMOS					5	32		EDI8M8128C60B	† EDI	
										EDI8M8128C60C	EDI	
										EDI8M8130C60B	† EDI	
										EDI8M8130C60C	EDI	
	65	CMOS					5	48		IDT7M624S-65	IDT	35
										IDT7M624S-65B	IDT	
	70	CMOS					5	50		DPS128X8-70	† Dense-Pac	
								32		EDI8F8128C70B4C	EDI	
										EDI8M8130C70B	† EDI	
										EDI8M8130C70C	EDI	40
										MS8128-70	Mosaic Semi	
			TTL		80	210	5	32		CYM1423-70C	Cypress	
						280	5	40		EDI8M1665C-70B	† EDI	
	75						5	64		IDT7M824-B	† IDT	
								32		IDT8M824-B	† IDT	45
	80	CMOS					5	32		EDI8M8130C80B	† EDI	
										EDI8M8130C80C	EDI	
	85	CMOS					5	50		DPS128X8-85	† Dense-Pac	
								48		IDT7M624S-85B	IDT	
								32		MS8128-85	Mosaic Semi	50
	90	CMOS					5	32		EDI8M8128P90B	† EDI	
										EDI8M8130C90B	† EDI	
										EDI8M8130C90C	EDI	
										EDI8M8130P90B	† EDI	
	100	CMOS					5	50		DPS128X8-100	† Dense-Pac	55
								32		EDI8F8128C100B4C	EDI	
										EDI8M8128P100B	† EDI	
										EDI8M8130C100B	† EDI	
										EDI8M8130C100C	EDI	
										EDI8M8130P100B	† EDI	60
										MS8128-10	Mosaic Semi	
	120	CMOS					5	32		EDI8F8128C120B4C	EDI	
										EDI8M8128P120B	† EDI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
										(Cont'd)		
128Kx8	120	CMOS					5	32		EDI8M8130C120B †	EDI	
										EDI8M8130C120C	EDI	
										EDI8M8130P120B †	EDI	
										MS8128-12	Mosaic Semi	
	150	CMOS					5	50		DPS128X8-150 †	Dense-Pac	5
								32		EDI8F8128C150B4C	EDI	
										EDI8M8128P150B †	EDI	
										EDI8M8130C150B †	EDI	
										EDI8M8130C150C	EDI	
										EDI8M8130P150B †	EDI	10
										MS8128-15	Mosaic Semi	
128Kx16	20	CMOS	TTL/CMOS	Common			5	50	PGA	DPS128X16BA3-20 †	Dense-Pac	
								66	PGA	DPS128X16BV3-20 †	Dense-Pac	
	25	CMOS	TTL/CMOS	Common			5	50	PGA	DPS128X16BA3-25 †	Dense-Pac	
								66	PGA	DPS128X16BV3-25 †	Dense-Pac	15
	35	CMOS	TTL		52	150	5	66	Also has 2M UVEPROM	PUMA2X0214-1535	Mosaic Semi	
						100	5	66	Also has 2M UVEPROM	PUMA2X0214-9035	Mosaic Semi	
						150	5	66	Also has 2M UVEPROM	PUMA2X0214-9035	Mosaic Semi	
			TTL/CMOS				5	50	PGA	DPS128X16A-35	Dense-Pac	
								66	PGA	DPS128X16AV3-35	Dense-Pac	20
				Common			5	50	PGA	DPS128X16BA3-35 †	Dense-Pac	
								66	PGA	DPS128X16BV3-35 †	Dense-Pac	
	45	CMOS	TTL		52	150	5	66	Also has 2M UVEPROM	PUMA2X0214-1245	Mosaic Semi	
										PUMA2X0214-1545	Mosaic Semi	
										PUMA2X0214-9045	Mosaic Semi	25
			TTL/CMOS				5	50	PGA	DPS128X16A-45 †	Dense-Pac	
								66	PGA	DPS128X16AV3-45 †	Dense-Pac	
	55	CMOS	TTL		52	150	5	66	Also has 2M UVEPROM	PUMA2X0214-1255	Mosaic Semi	
										PUMA2X0214-1555	Mosaic Semi	
										PUMA2X0214-9055	Mosaic Semi	30
			TTL/CMOS				5	50	PGA	DPS128X16A-55	Dense-Pac	
								66	PGA	DPS128X16AV3-55 †	Dense-Pac	
	70	CMOS	TTL		52	150	5	66	Also has 2M UVEPROM	PUMA2X0214-1270	Mosaic Semi	
										PUMA2X0214-1570	Mosaic Semi	
128Kx24		CMOS	TTL	Common	75	590	5	60		EDI8F24128C-25C	EDI	35
	30	CMOS	TTL	Common	75	590	5	60		EDI8F24128C-30C	EDI	
	35	CMOS	TTL	Common	75	590	5	60		EDI8F24128C-35C	EDI	
	45	CMOS	TTL	Common	75	590	5	60		EDI8F24128C-45C	EDI	
128Kx32	15	CMOS	TTL	Common	60	600	5	64		EDI8F32128C-15C	EDI	
	20	CMOS	TTL				5	66		EDI8M32128C-20B †	EDI	40
										EDI8M32128C-20C	EDI	
				Common	60	520	5	64		EDI8F32128C-20C	EDI	
					100	480	5	64		MT4S12832-20	MicronSemi	
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-20 †	Dense-Pac	
	25	CMOS	TTL				5	66		EDI8M32128C-25B †	EDI	45
										EDI8M32128C-25C	EDI	
				Common	60	440	5	64		EDI8F32128C-25C	EDI	
					100	480	5	64		MT4S12832-25	MicronSemi	
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-25 †	Dense-Pac	
	25–120	CMOS			200	450	5	66		WS128K32-XHX †	White Tech	50
	30	CMOS	TTL	Common	60	440	5	64		EDI8F32128C-30C	EDI	
	35	CMOS	TTL				5	66		EDI8M32128C-35B †	EDI	
										EDI8M32128C-35C	EDI	
				Common	60	440	5	64		EDI8F32128C-35C	EDI	
					100	480	5	64		MT4S12832-35	MicronSemi	55
			TTL/CMOS	Common			5	66	PGA	DPS128X32AV3-35	Dense-Pac	
							5	66	PGA	DPS128X32BV3-35 †	Dense-Pac	
	45	CMOS	TTL				5	66		EDI8M32128C-45B †	EDI	
										EDI8M32128C-45C	EDI	
				Common	60	440	5	64		EDI8F32128C-45C	EDI	60

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx32	45	CMOS									(Cont'd)	
			TTL/CMOS									
				TS			5V	66	PGA	DPS128X32AV3-45 †	Dense-Pac	
	55	CMOS	TTL				5	66		EDI8M32128C-55B †	EDI	
										EDI8M32128C-55C	EDI	
			TTL/CMOS				5	66	PGA	DPS128X32AV3-55 †	Dense-Pac	
	70	CMOS	TTL			280	5	72		DS2227-70	Dallas	5
	100	CMOS	TTL			280	5	72		DS2227-100	Dallas	
	120	CMOS	TTL			280	5	72		DS2227-120	Dallas	
128Kx176	20				500	4538	5	300		EDI8F176128C-20C	EDI	
	25				500	4307	5	300		EDI8F176128C-25C	EDI	
	35				500	3988	5	300		EDI8F176128C-35C	EDI	10
128Kx16	20	CMOS	TTL	Common	40	280	5	48		DPS128X16BJ3-20C	Dense-Pac	
									Stack Family	DPS128X16C-20C	Dense-Pac	
	25	CMOS	TTL	Common	40	320	5	48		DPS128X16BJ3-25B †	Dense-Pac	
						280	5	48		DPS128X16BJ3-25C	Dense-Pac	
										DPS128X16BJ3-25I	Dense-Pac	15
						320	5	48		DPS128X16BJ3-25M †	Dense-Pac	
						280	5	48	Stack Family	DPS128X16C-25C	Dense-Pac	
										DPS128X16C-25I	Dense-Pac	
						320	5	48	Stack Family	DPS128X16C-25M †	Dense-Pac	
	30	CMOS	TTL	Common	40	320	5	48		DPS128X16BJ3-30B †	Dense-Pac	20
						280	5	48		DPS128X16BJ3-30I	Dense-Pac	
						320	5	48		DPS128X16BJ3-30M †	Dense-Pac	
						280	5	48	Stack Family	DPS128X16C-30C	Dense-Pac	
										DPS128X16C-30I	Dense-Pac	
						320	5	48	Stack Family	DPS128X16C-30M †	Dense-Pac	25
	35	CMOS	TTL		16	470	5	60		DPS6433-35C	Dense-Pac	
						540	5	60		DPS6433-35I	Dense-Pac	
										DPS6433-35M †	Dense-Pac	
				Common	40	320	5	48		DPS128X16BJ3-35B †	Dense-Pac	
						280	5	48		DPS128X16BJ3-35C	Dense-Pac	30
										DPS128X16BJ3-35I	Dense-Pac	
						320	5	48		DPS128X16BJ3-35M †	Dense-Pac	
						280	5	48	Stack Family	DPS128X16C-35C	Dense-Pac	
										DPS128X16C-35I	Dense-Pac	
						320	5	48	Stack Family	DPS128X16C-35M †	Dense-Pac	35
	40	CMOS	TTL		200	520	5	100		IDT7MB6036-40	IDT	
	45	CMOS	TTL		16	470	5	60		DPS6433-45C	Dense-Pac	
						540	5	60		DPS6433-45I	Dense-Pac	
										DPS6433-45M †	Dense-Pac	
				Common	40	320	5	48		DPS128X16BJ3-45B †	Dense-Pac	40
						280	5	48		DPS128X16BJ3-45C	Dense-Pac	
										DPS128X16BJ3-45I	Dense-Pac	
						320	5	48		DPS128X16BJ3-45M †	Dense-Pac	
						280	5	48	Stack Family	DPS128X16C-45C	Dense-Pac	
										DPS128X16C-45I	Dense-Pac	45
						320	5	48	Stack Family	DPS128X16C-45M †	Dense-Pac	
	50	CMOS	TTL		200	520	5	100		IDT7MB6036-50	IDT	
	55	CMOS	TTL		16	470	5	60		DPS6433-55C	Dense-Pac	
						540	5	60		DPS6433-55I	Dense-Pac	
										DPS6433-55M †	Dense-Pac	50
	60	CMOS	TTL		200	520	5	100		IDT7MB6036-60	IDT	
	70	CMOS	TTL		16	470	5	60		DPS6433-70C	Dense-Pac	
						540	5	60		DPS6433-70I	Dense-Pac	
										DPS6433-70M †	Dense-Pac	
					200	520	5	100		IDT7MB6036-70	IDT	55
				Common	6	140	5	50		DPS128X16-70C	Dense-Pac	
										DPS128X16A3-70C	Dense-Pac	
	85	CMOS	TTL		16	470	5	60		DPS6433-85C	Dense-Pac	
						540	5	60		DPS6433-85I	Dense-Pac	
										DPS6433-85M †	Dense-Pac	60
					200	520	5	100		IDT7MB6036-85	IDT	
				Common	6	140	5	50		DPS128X16-85C	Dense-Pac	
						150	5	50		DPS128X16-85I	Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx16	85	CMOS	TTL	Common	6						(Cont'd)	
						160	5	50		DPS128X16-85M †	Dense-Pac	
										DPS128X16A3-85B †	Dense-Pac	
						140	5	50		DPS128X16A3-85C	Dense-Pac	
						150	5	50		DPS128X16A3-85I	Dense-Pac	
						160	5	50		DPS128X16A3-85M †	Dense-Pac	5
	100	CMOS	TTL		16	470	5	60		DPS6433-100C	Dense-Pac	
						540	5	60		DPS6433-100I	Dense-Pac	
										DPS6433-100M †	Dense-Pac	
					200	520	5	100		IDT7MB6036-10	IDT	
				Common	6	140	5	50		DPS128X16-10C	Dense-Pac	10
						150	5	50		DPS128X16-10I	Dense-Pac	
						160	5	50		DPS128X16-10M †	Dense-Pac	
										DPS128X16A3-10B †	Dense-Pac	
						140	5	50		DPS128X16A3-10C	Dense-Pac	
						150	5	50		DPS128X16A3-10I	Dense-Pac	15
						160	5	50		DPS128X16A3-10M †	Dense-Pac	
	120	CMOS	TTL		16	540	5	60		DPS6434-120I ℓ°‡	Dense-Pac	
					20	135	5	60		DPS6433-120C	Dense-Pac	
						145	5	60		DPS6433-120I	Dense-Pac	
						155	5	60		DPS6433-120M †	Dense-Pac	20
										DPS6434-120M †	Dense-Pac	
				Common	6	140	5	50		DPS128X16-12C	Dense-Pac	
						150	5	50		DPS128X16-12I	Dense-Pac	
						160	5	50		DPS128X16-12M †	Dense-Pac	
										DPS128X16A3-12B †	Dense-Pac	25
						140	5	50		DPS128X16A3-12C	Dense-Pac	
						150	5	50		DPS128X16A3-12I	Dense-Pac	
						160	5	50		DPS128X16A3-12M †	Dense-Pac	
	150	CMOS	TTL		20	135	5	60		DPS6433-150C	Dense-Pac	
						145	5	60		DPS6433-150I	Dense-Pac	30
						155	5	60		DPS6433-150M †	Dense-Pac	
				Common	6	140	5	50		DPS128X16-15C	Dense-Pac	
						150	5	50		DPS128X16-15I	Dense-Pac	
						160	5	50		DPS128X16-15M †	Dense-Pac	
										DPS128X16A3-15B †	Dense-Pac	35
						140	5	50		DPS128X16A3-15C	Dense-Pac	
						150	5	50		DPS128X16A3-15I	Dense-Pac	
						160	5	50		DPS128X16A3-15M †	Dense-Pac	
128Kx24	70	CMOS	TTL	Common	9	210	5	66		DPS128X24-70C	Dense-Pac	
	85	CMOS	TTL	Common	9	210	5	66		DPS128X24-85C	Dense-Pac	40
						225	5	66		DPS128X24-85I	Dense-Pac	
						240	5	66		DPS128X24-85M †	Dense-Pac	
	100	CMOS	TTL	Common	9	210	5	66		DPS128X24-10C	Dense-Pac	
						225	5	66		DPS128X24-10I	Dense-Pac	
						240	5	66		DPS128X24-10M †	Dense-Pac	45
	120	CMOS	TTL	Common	9	210	5	66		DPS128X24-12C	Dense-Pac	
						225	5	66		DPS128X24-12I	Dense-Pac	
						240	5	66		DPS128X24-12M †	Dense-Pac	
	150	CMOS	TTL	Common	9	210	5	66		DPS128X24-15C	Dense-Pac	
						225	5	66		DPS128X24-15I	Dense-Pac	50
						240	5	66		DPS128X24-15M †	Dense-Pac	
128Kx32	10	CMOS	TTL		12	320	5	68		PUMA67S4000-10	Mosaic Semi	
	12	CMOS	TTL		12	320	5	68		PUMA67S4000-12	Mosaic Semi	
	15	CMOS	TTL		280	880	5	66		IDT7M4013-15	IDT	
										IDT7M4013-15M †	IDT	55
	17	CMOS	TTL		280	880	5	66		IDT7M4013-17	IDT	
										IDT7M4013-17M †	IDT	
	20	CMOS			20	700	5	66		PUMA2S4000L-020	Mosaic Semi	
										PUMA2S4000ML-020 †	Mosaic Semi	
					220	700	5	66		PUMA2S4000-020	Mosaic Semi	60
										PUMA2S4000M-020 †	Mosaic Semi	
			TTL		100	480	5	64		CYM1836-20C	Cypress	
					280	880	5	66		IDT7M4013-20	IDT	
										IDT7M4013-20M †	IDT	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx32											(Cont'd)	
	25	CMOS			20	700	5	66		PUMA2S4000L-025	Mosaic Semi	
										PUMA2S4000ML-025	† Mosaic Semi	
					220	700	5	66		PUMA2S4000-025	Mosaic Semi	
										PUMA2S4000M-025	† Mosaic Semi	
			TTL		100	480	5	64		CYM1836-25C	Cypress	5
					240	720	5	66		CYM1838-25C	Cypress	
										CYM1838-25M	† Cypress	
					280	880	5	66		IDT7M4013-25	IDT	
										IDT7M4013-25M	† IDT	
	25–120	CMOS	TTL		200	450	5	66		**WS128K32-XG4X**	† **White Tech (3851)**	10
	30	CMOS	TTL		100	480	5	64		CYM1836-30C	Cypress	
					240	720	5	66		CYM1838-30C	Cypress	
										CYM1838-30M	† Cypress	
					280	880	5	66		IDT7M4013-30	IDT	
										IDT7M4013-30M	† IDT	15
	35	CMOS			20	700	5	66		PUMA2S4000L-35	Mosaic Semi	
										PUMA2S4000ML-35	† Mosaic Semi	
					220	700	5	66		PUMA2S4000-35	Mosaic Semi	
										PUMA2S4000M-35	† Mosaic Semi	
			TTL		100	480	5	64		CYM1836-35C	Cypress	20
					240	720	5	66		CYM1838-35C	Cypress	
										CYM1838-35M	† Cypress	
					280	880	5	66		IDT7M4013-35	IDT	
										IDT7M4013-35M	† IDT	
	40	CMOS	TTL		280	880	5	66		IDT7M4013-40	IDT	25
										IDT7M4013-40M	† IDT	
	45	CMOS			60	320	5	66		PUMA2S4000-45	Mosaic Semi	
						480	5	66		PUMA2S4000M-45	† Mosaic Semi	
			TTL		100	480	5	64		CYM1836-45C	Cypress	
	50	CMOS	TTL		280	880	5	66		IDT7M4013-50	IDT	30
										IDT7M4013-50M	† IDT	
	55	CMOS			60	320	5	66		PUMA2S4000-55	Mosaic Semi	
						480	5	66		PUMA2S4000M-55	† Mosaic Semi	
	60	CMOS	TTL		280	880	5	66		IDT7M4013-60M	† IDT	
	70		TTL				5	66		DPS128C32V3-70	Dense-Pac	35
		CMOS			60	320	5	66		PUMA2S4000-70	Mosaic Semi	
						480	5	66		PUMA2S4000M-70	† Mosaic Semi	
			TTL		280	880	5	66		IDT7M4013-70M	† IDT	
				Common	12	280	5	66		DPS128X32-70C	Dense-Pac	
								50		DPS128X32V3-70C	Dense-Pac	40
	85		TTL				5	66		DPS128C32V3-85	Dense-Pac	
		CMOS	TTL		12	320	5	68		PUMA67S4000-85	Mosaic Semi	
					280	880	5	66		IDT7M4013-85M	† IDT	
				Common	12	280	5	66		DPS128X32-85C	Dense-Pac	
						300	5	66		DPS128X32-85I	Dense-Pac	45
						320	5	66		DPS128X32-85M	† Dense-Pac	
										DPS128X32V3-85B	† Dense-Pac	
						280	5	50		DPS128X32V3-85C	Dense-Pac	
						300	5	66		DPS128X32V3-85I	Dense-Pac	
						320	5	66		DPS128X32V3-85M	† Dense-Pac	50
	100		TTL				5	66		DPS128C32V3-100	Dense-Pac	
		CMOS	TTL	Common	12	280	5	66		DPS128X32-10C	Dense-Pac	
						300	5	66		DPS128X32-10I	Dense-Pac	
						320	5	66		DPS128X32-10M	† Dense-Pac	
										DPS128X32V3-10B	† Dense-Pac	55
						280	5	50		DPS128X32V3-10C	Dense-Pac	
						300	5	66		DPS128X32V3-10I	Dense-Pac	
						320	5	66		DPS128X32V3-10M	† Dense-Pac	
	120		TTL				5	66		DPS128C32V3-120	Dense-Pac	
		CMOS	TTL	Common	12	280	5	66		DPS128X32-12C	Dense-Pac	60
						300	5	66		DPS128X32-12I	Dense-Pac	
						320	5	66		DPS128X32-12M	† Dense-Pac	
										DPS128X32V3-12B	† Dense-Pac	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
128Kx32	120	CMOS	TTL	Common	12						(Cont'd)	
						280	5	50		DPS128X32V3-12C	Dense-Pac	
						300	5	66		DPS128X32V3-12I	Dense-Pac	
						320	5	66		DPS128X32V3-12M †	Dense-Pac	
	150		TTL				5	66		DPS128C32V3-150	Dense-Pac	
		CMOS	TTL	Common	12	280	5	66		DPS128X32-15C	Dense-Pac	5
						300	5	66		DPS128X32-15I	Dense-Pac	
						320	5	66		DPS128X32-15M †	Dense-Pac	
										DPS128X32V3-15B †	Dense-Pac	
						280	5	50		DPS128X32V3-15C	Dense-Pac	
						300	5	66		DPS128X32V3-15I	Dense-Pac	10
						320	5	66		DPS128X32V3-15M †	Dense-Pac	
128Kx8	20	CMOS	TTL		140	210	5	32		CYM1420-20C	Cypress	
	25	CMOS	TTL		120	560	5	66		DPS3232-25C	Dense-Pac	
					140	210	5	32		CYM1420-25C	Cypress	
						640	5	66		DPS3232-25I	Dense-Pac	15
										DPS3232-25M †	Dense-Pac	
					470	660	5	64	Two Port	IDT7M1001-25	IDT	
					750	940	5	64		IDT7MP1021-25	IDT	
	30						5	32		**S128KX8-30**	**Peps** (3706)	
		CMOS	TTL		140	210	5	32		CYM1420-30M	Cypress	20
					470	660	5	64	Two Port	IDT7M1001-30	IDT	
					750	940	5	64		IDT7MP1021-30	IDT	
	35	CMOS	TTL		120	560	5	66		DPS3232-35C	Dense-Pac	
					140	210	5	32		CYM1420-35C	Cypress	
										CYM1420-35M	Cypress	25
						640	5	66		DPS3232-35I	Dense-Pac	
										DPS3232-35M †	Dense-Pac	
					470	660	5	64	Two Port	IDT7M1001-35	IDT	
					565	790	5	64	Two Port	IDT7M1001-35M †	IDT	
					750	940	5	64		IDT7MP1021-35	IDT	30
				Common	25	160	5	32		DPS41288-35C	Dense-Pac	
					40	180	5	32		DPS41288-35I	Dense-Pac	
										DPS41288-35M †	Dense-Pac	
	40	CMOS	TTL		470	660	5	64	Two Port	IDT7M1001-40	IDT	
					565	790	5	64	Two Port	IDT7M1001-40M †	IDT	35
					750	940	5	64		IDT7MP1021-40	IDT	
	45						5	32		**S128KX8-45**	**Peps** (3706)	
		CMOS	TTL		120	560	5	66		DPS3232-45C	Dense-Pac	
					140	210	5	32		CYM1420-45C	Cypress	
										CYM1420-45M †	Cypress	40
						640	5	66		DPS3232-45I	Dense-Pac	
										DPS3232-45M †	Dense-Pac	
				Common	25	160	5	32		DPS41288-45C	Dense-Pac	
					40	180	5	32		DPS41288-45I	Dense-Pac	
										DPS41288-45M †	Dense-Pac	45
	50	CMOS	TTL		470	660	5	64	Two Port	IDT7M1001-50	IDT	
					565	790	5	64	Two Port	IDT7M1001-50M †	IDT	
					750	940	5	64		IDT7MP1021-50	IDT	
	55						5	32		**S128KX8-55**	**Peps** (3706)	
		CMOS	TTL		2.5	100	5	32		IDT71M024-55	IDT	50
										IDT71M024-55M †	IDT	
										IDT71M025-55	IDT	
										IDT71M025-55M †	IDT	
					120	560	5	66		DPS3232-55C	Dense-Pac	
					140	210	5	32		CYM1420-55C	Cypress	55
										CYM1420-55M †	Cypress	
						640	5	66		DPS3232-55I	Dense-Pac	
										DPS3232-55M †	Dense-Pac	
				Common	25	160	5	32		DPS41288-55C	Dense-Pac	
					40	180	5	32		DPS41288-55I	Dense-Pac	60
										DPS41288-55M †	Dense-Pac	
	60	CMOS	TTL		2.5	100	5	32		IDT71M024-60	IDT	
										IDT71M024-60M †	IDT	
										IDT71M025-60	IDT	
										IDT71M025-60M †	IDT	65

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
128Kx8											(Cont'd)
	65	CMOS	TTL		2.5	100	5	32		IDT71M024-65	IDT
										IDT71M024-65M	† IDT
										IDT71M025-65	IDT
										IDT71M025-65M	† IDT
					470	660	5	64	Two Port	IDT7M1001-65	IDT
					565	790	5	64	Two Port	IDT7M1001-65M	† IDT
	70						5	32		**S128KX8-70**	**Peps (3706)**
		CMOS	TTL		2.5	100	5	32		IDT71M024-70	IDT
										IDT71M024-70M	† IDT
										IDT71M025-70	IDT
										IDT71M025-70M	† IDT
					120	560	5	66		DPS3232-70C	Dense-Pac
					140	640	5	66		DPS3232-70I	Dense-Pac
										DPS3232-70M	† Dense-Pac
				Common	25	160	5	32		DPS41288-70C	Dense-Pac
					40	180	5	32		DPS41288-70I	Dense-Pac
										DPS41288-70M	† Dense-Pac
	80	CMOS	TTL		565	790	5	64	Two Port	IDT7M1001-80	IDT
	85	CMOS	TTL		2.5	100	5	32		IDT71M024-85	IDT
										IDT71M024-85M	† IDT
										IDT71M025-85	IDT
										IDT71M025-85M	† IDT
					120	560	5	66		DPS3232-85C	Dense-Pac
					140	640	5	66		DPS3232-85I	Dense-Pac
										DPS3232-85M	† Dense-Pac
	100						5	32		**S128KX8-100**	**Peps (3706)**
		CMOS	TTL		2.5	100	5	32		IDT71M024-100	IDT
										IDT71M024-100M	† IDT
										IDT71M025-100	IDT
										IDT71M025-100M	† IDT
					15	95	5	32		MS88128-100	Mosel-Vitelic
					120	560	5	66		DPS3232-100C	Dense-Pac
					140	640	5	66		DPS3232-100I	Dense-Pac
										DPS3232-100M	† Dense-Pac
	120						5	32		**S128KX8-120**	**Peps (3706)**
		CMOS					5	50		DPS128X8-120	† Dense-Pac
			TTL		2.5	100	5	32		IDT71M024-120	IDT
										IDT71M024-120M	† IDT
										IDT71M025-120	IDT
										IDT71M025-120M	† IDT
					8	240	5	66		DPS3232-120C	Dense-Pac
						260	5	66		DPS3232-120I	Dense-Pac
						280	5	66		DPS3232-120M	† Dense-Pac
					15	95	5	32		MS88128-120	Mosel-Vitelic
	150	CMOS	TTL		8	240	5	66		DPS3232-150C	Dense-Pac
						260	5	66		DPS3232-150I	Dense-Pac
						280	5	66		DPS3232-150M	† Dense-Pac
256Kx4	25	CMOS	TTL		160	480	5	28		CYM1240-25C	Cypress
										CYM1240-25M	† Cypress
	30	CMOS	TTL		160	480	5	28		CYM1240-30C	Cypress
										CYM1240-30M	† Cypress
	35	CMOS					5	30		EDI8F4258C35C	EDI
								28		EDI8M4257C35B	† EDI
										EDI8M4257C35C	EDI
										EDI8M4257P35B	† EDI
										EDI8M4257P35C	EDI
			TTL		80	180	5	40		EDI8M1665C-35B	† EDI
					160	480	5	28		CYM1240-35C	Cypress
										CYM1240-35M	† Cypress
	45						5	40		IDT7M624S-45B	† IDT
		CMOS					5	30		EDI8F4258C45C	EDI
								28		EDI8M4257C45B	† EDI
										EDI8M4257C45C	EDI
										EDI8M4257P45B	† EDI
										EDI8M4257P45C	EDI

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx4	45	CMOS									(Cont'd)	
			TTL		80	180	5	40		EDI8M1665C-45B	† EDI	
					160	480	5	28		CYM1240-45C	Cypress	
										CYM1240-45M	† Cypress	
	55						5	40		IDT7M624S-55	IDT	
										IDT7M624S-55B	† IDT	5
		CMOS					5	30		EDI8F4258C55C	EDI	
								64		EDI8M32256C55C6B	† EDI	
								28		EDI8M4257C55B	† EDI	
										EDI8M4257C55C	EDI	
										EDI8M4257P55B	† EDI	10
										EDI8M4257P55C	EDI	
			TTL		80	180	5	40		EDI8M1665C-55B	† EDI	
	65	CMOS					5	48		IDT7M624S-65	IDT	
										IDT7M624S-65B	IDT	
	70	CMOS					5	30		EDI8F4258C70C	EDI	15
								28		EDI8M4257C70B	† EDI	
										EDI8M4257C70C	EDI	
										EDI8M4257P70B	† EDI	
										EDI8M4257P70C	EDI	
								32		EDI8M8256C70B	† EDI	20
			TTL		80	180	5	40		EDI8M1665C-70B	† EDI	
	85	CMOS					5	48		IDT7M624S-85B	IDT	
	120	CMOS					5	32		EDI8M8256C120C	EDI	
										HM66204L-12	Hitachi	
	150	CMOS					5	32		HM66204L-15	Hitachi	25
256Kx8	15	CMOS					5	60		MCM8256Z15	Motorola	
	20	CMOS					5	60		EDI8F8258C20C	EDI	
										MCM8256Z20	Motorola	
			TTL		120	250	5	32		EDI8F8259C-20C	EDI	
			TTL/CMOS	Common			5	50	PGA	DPS128X16BA3-20	† Dense-Pac	30
	25	CMOS					5	32		EDI8F8259C25M6C	EDI	
			TTL		25	300	5	32		EDI8M8257C-25C	EDI	
					120	250	5	32		EDI8F8259C-25C	EDI	
			TTL/CMOS	Common			5	50	PGA	DPS128X16BA3-25	† Dense-Pac	
	30	CMOS	TTL		25	300	5	32		EDI8M8257C-30C	EDI	35
					120	250	5	32		EDI8F8259C-30C	EDI	
	35	CMOS					5	32		MS8256-35	Mosaic Semi	
			TTL		10	200	5	32		EDI8M8257C-35C	EDI	
					20	210	5	32		EDI8M8257C-35B	† EDI	
					52	100	5	66	Also has 2M UVEPROM	PUMA2X0214-1235	Mosaic Semi	40
										PUMA2X0214-1535	Mosaic Semi	
					120	250	5	32		EDI8F8259C-35C	EDI	
			TTL/CMOS	Common			5	50	PGA	DPS128X16BA3-35	† Dense-Pac	
				TS			5	50	PGA	DPS256X8AA3-35	Dense-Pac	
								66	PGA	DPS256X8AV3-35	Dense-Pac	45
	45	CMOS					5	32		DPS256S8A-45	Dense-Pac	
										DPS256S8AP-45	Dense-Pac	
								60		EDI8F8258C45C	EDI	
								32		MS8256-45	Mosaic Semi	
			TTL		10	200	5	32		EDI8M8257C-45C	EDI	50
					20	210	5	32		EDI8M8257C-45B	† EDI	
					52	100	5	66	Also has 2M UVEPROM	PUMA2X0214-1245	Mosaic Semi	
										PUMA2X0214-1545	Mosaic Semi	
										PUMA2X0214-9045	Mosaic Semi	
					120	250	5	32		EDI8F8259C-45C	EDI	55
			TTL/CMOS				5	50	PGA	DPS256S8AA3-45	Dense-Pac	
										DPS256X8AA3-45	† Dense-Pac	
				TS			5	66	PGA	DPS256X8AV3-45	† Dense-Pac	
	55	CMOS					5	32		DPS256S8A-55	† Dense-Pac	
										DPS256S8AP-55	Dense-Pac	60

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
											(Cont'd)
256Kx8	55	CMOS					5	32		EDI8F8259C55M6C	EDI
										MS8256-55	Mosaic Semi
			TTL		10	200	5	32		EDI8M8257C-55C	EDI
					20	210	5	32		EDI8M8257C-55B †	EDI
					52	100	5	66	Also has 2M UVEPROM	PUMA2X0214-1255	Mosaic Semi
										PUMA2X0214-1555	Mosaic Semi
										PUMA2X0214-9055	Mosaic Semi
					120	250	5	32		EDI8F8259C-55C	EDI
			TTL/CMOS				5	50	PGA	DPS256S8AA3-55 †	Dense-Pac
										DPS256X8AA3-55 †	Dense-Pac
				TS			5	66	PGA	DPS256X8AV3-55 †	Dense-Pac
	70	CMOS					5	32		DPS256S8A-70 †	Dense-Pac
										DPS256S8AP-70	Dense-Pac
								50		DPS256X8A3-70 †	Dense-Pac
								66		DPS256X8V3-70 †	Dense-Pac
								32		EDI8M8256C70C	EDI
										EDI8M8256P70B †	EDI
										EDI8M8256P70C	EDI
										MS8256-70	Mosaic Semi
			TTL		10	200	5	32		EDI8M8257C-70C	EDI
					20	210	5	32		EDI8M8257C-70B †	EDI
					35	130	5	32		EDI8F8257C-70C	EDI
										EDI8F8257C-70I	EDI
					52	100	5	66	Also has 2M UVEPROM	PUMA2X0214-1270	Mosaic Semi
										PUMA2X0214-1570	Mosaic Semi
										PUMA2X0214-9070	Mosaic Semi
			TTL/CMOS				5	50	PGA	DPS256S8AA3-70 †	Dense-Pac
	85	CMOS					5	32		DPS256S8A-85 †	Dense-Pac
										DPS256S8AP-85	Dense-Pac
										DPS256S8P-85	Dense-Pac
								50		DPS256X8A3-85 †	Dense-Pac
								66		DPS256X8V3-85 †	Dense-Pac
								32		EDI8F8257C85C	EDI
										EDI8F8257L85C	EDI
										EDI8F8257P85C	EDI
										MS8256-85	Mosaic Semi
			TTL		0.4	130	5	32		EDI8M8257LP-85C	EDI
					5	130	5	32		EDI8M8257C-85C	EDI
										EDI8M8257LP-85B †	EDI
					10	130	5	32		EDI8M8257C-85B †	EDI
					35	130	5	32		EDI8F8257C-85C	EDI
										EDI8F8257C-85I	EDI
			TTL/CMOS				5	50	PGA	DPS256S8AA3-85 †	Dense-Pac
	100	CMOS					5	50		DPS256S8A3-100 †	Dense-Pac
								32		DPS256S8P-10	Dense-Pac
								50		DPS256X8A3-100 †	Dense-Pac
								66		DPS256X8V3-100 †	Dense-Pac
								32		EDI8M8256C100B †	EDI
										EDI8M8256C100C	EDI
										EDI8M8256P100B †	EDI
										EDI8M8256P100C	EDI
			TTL		0.4	130	5	32		EDI8M8257LP-100C	EDI
					5	130	5	32		EDI8M8257C-100C	EDI
										EDI8M8257LP-100B †	EDI
					10	130	5	32		EDI8M8257C-100B †	EDI
					35	130	5	32		EDI8F8257C-100C	EDI
										EDI8F8257C-100I	EDI
	120	CMOS					5	50		DPS256S8A3-120 †	Dense-Pac
								32		DPS256S8P-12	Dense-Pac
								50		DPS256X8A3-120 †	Dense-Pac
								66		DPS256X8V3-12 †	Dense-Pac
								32		EDI8M8256C120B †	EDI
										EDI8M8256P120B †	EDI
										EDI8M8256P120C	EDI
										MS8256-12	Mosaic Semi

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx8	120	CMOS								(Cont'd)		
			TTL		0.4	130	5	32		EDI8M8257LP-120C	EDI	
					5	130	5	32		EDI8M8257C-120C	EDI	
										EDI8M8257LP-120B	† EDI	
					10	130	5	32		EDI8M8257C-120B	† EDI	
					35	130	5	32		EDI8F8257C-120C	EDI	5
										EDI8F8257C-120I	EDI	
	150	CMOS					5	50		DPS256S8A3-15	† Dense-Pac	
								32		DPS256S8P-15	Dense-Pac	
								50		DPS256X8A3-15	Dense-Pac	
										DPS256X8A3-150	† Dense-Pac	10
								66		DPS256X8V3-15	† Dense-Pac	
								32		EDI8F8257C150C	EDI	
										EDI8F8257L150C	EDI	
										EDI8F8257P150C	EDI	
										EDI8M8256C150B	† EDI	15
										EDI8M8256P150B	† EDI	
										EDI8M8256P150C	EDI	
										MS8256-15	Mosaic Semi	
			TTL		0.4	130	5	32		EDI8M8257LP-150C	EDI	
					5	130	5	32		EDI8M8257C-150C	EDI	20
										EDI8M8257LP-150B	† EDI	
					10	130	5	32		EDI8M8257C-150B	† EDI	
					35	130	5	32		EDI8F8257C-150C	EDI	
										EDI8F8257C-150I	EDI	
256Kx12	20	CMOS	TTL	Common	75	590	5	40		EDI8F12256C-20C	EDI	25
	25	CMOS	TTL	Common	75	590	5	40		EDI8F12256C-25C	EDI	
	30	CMOS	TTL	Common	75	590	5	40		EDI8F12256C-30C	EDI	
	35	CMOS	TTL	Common	75	590	5	40		EDI8F12256C-35C	EDI	
	45	CMOS	TTL	Common	75	590	5	40		EDI8F12256C-45C	EDI	
256Kx16	20	CMOS	TTL		90	480	5	40		EDI8F16257C-20C	EDI	30
				Common	240	500	5	48		EDI8F16256-20C	EDI	
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-20	† Dense-Pac	
								50	PGA	DPS256X16BA3-20	† Dense-Pac	
	25	CMOS					5	48		MS16256-025	Mosaic Semi	
			TTL		90	480	5	40		EDI8F16257C-25C	EDI	35
					160	2000	5	48		EDI8M16256C-25B	† EDI	
				Common	240	500	5	48		EDI8F16256-25C	EDI	
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-25	† Dense-Pac	
								50	PGA	DPS256X16BA3-25	† Dense-Pac	
	25–120	CMOS			100	280	5	66		WS256K8-XXX	† White Tech	40
	30	CMOS	TTL		90	480	5	40		ED18F16257C-30C	EDI	
					160	2000	5	48		EDI8M16256C-30B	† EDI	
				Common	240	500	5	48		EDI8F16256-30C	EDI	
	35	CMOS					5	50		DPS256X16A-35	Dense-Pac	
								40		EDI8F16257C35C	EDI	45
								48		EDI8M16256C35B	† EDI	
										EDI8M16256C35C	EDI	
								40		EDI8M16257C35B	† EDI	
								48		MS16256-35	Mosaic Semi	
			TTL		90	480	5	40		ED18F16257C-35C	EDI	50
					160	2000	5	48		EDI8M16256C-35B	† EDI	
				Common	240	500	5	48		EDI8F16256-35C	EDI	
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-35	† Dense-Pac	
				TS			5	66	PGA	DPS256X16AV3-35	Dense-Pac	
	45	CMOS					5	50		DPS256X16A-45	Dense-Pac	55
								48		EDI8M16256C45B	† EDI	
										EDI8M16256C45C	EDI	
										MS16256-45	Mosaic Semi	
			TTL		90	480	5	40		EDI8F16257C-45C	EDI	
					160	2000	5	48		EDI8M16256C-45B	† EDI	60
				Common	240	500	5	48		EDI8F16256-45C	EDI	
			TTL/CMOS				5	66	PGA	DPS256X16AV3-45	† Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16											(Cont'd)	
	55	CMOS					5	50		DPS256X16A-55	Dense-Pac	
								48		EDI8M16256C55B †	EDI	
										EDI8M16256C55C	EDI	
								40		EDI8M16257C55B †	EDI	
								48		MS16256-55	Mosaic Semi	5
			TTL		90	480	5	40		EDI8F16257C-55C	EDI	
					160	2000	5	48		EDI8M16256C-55B †	EDI	
				Common	240	500	5	48		EDI8F16256-55C	EDI	
			TTL/CMOS				5	66	PGA	DPS256X16AV3-55 †	Dense-Pac	
	70	CMOS					5	50		DPS256X16A-70	Dense-Pac	10
								48		EDI8M16256C70B †	EDI	
										EDI8M16256C70C	EDI	
			TTL			280	5	72		DS2227-70	Dallas	
					160	2000	5	48		EDI8M16256C-70B †	EDI	
	100	CMOS					5	66		DPS256X16V3-10 †	Dense-Pac	15
			TTL			280	5	72		DS2227-100	Dallas	
	120	CMOS					5	66		DPS256X16V3-12 †	Dense-Pac	
			TTL			280	5	72		DS2227-120	Dallas	
	150	CMOS					5	66		DPS256X16V3-15 †	Dense-Pac	
256Kx20	15	CMOS	TTL/CMOS	Common			5	50	DIP	DPS256X20-15	Dense-Pac	20
	55	CMOS	TTL/CMOS	Common			5	50	DIP	DPS256X20-55	Dense-Pac	
256Kx24	15	CMOS	TTL/CMOS	Common			5	50	DIP	DPS256X24-15	Dense-Pac	
	20	CMOS	TTL/CMOS	Common			5	50	DIP	DPS256X24-20	Dense-Pac	
	25	CMOS	TTL/CMOS	Common			5	50	DIP	DPS256X24-25	Dense-Pac	
	35	CMOS	TTL/CMOS	Common			5	50	DIP	DPS256X24-35	Dense-Pac	25
				TS			5	50	PGA	DPS256X24AV3-35	Dense-Pac	
	45	CMOS	TTL/CMOS				5	50	PGA	DPS256X24AV3-45 †	Dense-Pac	
				Common			5	50	DIP	DPS256X24-45	Dense-Pac	
	55	CMOS	TTL/CMOS				5	50	PGA	DPS256X24AV3-55 †	Dense-Pac	
				Common			5	50	DIP	DPS256X24-55	Dense-Pac	30
	70	CMOS					5	66		DPS256X24V3-70 †	Dense-Pac	
	85	CMOS					5	66		DPS256X24V3-85 †	Dense-Pac	
	100	CMOS					5	66		DPS256X24V3-10 †	Dense-Pac	
	120	CMOS					5	66		DPS256X24V3-12 †	Dense-Pac	
	150	CMOS					5	66		DPS256X24V3-15 †	Dense-Pac	35
256Kx32	20	CMOS	TTL		320	1120	5	60		CYM1840-20C	Cypress	
				Common	180	960	5	64		EDI8F32256C-20C	EDI	
					200	960	5	64		MT8S25632-20	MicronSemi	
	25	CMOS					5	64		EDI8F32256C25C	EDI	
			TTL	Common	180	960	5	64		EDI8F32256C-25C	EDI	40
					200	960	5	64		MT8S25632-25	MicronSemi	
	30	CMOS	TTL		480	960	5	64		CYM1841L-30C	Cypress	
				Common	180	960	5	64		EDI8F32256C-30C	EDI	
	35	CMOS					5	64		EDI8M32256C35C6B †	EDI	
										EDI8M32256C35C6C	EDI	45
			TTL		480	960	5	64		CYM1841L-35C	Cypress	
				Common	180	960	5	64		EDI8F32256C-35C	EDI	
					200	960	5	64		MT8S25632-35	MicronSemi	
			TTL/CMOS				5	66	PGA	DPS256X32A-35	Dense-Pac	
	45	CMOS	TTL		480	960	5	64		CYM1841L-45C	Cypress	50
				Common	180	960	5	64		EDI8F32256C-45C	EDI	
			TTL/CMOS				5	66	PGA	DPS256X32AV3-45 †	Dense-Pac	
	55	CMOS					5	64		EDI8M32256C55C6C	EDI	
								60		MS32256-55	Mosaic Semi	
			TTL		480	960	5	64		CYM1841L-55C	Cypress	55
				Common	180	960	5	64		EDI8F32256C-55C	EDI	
			TTL/CMOS				5	66	PGA	DPS256X32AV3-55 †	Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
Static—Modules											**(Cont'd)**
256Kx32											(Cont'd)
	70	CMOS	TTL/CMOS				5	66	PGA	DPS256X32AV3-70 †	Dense-Pac
	100	CMOS					5	66		DPS256X32V3-10 †	Dense-Pac
	120	CMOS					5	66		DPS256X32V3-12	Dense-Pac
	150	CMOS					5	66		DPS256X32V3-15	Dense-Pac
256Kx44	15	CMOS	TTL		195		5	80	Supports R4000 CPU	EDI8F44256C-15C	EDI
	20	CMOS	TTL		195	2100	5	80	Supports R4000 CPU	EDI8F44256C-20C	EDI
	25	CMOS	TTL		195	1950	5	80	Supports R4000 CPU	EDI8F44256C-25C	EDI
256Kx176	20	CMOS	TTL		750	8250	5	300		EDI8F176256C-20C	EDI
	25	CMOS	TTL		750	7830	5	300		EDI8F176256C-25C	EDI
	35	CMOS	TTL		750	7250	5	300		EDI8F176256C-35C	EDI
256Kx16	10	CMOS	TTL		12	160	5	68		PUMA67S4000-10	Mosaic Semi
					240	800	5	48		IDT7MB4066-10	IDT
	12	CMOS	TTL		12	160	5	68		PUMA67S4000-12	Mosaic Semi
					240	800	5	48		IDT7MB4066-12	IDT
	15	CMOS	TTL		240	800	5	48		IDT7MB4066-15	IDT
	17	CMOS	TTL		240	800	5	48		IDT7MB4066-17	IDT
	20	CMOS			20	460	5	66		PUMA2S4000L-020	Mosaic Semi
										PUMA2S4000ML-020 †	Mosaic Semi
					220	460	5	66		PUMA2S4000-020	Mosaic Semi
										PUMA2S4000M-020 †	Mosaic Semi
			TTL		240	600	5	48		IDT7MB4066-20	IDT
				Common	80	320	5	50	Stack Family	DPS256X16B-20C	Dense-Pac
									Dual Enable	DPS256X16C-20C	Dense-Pac
	25	CMOS			20	460	5	66		PUMA2S4000L-025	Mosaic Semi
										PUMA2S4000ML-025 †	Mosaic Semi
					220	460	5	66		PUMA2S4000-025	Mosaic Semi
										PUMA2S4000M-025 †	Mosaic Semi
			TTL		240	600	5	48		IDT7MB4066-25	IDT
					560	1800	5	48		CYM1641-25C	Cypress
				Common	80	320	5	50	Stack Family	DPS256X16B-25C	Dense-Pac
										DPS256X16B-25I	Dense-Pac
						360	5	50	Stack Family	DPS256X16B-25M †	Dense-Pac
						320	5	50	Dual Enable	DPS256X16C-25C	Dense-Pac
										DPS256X16C-25I	Dense-Pac
						360	5	50	Dual Enable	DPS256X16C-25M †	Dense-Pac
	25–120	CMOS	TTL		200	450	5	66		**WS128K32-XG4X** †	**White Tech (3851)**
	30	CMOS	TTL		240	600	5	48		IDT7MB4066-30	IDT
					560	1800	5	48		CYM1641-30C	Cypress
				Common	80	320	5	50	Stack Family	DPS256X16B-30C	Dense-Pac
										DPS256X16B-30I	Dense-Pac
						360	5	50	Stack Family	DPS256X16B-30M †	Dense-Pac
						320	5	50	Dual Enable	DPS256X16C-30C	Dense-Pac
										DPS256X16C-30I	Dense-Pac
						360	5	50	Dual Enable	DPS256X16C-30M †	Dense-Pac
	35	CMOS			20	460	5	66		PUMA2S4000L-35	Mosaic Semi
										PUMA2S4000ML-35 †	Mosaic Semi
					220	460	5	66		PUMA2S4000-35	Mosaic Semi
										PUMA2S4000M-35 †	Mosaic Semi
			TTL		240	600	5	48		IDT7MB4066-35	IDT
					560	1800	5	48		CYM1641-35C	Cypress
				Common	80	320	5	50	Stack Family	DPS256X16B-35C	Dense-Pac
										DPS256X16B-35I	Dense-Pac
						360	5	50	Stack Family	DPS256X16B-35M †	Dense-Pac
						320	5	50	Dual Enable	DPS256X16C-35C	Dense-Pac
										DPS256X16C-35I	Dense-Pac
						360	5	50	Dual Enable	DPS256X16C-35M †	Dense-Pac
	45	CMOS			60	230	5	66		PUMA2S4000-45	Mosaic Semi
						270	5	66		PUMA2S4000M-45 †	Mosaic Semi
			TTL		240	600	5	48		IDT7MB4066-45	IDT
					560	1800	5	48		CYM1641-45C	Cypress
										CYM1641-45M †	Cypress
											(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16	45	CMOS	TTL								(Cont'd)	
				Common	80	320	5	50	Stack Family	DPS256X16B-45C	Dense-Pac	
										DPS256X16B-45I	Dense-Pac	
						360	5	50	Stack Family	DPS256X16B-45M †	Dense-Pac	
						320	5	50	Dual Enable	DPS256X16C-45C	Dense-Pac	
										DPS256X16C-45I	Dense-Pac	5
						360	5	50	Dual Enable	DPS256X16C-45M †	Dense-Pac	
	55	CMOS			60	230	5	66		PUMA2S4000-55	Mosaic Semi	
						270	5	66		PUMA2S4000M-55 †	Mosaic Semi	
			TTL		560	1800	5	48		CYM1641-55C	Cypress	
										CYM1641-55M †	Cypress	10
	70		TTL				5	66		DPS128C32V3-70	Dense-Pac	
		CMOS			60	230	5	66		PUMA2S4000-70	Mosaic Semi	
						270	5	66		PUMA2S4000M-70 †	Mosaic Semi	
			TTL		12	220	5	45		IDT7MP4046-70	IDT	
				Common	12	145	5	66		DPS128X32-70C	Dense-Pac	15
										DPS128X32V3-70C	Dense-Pac	
								50		DPS256X16-70C	Dense-Pac	
										DPS256X16A3-70C	Dense-Pac	
	85		TTL				5	66		DPS128C32V3-85	Dense-Pac	
		CMOS	TTL		12	220	5	45		IDT7MP4046-85	IDT	20
						160	5	68		PUMA67S4000-85	Mosaic Semi	
				Common	12	145	5	66		DPS128X32-85C	Dense-Pac	
						155	5	66		DPS128X32-85I	Dense-Pac	
						165	5	66		DPS128X32-85M †	Dense-Pac	
										DPS128X32V3-85B †	Dense-Pac	25
						145	5	66		DPS128X32V3-85C	Dense-Pac	
						155	5	66		DPS128X32V3-85I	Dense-Pac	
						165	5	66		DPS128X32V3-85M †	Dense-Pac	
						145	5	50		DPS256X16-85C	Dense-Pac	
						160	5	50		DPS256X16-85I	Dense-Pac	30
						170	5	50		DPS256X16-85M †	Dense-Pac	
										DPS256X16A3-85B †	Dense-Pac	
						145	5	50		DPS256X16A3-85C	Dense-Pac	
						160	5	50		DPS256X16A3-85I	Dense-Pac	
						170	5	50		DPS256X16A3-85M †	Dense-Pac	35
	100		TTL				5	66		DPS128C32V3-100	Dense-Pac	
		CMOS					5	50		DPS256X16A3-10 †	Dense-Pac	
								44		MS16256FKX-10	Mosaic Semi	
			TTL		12	220	5	45		IDT7MP4046-100	IDT	
				Common	12	145	5	66		DPS128X32-10C	Dense-Pac	40
						155	5	66		DPS128X32-10I	Dense-Pac	
						165	5	66		DPS128X32-10M †	Dense-Pac	
										DPS128X32V3-10B †	Dense-Pac	
						145	5	66		DPS128X32V3-10C	Dense-Pac	
						155	5	66		DPS128X32V3-10I	Dense-Pac	45
						165	5	66		DPS128X32V3-10M †	Dense-Pac	
						145	5	50		DPS256X16-10C	Dense-Pac	
						160	5	50		DPS256X16-10I	Dense-Pac	
						170	5	50		DPS256X16-10M †	Dense-Pac	
										DPS256X16A3-10B †	Dense-Pac	50
						145	5	50		DPS256X16A3-10C	Dense-Pac	
						160	5	50		DPS256X16A3-10I	Dense-Pac	
						170	5	50		DPS256X16A3-10M †	Dense-Pac	
	120		TTL				5	66		DPS128C32V3-120	Dense-Pac	
		CMOS					5	50		DPS256X16A3-12 †	Dense-Pac	55
								44		MS16256FKX-12	Mosaic Semi	
			TTL		12	220	5	45		IDT7MP4046-120	IDT	
				Common	12	145	5	66		DPS128X32-12C	Dense-Pac	
						155	5	66		DPS128X32-12I	Dense-Pac	
						165	5	66		DPS128X32-12M †	Dense-Pac	60
										DPS128X32V3-12B †	Dense-Pac	
						145	5	66		DPS128X32V3-12C	Dense-Pac	
						155	5	66		DPS128X32V3-12I	Dense-Pac	
						165	5	66		DPS128X32V3-12M †	Dense-Pac	
						145	5	50		DPS256X16-12C	Dense-Pac	65
						160	5	50		DPS256X16-12I	Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx16	120	CMOS	TTL	Common	12						(Cont'd)	
						170	5	50		DPS256X16-12M	† Dense-Pac	
										DPS256X16A3-12B	† Dense-Pac	
						145	5	50		DPS256X16A3-12C	Dense-Pac	
						160	5	50		DPS256X16A3-12I	Dense-Pac	
						170	5	50		DPS256X16A3-12M	† Dense-Pac	5
	150		TTL				5	66		DPS128C32V3-150	Dense-Pac	
		CMOS					5	50		DPS256X16A3-15	† Dense-Pac	
								44		MS16256FKX-15	Mosaic Semi	
			TTL	Common	12	145	5	66		DPS128X32-15C	Dense-Pac	
						155	5	66		DPS128X32-15I	Dense-Pac	10
						165	5	66		DPS128X32-15M	† Dense-Pac	
										DPS128X32V3-15B	† Dense-Pac	
						145	5	66		DPS128X32V3-15C	Dense-Pac	
						155	5	66		DPS128X32V3-15I	Dense-Pac	
						165	5	66		DPS128X32V3-15M	† Dense-Pac	15
						145	5	50		DPS256X16-15C	Dense-Pac	
						160	5	50		DPS256X16-15I	Dense-Pac	
						170	5	50		DPS256X16-15M	† Dense-Pac	
										DPS256X16A3-15B	† Dense-Pac	
						145	5	50		DPS256X16A3-15C	Dense-Pac	20
						160	5	50		DPS256X16A3-15I	Dense-Pac	
						170	5	50		DPS256X16A3-15M	† Dense-Pac	
256Kx20	10	CMOS	TTL		300	1000	5	48		IDT7MB4065-10	IDT	
	12	CMOS	TTL		300	1000	5	48		IDT7MB4065-12	IDT	
	15	CMOS	TTL		300	1000	5	48		IDT7MB4065-15	IDT	25
	17	CMOS	TTL		300	1000	5	48		IDT7MB4065-17	IDT	
	20	CMOS	TTL		300	750	5	48		IDT7MB4065-20	IDT	
	25	CMOS	TTL		300	750	5	48		IDT7MB4065-25	IDT	
	30	CMOS	TTL		300	750	5	48		IDT7MB4065-30	IDT	
	35	CMOS	TTL		300	750	5	48		IDT7MB4065-35	IDT	30
	45	CMOS	TTL		300	750	5	48		IDT7MB4065-45	IDT	
			TTL/CMOS	Common			5	50	DIP	DPS256X20-45	Dense-Pac	
256Kx32	15	BiCMOS	TTL		600	1600	5	64		IDT7M4077-15	IDT	
					720	1760	5	64		IDT7M4077-15M	† IDT	
	17	BiCMOS	TTL		600	1600	5	64		IDT7M4077-17	IDT	35
					720	1760	5	64		IDT7M4077-17M	† IDT	
	20	BiCMOS	TTL		600	1600	5	64		IDT7M4077-20	IDT	
					720	1760	5	64		IDT7M4077-20M	† IDT	
		CMOS	TTL			620	5	68		PUMA67S4000L-020	Mosaic Semi	
										PUMA67S4000LI-020	Mosaic Semi	40
										PUMA67S4000LM-020	† Mosaic Semi	
										PUMA67S4000LMB-020	† Mosaic Semi	
					0.08	1200	5	60		MS32256L-020	Mosaic Semi	
					16	1200	5	60		MS32256-020	Mosaic Semi	
										MS32256I-020	Mosaic Semi	45
					40	620	5	68		PUMA67S4000-020	Mosaic Semi	
										PUMA67S4000I-020	Mosaic Semi	
										PUMA67S4000M-020	† Mosaic Semi	
										PUMA67S4000MB-020	† Mosaic Semi	
					160	1360	5	64		MCM32257-20	Motorola	50
					480	1120	5	64		CYM1841-20C	Cypress	
					1200	480	5	60		IDT7MB4067-20	IDT	
								64		IDT7MP4045-20	IDT	
				Common	160	640	5	66		DPS256X32BV3-20C	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS256X32BV3-20	† Dense-Pac	55
	25	BiCMOS	TTL		600	1600	5	64		IDT7M4077-25	IDT	
					720	1760	5	64		IDT7M4077-25M	† IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx32	25										(Cont'd)	
		CMOS					5	64		MH25632NZ-25	Mitsubishi	
			TTL			620	5	68		PUMA67S4000L-025	Mosaic Semi	
										PUMA67S4000LI-025	Mosaic Semi	
										PUMA67S4000LM-025 †	Mosaic Semi	
										PUMA67S4000LMB-025 †	Mosaic Semi	5
					0.08	1200	5	60		MS32256L-025	Mosaic Semi	
					16	1200	5	60		MS32256-025	Mosaic Semi	
										MS32256I-025	Mosaic Semi	
					40	620	5	68		PUMA67S4000-025	Mosaic Semi	
										PUMA67S4000I-025	Mosaic Semi	10
										PUMA67S4000M-025 †	Mosaic Semi	
										PUMA67S4000MB-025 †	Mosaic Semi	
					160	1200	5	64		MCM32257-25	Motorola	
					320	1120	5	60		CYM1840-25C	Cypress	
					480	960	5	64		CYM1841-25C	Cypress	15
					1200	480	5	60		IDT7MB4067-25	IDT	
								64		IDT7MP4045-25	IDT	
				Common	160	700	5	66		DPS256X32BV3-25B †	Dense-Pac	
						640	5	66		DPS256X32BV3-25C	Dense-Pac	
										DPS256X32BV3-25I	Dense-Pac	20
						700	5	66		DPS256X32BV3-25M †	Dense-Pac	
			TTL/CMOS									
				Common			5	66	PGA	DPS256X32BV3-25 †	Dense-Pac	
	30						5	60		**LI25632-30**	**Peps (3706)**	
		BiCMOS										
			TTL		600	1600	5	64		IDT7M4077-30	IDT	
					720	1760	5	64		IDT7M4077-30M †	IDT	25
		CMOS	TTL		320	1120	5	60		CYM1840-30C	Cypress	
					480	960	5	64		CYM1841-30C	Cypress	
					1200	480	5	60		IDT7MB4067-30	IDT	
								64		IDT7MP4045-30	IDT	
	35	BiCMOS										
			TTL		600	1600	5	64		IDT7M4077-35	IDT	30
					720	1760	5	64		IDT7M4077-35M †	IDT	
		CMOS					5	64		MH25632NZ-35	Mitsubishi	
			TL/CMOS									
				Common			5	66	PGA	DPS256X32BV3-35 †	Dense-Pac	
			TTL			620	5	68		PUMA67S4000L-35	Mosaic Semi	
										PUMA67S4000LI-35	Mosaic Semi	35
										PUMA67S4000LM-35 †	Mosaic Semi	
										PUMA67S4000LMB-35 †	Mosaic Semi	
					0.08	1200	5	60		MS32256L-35	Mosaic Semi	
					16	1200	5	60		MS32256-35	Mosaic Semi	
										MS32256I-35	Mosaic Semi	40
					40	620	5	68		PUMA67S4000-35	Mosaic Semi	
										PUMA67S4000I-35	Mosaic Semi	
										PUMA67S4000M-35 †	Mosaic Semi	
										PUMA67S4000MB-35 †	Mosaic Semi	
					160	1120	5	64		MCM32257-35	Motorola	45
					320	1120	5	60		CYM1840-35C	Cypress	
					480	960	5	64		CYM1841-35C	Cypress	
					1200	480	5	60		IDT7MB4067-35	IDT	
								64		IDT7MP4045-35	IDT	
				Common	160	700	5	66		DPS256X32BV3-35B †	Dense-Pac	50
						640	5	66		DPS256X32BV3-35C	Dense-Pac	
										DPS256X32BV3-35I	Dense-Pac	
						700	5	66		DPS256X32BV3-35M †	Dense-Pac	
	45						5	60		**LI25632-45**	**Peps (3706)**	
		BiCMOS										
			TTL		600	1600	5	64		IDT7M4077-45	IDT	55
					720	1760	5	64		IDT7M4077-45M †	IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Modules											**(Cont'd)**	
256Kx32	45										(Cont'd)	
		CMOS	TTL		0.08	1200	5	60		MS32256L-45	Mosaic Semi	
					16	1200	5	60		MS32256-45	Mosaic Semi	
										MS32256I-45	Mosaic Semi	
					320	1120	5	60		CYM1840-45C	Cypress	
					480	960	5	64		CYM1841-45C	Cypress	5
					1200	480	5	60		IDT7MB4067-45	IDT	
								64		IDT7MP4045-45	IDT	
				Common	160	700	5	66		DPS256X32BV3-45B †	Dense-Pac	
						640	5	66		DPS256X32BV3-45C	Dense-Pac	
										DPS256X32BV3-45I	Dense-Pac	10
						700	5	66		DPS256X32BV3-45M †	Dense-Pac	
	55						5	60		**LI25632-55**	**Peps (3706)**	
		BiCMOS	TTL		600	1600	5	64		IDT7M4077-55	IDT	
					720	1760	5	64		IDT7M4077-55M †	IDT	
		CMOS	TTL		320	1120	5	60		CYM1840-55C	Cypress	15
					480	960	5	64		CYM1841-55C	Cypress	
	70						5	60		**LI25632-70**	**Peps (3706)**	
		CMOS	TTL	Common	24	285	5	66		DPS256X32-70C	Dense-Pac	
	85	CMOS	TTL	Common	24	285	5	66		DPS256X32-85C	Dense-Pac	
						305	5	66		DPS256X32-85I	Dense-Pac	20
						325	5	66		DPS256X32-85M †	Dense-Pac	
	100						5	60		**LI25632-100**	**Peps (3706)**	
		CMOS	TTL		1600	480	5	64		IDT7MP4045-10	IDT	
				Common	24	285	5	66		DPS256X32-10C	Dense-Pac	
						305	5	66		DPS256X32-10I	Dense-Pac	25
						325	5	66		DPS256X32-10M †	Dense-Pac	
	120						5	60		**LI25632-120**	**Peps (3706)**	
		CMOS	TTL		1600	480	5	64		IDT7MP4045-12	IDT	
				Common	24	285	5	66		DPS256X32-12C	Dense-Pac	
						305	5	66		DPS256X32-12I	Dense-Pac	30
						325	5	66		DPS256X32-12M †	Dense-Pac	
	150	CMOS	TTL		1600	480	5	64		IDT7MP4045-15	IDT	
				Common	24	285	5	66		DPS256X32-15C	Dense-Pac	
						305	5	66		DPS256X32-15I	Dense-Pac	
						325	5	66		DPS256X32-15M †	Dense-Pac	35
	170	CMOS	TTL		1600	480	5	64		IDT7MP4045-17	IDT	
256Kx36	12	BiCMOS	TTL			1750	5	80		MCM44A256-12	Motorola	
										MCM44B256-12	Motorola	
										MCM44C256-12	Motorola	
										MCM44D256-12	Motorola	40
	15	BiCMOS	TTL			1750	5	80		MCM44A256-15	Motorola	
										MCM44B256-15	Motorola	
										MCM44C256-15	Motorola	
										MCM44D256-15	Motorola	
	17	BiCMOS	TTL			1750	5	80		MCM44A256-17	Motorola	45
										MCM44B256-17	Motorola	
										MCM44C256-17	Motorola	
										MCM44D256-17	Motorola	
256Kx8	10	CMOS	TTL		120	400	5	32		IDT7MB4068-10	IDT	
										IDT7M4068-10	IDT	50
				Separate	560	1520	5	42		IDT7MP4034-10	IDT	
	12	CMOS	TTL		120	400	5	32		IDT7MB4068-12	IDT	
										IDT7M4068-12	IDT	
				Separate	560	1520	5	42		IDT7MP4034-12	IDT	
	15	CMOS	TTL		120	400	5	32		IDT7MB4068-15	IDT	55
										IDT7M4068-15	IDT	
					320	1200	5	60		MCM8256-15	Motorola	
				Separate	320	1200	5	42		IDT7MP4034-15	IDT	
			TTL/CMOS	Separate			5	44	ZIP	DPS8256P8-15	Dense-Pac	
											(Continued)	

MEMORY

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
Static—Modules											**(Cont'd)**
256Kx8											(Cont'd)
	17	CMOS	TTL		120	400	5	32		IDT7MB4068-17	IDT
										IDT7M4068-17	IDT
				Separate	320	1200	5	42		IDT7MP4034-17	IDT
	20	CMOS	TTL		0.08	1200	5	60		MS32256LI-020	Mosaic Semi
					120	400	5	32		IDT7MB4068-20	IDT
										IDT7M4068-20	IDT
					320	1120	5	60		MCM8256-20	Motorola
				Common	40	160	5	48		DPS128X16BJ3-20C	Dense-Pac
									Stack Family	DPS128X16C-20C	Dense-Pac
				Separate	320	1200	5	42		IDT7MP4034-20	IDT
			TTL/CMOS	Separate			5	44	ZIP	DPS8256P8-20	Dense-Pac
	25	CMOS					5	32		MS8256FK-25	Mosaic Semi
			TTL		0.08	1200	5	60		MS32256LI-025	Mosaic Semi
					120	300	5	32		IDT7MB4068-25	IDT
										IDT7M4068-25	IDT
					240	350	5	42		DPS256Q8-25C	Dense-Pac
					280	405	5	42		DPS256Q8-25I	Dense-Pac
										DPS256Q8-25M †	Dense-Pac
				Common	40	180	5	48		DPS128X16BJ3-25B †	Dense-Pac
						160	5	48		DPS128X16BJ3-25C	Dense-Pac
										DPS128X16BJ3-25I	Dense-Pac
						180	5	48		DPS128X16BJ3-25M †	Dense-Pac
						160	5	48	Stack Family	DPS128X16C-25C	Dense-Pac
										DPS128X16C-25I	Dense-Pac
						180	5	48	Stack Family	DPS128X16C-25M †	Dense-Pac
				Separate	80	1120	5	44		DPS8256P8-25C	Dense-Pac
					320	960	5	60		CYM1441-25C	Cypress
						1200	5	42		IDT7MP4034-25	IDT
	30						5	32		**S256KX8-30**	**Peps (3706)**
								54		**1PE0176-30**	**Peps (3706)**
		CMOS					5	32		MS8256FK-30	Mosaic Semi
			TTL		120	300	5	32		IDT7MB4068-30	IDT
										IDT7M4068-30	IDT
				Common	40	180	5	48		DPS128X16BJ3-30B †	Dense-Pac
						160	5	48		DPS128X16BJ3-30C	Dense-Pac
										DPS128X16BJ3-30I	Dense-Pac
						180	5	48		DPS128X16BJ3-30M †	Dense-Pac
						160	5	48	Stack Family	DPS128X16C-30C	Dense-Pac
										DPS128X16C-30I	Dense-Pac
						180	5	48	Stack Family	DPS128X16C-30M †	Dense-Pac
	35	CMOS					5	32		MS8256FK-35	Mosaic Semi
			TTL		0.08	1200	5	60		MS32256LI-35	Mosaic Semi
					16	360	5	60		DPS6433-35C	Dense-Pac
						415	5	60		DPS6433-35I	Dense-Pac
										DPS6433-35M †	Dense-Pac
					120	300	5	32		IDT7MB4068-35	IDT
					240	350	5	42		DPS256Q8-35C	Dense-Pac
					280	405	5	42		DPS256Q8-35I	Dense-Pac
										DPS256Q8-35M †	Dense-Pac
				Common	40	180	5	48		DPS128X16BJ3-35B †	Dense-Pac
						160	5	48		DPS128X16BJ3-35C	Dense-Pac
										DPS128X16BJ3-35I	Dense-Pac
						180	5	48		DPS128X16BJ3-35M †	Dense-Pac
						160	5	48	Stack Family	DPS128X16C-35C	Dense-Pac
										DPS128X16C-35I	Dense-Pac
						180	5	48	Stack Family	DPS128X16C-35M †	Dense-Pac
				Separate	80	1120	5	44		DPS8256P8-35C	Dense-Pac
					320	960	5	60		CYM1441-35C	Cypress
						1200	5	42		IDT7MP4034-35	IDT
	45						5	32		**S256KX8-45**	**Peps (3706)**
								54		**1PE0176-45**	**Peps (3706)**
		CMOS					5	32		MS8256FK-45	Mosaic Semi
			TTL		0.08	1200	5	60		MS32256LI-45	Mosaic Semi
											(Continued)

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx8	45	CMOS	TTL								(Cont'd)	
					1.2	240	5	32		MSM8256LM-45	† Mosaic Semi	
					16	360	5	60		DPS6433-45C	Dense-Pac	
						415	5	60		DPS6433-45I	Dense-Pac	
										DPS6433-45M	† Dense-Pac	
					60	240	5	32		IDT7MB4068-45B	† IDT	5
										IDT7M4068-45M	† IDT	
					120	300	5	32		IDT7MB4068-45	IDT	
										IDT7M4068-45	IDT	
						240	5	32		MSM8256-45	Mosaic Semi	
										MSM8256M-45	† Mosaic Semi	10
					240	350	5	42		DPS256Q8-45C	Dense-Pac	
					280	405	5	42		DPS256Q8-45I	Dense-Pac	
										DPS256Q8-45M	† Dense-Pac	
				Common	40	180	5	48		DPS128X16BJ3-45B	† Dense-Pac	
						160	5	48		DPS128X16BJ3-45C	Dense-Pac	15
										DPS128X16BJ3-45I	Dense-Pac	
						180	5	48		DPS128X16BJ3-45M	† Dense-Pac	
						160	5	48	Stack Family	DPS128X16C-45C	Dense-Pac	
										DPS128X16C-45I	Dense-Pac	
						180	5	48	Stack Family	DPS128X16C-45M	† Dense-Pac	20
				Separate	80	1120	5	44		DPS8256P8-45C	Dense-Pac	
					320	960	5	60		CYM1441-45C	Cypress	
						1200	5	42		IDT7MP4034-45	IDT	
	55						5	32		**S256KX8-55**	**Peps (3706)**	
								54		**1PE0176-55**	**Peps (3706)**	25
		CMOS					5	32		MS8256FK-55	Mosaic Semi	
										MS8256RKX-55	Mosaic Semi	
			TTL		0.8	110	5	32		MS8256RKXAL-55	Mosaic Semi	
					1.2	240	5	32		MSM8256LM-55	Mosaic Semi	
					16	360	5	60		DPS6433-55C	Dense-Pac	30
						415	5	60		DPS6433-55I	Dense-Pac	
										DPS6433-55M	† Dense-Pac	
					24	110	5	32		MS8256RKXA-55	Mosaic Semi	
					60	240	5	32		IDT7MB4068-55B	† IDT	
										IDT7M4068-55M	† IDT	35
					120	300	5	32		IDT7MB4068-55	IDT	
										IDT7M4068-55	IDT	
						240	5	32		MSM8256M-55	† Mosaic Semi	
					240	350	5	42		DPS256Q8-55C	Dense-Pac	
					280	405	5	42		DPS256Q8-55I	Dense-Pac	40
										DPS256Q8-55M	† Dense-Pac	
				Separate	80	1120	5	44		DPS8256P8-55C	Dense-Pac	
	60	CMOS	TTL		6	110	5	32		IDT7MB4068-60B	† IDT	
										IDT7M4068-60M	† IDT	
					120	300	5	32		IDT7MB4068-60	IDT	45
										IDT7M4068-60	IDT	
	65	CMOS	TTL		6	110	5	32		IDT7M4068-65M	† IDT	
					120	300	5	32		IDT7MB4068-65	IDT	
										IDT7M4068-65	IDT	
	70						5	32		**S256KX8-70**	**Peps (3706)**	50
								54		**1PE0176-70**	**Peps (3706)**	
		CMOS					5	50		DPS128X16A-70	Dense-Pac	
								32		MS8256FK-70	Mosaic Semi	
										MS8256RKX-70	Mosaic Semi	
			TTL		0.8	110	5	32		MS8256RKXAL-70	Mosaic Semi	55
					1.2	240	5	32		MSM8256LM-70	† Mosaic Semi	
					6	110	5	32		IDT7M4068-70M	† IDT	
					16	360	5	60		DPS6433-70C	Dense-Pac	
						415	5	60		DPS6433-70I	Dense-Pac	
										DPS6433-70M	† Dense-Pac	60
					24	110	5	32		MS8256RKXA-70	Mosaic Semi	
					120	300	5	32		IDT7MB4068-70	IDT	
										IDT7M4068-70	IDT	
						240	5	32		MSM8256M-70	† Mosaic Semi	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Modules											**(Cont'd)**	
256Kx8	70	CMOS	TTL								(Cont'd)	
					240	350	5	42		DPS256Q8-70C	Dense-Pac	
					280	405	5	42		DPS256Q8-70I	Dense-Pac	
										DPS256Q8-70M	† Dense-Pac	
				Common	6	75	5	50		DPS128X16-70C	Dense-Pac	
										DPS128X16A3-70C	Dense-Pac	5
	85	CMOS					5	32		MS8256FK-85	Mosaic Semi	
										MS8256FKX-85	Mosaic Semi	
										MS8256RKX-85	Mosaic Semi	
			TTL		0.8	110	5	32		MS8256RKXAL-85	Mosaic Semi	
					6	110	5	32		DPS256S8-85C	Dense-Pac	10
										IDT7M4068-85M	† IDT	
					16	360	5	60		DPS6433-85C	Dense-Pac	
						415	5	60		DPS6433-85I	Dense-Pac	
										DPS6433-85M	† Dense-Pac	
					24	110	5	32		MS8256RKXA-85	Mosaic Semi	15
					240	350	5	42		DPS256Q8-85C	Dense-Pac	
					280	405	5	42		DPS256Q8-85I	Dense-Pac	
										DPS256Q8-85M	† Dense-Pac	
				Common	6	75	5	50		DPS128X16-85C	Dense-Pac	
						80	5	50		DPS128X16-85I	Dense-Pac	20
						85	5	50		DPS128X16-85M	† Dense-Pac	
										DPS128X16A3-85B	† Dense-Pac	
						75	5	50		DPS128X16A3-85C	Dense-Pac	
						80	5	50		DPS128X16A3-85I	Dense-Pac	
						85	5	50		DPS128X16A3-85M	† Dense-Pac	25
	100						5	32		**S256KX8-100**	**Peps (3706)**	
								54		**1PE0176-100**	**Peps (3706)**	
		CMOS					5	32		MS8256-10	Mosaic Semi	
										MS8256FK-10	Mosaic Semi	
										MS8256FKX-10	Mosaic Semi	30
										MS8256RKX-10	Mosaic Semi	
										MS8256SC-10	Mosaic Semi	
			TTL		0.8	110	5	32		MS8256RKXAL-10	Mosaic Semi	
					6	110	5	32		DPS256S8-10C	Dense-Pac	
										DPS256S8-10I	Dense-Pac	35
						120	5	32		DPS256S8-10M	† Dense-Pac	
						110	5	32		IDT7M4068-100M	† IDT	
					16	360	5	60		DPS6433-100C	Dense-Pac	
						415	5	60		DPS6433-100I	Dense-Pac	
										DPS6433-100M	† Dense-Pac	40
					24	110	5	32		MS8256RKXA-10	Mosaic Semi	
					240	350	5	42		DPS256Q8-100C	Dense-Pac	
					280	405	5	42		DPS256Q8-100I	Dense-Pac	
										DPS256Q8-100M	† Dense-Pac	
				Common	6	75	5	50		DPS128X16-10C	Dense-Pac	45
						80	5	50		DPS128X16-10I	Dense-Pac	
						85	5	50		DPS128X16-10M	† Dense-Pac	
										DPS128X16A3-10B	† Dense-Pac	
						75	5	50		DPS128X16A3-10C	Dense-Pac	
						80	5	50		DPS128X16A3-10I	Dense-Pac	50
						85	5	50		DPS128X16A3-10M	† Dense-Pac	
	120						5	32		**S256KX8-120**	**Peps (3706)**	
								54		**1PE0176-120**	**Peps (3706)**	
		CMOS					5	32		MS8256FK-12	Mosaic Semi	
										MS8256FKX-12	Mosaic Semi	55
										MS8256RKX-12	Mosaic Semi	
										MS8256SC-12	Mosaic Semi	
			TTL		0.8	110	5	32		MS8256RKXAL-12	Mosaic Semi	
					6	110	5	32		DPS256S8-12C	Dense-Pac	
										DPS256S8-12I	Dense-Pac	60
						120	5	32		DPS256S8-12M	† Dense-Pac	
						110	5	32		IDT7M4068-120M	† IDT	
					16	75	5	42		DPS256Q8-120C	Dense-Pac	
						80	5	42		DPS256Q8-120I	Dense-Pac	
						85	5	42		DPS256Q8-120M	† Dense-Pac	65
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
256Kx8	120	CMOS	TTL								(Cont'd)	
					20	75	5	60		DPS6433-120C	Dense-Pac	
						80	5	60		DPS6433-120I	Dense-Pac	
						85	5	60		DPS6433-120M	† Dense-Pac	
										DPS6434-120M	† Dense-Pac	
					24	110	5	32		MS8256RKXA-12	Mosaic Semi	5
				Common	6	75	5	50		DPS128X16-12C	Dense-Pac	
						80	5	50		DPS128X16-12I	Dense-Pac	
						85	5	50		DPS128X16-12M	† Dense-Pac	
										DPS128X16A3-12B	† Dense-Pac	
						75	5	50		DPS128X16A3-12C	Dense-Pac	10
						80	5	50		DPS128X16A3-12I	Dense-Pac	
						85	5	50		DPS128X16A3-12M	† Dense-Pac	
	150	CMOS					5	32		MS8256SC-15	Mosaic Semi	
			TTL		0.8	110	5	32		MS8256RKXAL-15	Mosaic Semi	
					6	110	5	32		DPS256S8-15C	Dense-Pac	15
										DPS256S8-15I	Dense-Pac	
						120	5	32		DPS256S8-15M	† Dense-Pac	
					16	75	5	42		DPS256Q8-150C	Dense-Pac	
						80	5	42		DPS256Q8-150I	Dense-Pac	
						85	5	42		DPS256Q8-150M	† Dense-Pac	20
					20	75	5	60		DPS6433-150C	Dense-Pac	
						80	5	60		DPS6433-150I	Dense-Pac	
						85	5	60		DPS6433-150M	† Dense-Pac	
					24	110	5	32		MS8256RKXA-15	Mosaic Semi	
				Common	6	75	5	50		DPS128X16-15C	Dense-Pac	25
						80	5	50		DPS128X16-15I	Dense-Pac	
						85	5	50		DPS128X16-15M	† Dense-Pac	
										DPS128X16A3-15B	† Dense-Pac	
						75	5	50		DPS128X16A3-15C	Dense-Pac	
						80	5	50		DPS128X16A3-15I	Dense-Pac	30
						85	5	50		DPS128X16A3-15M	† Dense-Pac	
256Kx86	120	CMOS	TTL		20	80	5	60		DPS6434-120I	Dense-Pac	
256Kx9	10	CMOS	TTL	Separate	630	1710	5	44		IDTMB4040-10	IDT	
	12	CMOS	TTL	Separate	630	1710	5	44		IDTMB4040-12	IDT	
	15	CMOS	TTL	Separate	360	1350	5	44		IDTMB4040-15	IDT	35
	17	CMOS	TTL	Separate	360	1350	5	44		IDTMB4040-17	IDT	
	20	CMOS	TTL	Separate	360	1350	5	44		IDTMB4040-20	IDT	
	25	CMOS	TTL	Separate	360	1350	5	44		IDTMB4040-25	IDT	
	30	CMOS	TTL	Separate	350	1125	5	44		CYM1540-30C	Cypress	
	35	CMOS	TTL	Separate	350	1125	5	44		CYM1540-35C	Cypress	40
					360	1350	5	44		IDTMB4040-35	IDT	
	45	CMOS	TTL	Separate	350	1125	5	44		CYM1540-45C	Cypress	
512Kx8	15	CMOS	TTL		195		5	80	Supports R4000 CPU	EDI8F44128C-15C	EDI	
	20	CMOS	TTL		195	1900	5	80		EDI8F44128C-20C	EDI	
				Common	240	400	5	48		EDI8F16256-20C	EDI	45
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-20	† Dense-Pac	
								50	PGA	DPS256X16BA3-20	† Dense-Pac	
	25	CMOS	TTL		25	300	5	32		EDI8M8512C-25C	EDI	
					160	1200	5	48		EDI8M16256C-25B	† EDI	
								60		EDI8M32256C-25B	† EDI	50
					195	1800	5	80		EDI8F44128C-25C	EDI	
				Common	240	400	5	48		EDI8F16256-25C	EDI	
			TTL/CMOS	Common			5	66	PGA	DPS128X32BV3-25	† Dense-Pac	
								50	PGA	DPS256X16BA3-25	† Dense-Pac	
	25–120	CMOS			60	150	5	32		WS512K8-XXX	† White Tech	55
	30	CMOS	TTL		25	300	5	32		EDI8M8512C-30C	EDI	
					120	250	5	32		CYM1466-30M	† Cypress	
					160	1200	5	48		EDI8M16256C-30B	† EDI	
								60		EDI8M32256C-30B	† EDI	
				Common	240	400	5	48		EDI8F16256-30C	EDI	60
	35	CMOS					5	32		MS8512-35	Mosaic Semi	
			TTL		10	210	5	32		EDI8M8512C-35B	† EDI	
						200	5	32		EDI8M8512C-35C	EDI	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	35	CMOS	TTL								(Cont'd)	
					160	1200	5	48		EDI8M16256C-35B †	EDI	
								60		EDI8M32256C-35B †	EDI	
				Separate	560	625	5	36		CYM1460-35C	Cypress	
			TTL/CMOS				5	66	PGA	DPS512X16AV3-35	Dense-Pac	
								50	PGA	DPS512X8AA3-35	Dense-Pac	5
								66	PGA	DPS512X8AV3-35	Dense-Pac	
				Common			5	66	PGA	DPS128X32BV3-35 †	Dense-Pac	
								50	PGA	DPS256X16BA3-35 †	Dense-Pac	
										DPS256X16BA3-35 †	Dense-Pac	
	45	CMOS					5	50		DPS512S8AA3-45	Dense-Pac	10
								32		MS8512-45	Mosaic Semi	
			TTL		10	210	5	32		EDI8M8512C-45B †	EDI	
						200	5	32		EDI8M8512C-45C	EDI	
					80	550	5	36		EDI8F8513C-45C	EDI	
					160	1200	5	48		EDI8M16256C-45B †	EDI	15
								60		EDI8M32256C-45B †	EDI	
				Common	240	400	5	48		EDI8F16256-45C	EDI	
				Separate	560	625	5	36		CYM1460-45C	Cypress	
			TTL/CMOS				5	66	PGA	DPS512X16AV3-45 †	Dense-Pac	
								50	PGA	DPS512X8AA3-45 †	Dense-Pac	20
								66	PGA	DPS512X8AV3-45 †	Dense-Pac	
	55	CMOS					5	50		DPS512S8AA3-55	Dense-Pac	
								36		MS8512-55	Mosaic Semi	
			TTL		10	210	5	32		EDI8M8512C-55B †	EDI	
						200	5	32		EDI8M8512C-55C	EDI	25
					80	550	5	36		EDI8F8513C-55C	EDI	
					160	1200	5	48		EDI8M16256C-55B †	EDI	
								60		EDI8M32256C-55B †	EDI	
				Common	240	400	5	48		EDI8F16256-55C	EDI	
				Separate	560	625	5	36		CYM1460-55C	Cypress	30
			TTL/CMOS				5	66	PGA	DPS512X16AV3-55 †	Dense-Pac	
								50	PGA	DPS512X8AA3-55 †	Dense-Pac	
								66	PGA	DPS512X8AV3-55 †	Dense-Pac	
	70	CMOS					5	32		CYM1466-70C	Cypress	
								50		DPS512S8-70 †	Dense-Pac	35
										DPS512S8AA3-70	Dense-Pac	
								66		DPS512X8AV3-70	Dense-Pac	
								50		DPS512X8A3-70 †	Dense-Pac	
								36		MS8512-70	Mosaic Semi	
			TTL			280	5	72		DS2227-70	Dallas	40
					0.4	130	5	36		EDI8F8512LP-70C	EDI	
										EDI8F8512LP-70I	EDI	
					10	210	5	32		EDI8M8512C-70B †	EDI	
						200	5	32		EDI8M8512C-70C	EDI	
					50	150	5	36		CYM1461-70C	Cypress	45
					55	130	5	36		EDI8F8512C-70C	EDI	
										EDI8F8512C-70I	EDI	
					80	550	5	36		EDI8F8513C-70C	EDI	
					160	1200	5	48		EDI8M16256C-70B †	EDI	
				Separate	560	625	5	36		CYM1460-70C	Cypress	50
	85	CMOS					5	32		CYM1465L-85C	Cypress	
								50		DPS512S8AA3-85	Dense-Pac	
										DPS512X8A3-85 †	Dense-Pac	
								66		DPS512X8V3-85 †	Dense-Pac	
								32		EDI8F8512C85B6C	EDI	55
										EDI8F8512L85B6C	EDI	
								36		MS8512-85	Mosaic Semi	
			TTL		0.4	130	5	36		EDI8F8512LP-85C	EDI	
										EDI8F8512LP-85I	EDI	
								32		EDI8M8512LP-85C	EDI	60
					5	130	5	32		EDI8M8512C-85C	EDI	
										EDI8M8512LP-85B †	EDI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	85	CMOS	TTL								(Cont'd)	
					10	130	5	32		EDI8M8512C-85B †	EDI	
					50	150	5	36		CYM1461-85C	Cypress	
					55	130	5	36		EDI8F8512C-85C	EDI	
										EDI8F8512C-85I	EDI	
	90	CMOS					5	32		EDI8M8512C90B †	EDI	5
										EDI8M8512C90C	EDI	
	100	CMOS					5	32		CYM1465L-100C	Cypress	
								50		DPS512S8AA3-10	Dense-Pac	
										DPS512X8A3-10 †	Dense-Pac	
								66		DPS512X8V3-10 †	Dense-Pac	10
								32		EDI8M8512C100B †	EDI	
										EDI8M8512C100C	EDI	
										MS8512-10	Mosaic Semi	
										RC1466	Rochester	
			TTL			280	5	72		DS2227-100	Dallas	15
					0.4	130	5	36		EDI8F8512LP-100C	EDI	
										EDI8F8512LP-100I	EDI	
								32		EDI8M8512LP-100C	EDI	
					5	130	5	32		EDI8M8512C-100C	EDI	
										EDI8M8512LP-100B †	EDI	20
					10	130	5	32		EDI8M8512C-100B †	EDI	
					50	150	5	36		CYM1461-100C	Cypress	
					55	130	5	36		EDI8F8512C-100C	EDI	
										EDI8F8512C-100I	EDI	
	120						5	32		S512KX8	Peps	25
		CMOS					5	32		CYM1465L-120C	Cypress	
								50		DPS512X8A3-12 †	Dense-Pac	
								66		DPS512X8V3-12 †	Dense-Pac	
								32		EDI8M8512C120B †	EDI	
										EDI8M8512C120C	EDI	30
										MS8512-12	Mosaic Semi	
			TTL			280	5	72		DS2227-120	Dallas	
					0.4	130	5	36		EDI8F8512LP-120	EDI	
										EDI8F8512LP-120I	EDI	
								32		EDI8M8512LP-120C	EDI	35
					5	130	5	32		EDI8M8512C-120C	EDI	
					10	130	5	32		EDI8M8512C-120B †	EDI	
					55	130	5	36		EDI8F8512C-120C	EDI	
										EDI8F8512C-120I	EDI	
	135	CMOS					5	32		DPS512S8N-135 †	Dense-Pac	40
	150	CMOS					5	32		CYM1465L-150C	Cypress	
								50		DPS512X8A3-15 †	Dense-Pac	
								66		DPS512X8V3-15 †	Dense-Pac	
								32		EDI8F8512C150B6C	EDI	
										EDI8M8512C150B †	EDI	45
										MS8512-15	Mosaic Semi	
			TTL		0.4	130	5	36		EDI8F8512LP-150C	EDI	
										EDI8F8512LP-150I	EDI	
								32		EDI8M8512LP-150C	EDI	
					5	130	5	32		EDI8M8512C-150C	EDI	50
										EDI8M8512LP-150B †	EDI	
					10	130	5	32		EDI8M8512C-150B †	EDI	
					55	130	5	36		EDI8F8512C-150C	EDI	
										EDI8F8512C-150I	EDI	
512Kx16	20	CMOS	TTL/CMOS	Common			5	50	PGA	DPS512X16BA3-20 †	Dense-Pac	55
	25	CMOS	TTL/CMOS	Common			5	50	PGA	DPS512X16BA3-25 †	Dense-Pac	
	35	CMOS	TTL/CMOS	Common			5	50	PGA	DPS512X16BA3-35	Dense-Pac	
	70	CMOS					5	66		DPS512X16AV3-70	Dense-Pac	
	85	CMOS	TTL		0.01	60	5	80		DS2229-85	Dallas	
	100	CMOS	TTL		0.01	60	5	80		DS2229-100	Dallas	60
512Kx24	45	CMOS	TTL/CMOS				5	66	PGA	DPS512X24AV3-45 †	Dense-Pac	
	55	CMOS	TTL/CMOS				5	66	PGA	DPS512X24AV3-55 †	Dense-Pac	
	70	CMOS					5	66		DPS512X24V3-70 †	Dense-Pac	
	85	CMOS					5	66		DPS512X24V3-85 †	Dense-Pac	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx24											(Cont'd)	
	100	CMOS					5	66		DPS512X24V3-100 †	Dense-Pac	
	120	CMOS					5	66		DPS512X24V3-120 †	Dense-Pac	
	150	CMOS					5	66		DPS512X24V3-150 †	Dense-Pac	
512Kx32	45	CMOS	TTL/CMOS	TS			5	66	PGA	DPS512X32A-45 †	Dense-Pac	
512Kx16	20	CMOS	TTL			360	5	68		PUMA67S4000L-020	Mosaic Semi	5
										PUMA67S4000LI-020	Mosaic Semi	
										PUMA67S4000LM-020 †	Mosaic Semi	
										PUMA67S4000LMB-020 †	Mosaic Semi	
					0.08	840	5	60		MS32256L-020	Mosaic Semi	
										MS32256LI-020	Mosaic Semi	10
					16	840	5	60		MS32256-020	Mosaic Semi	
										MS32256I-020	Mosaic Semi	
					40	360	5	68		PUMA67S4000-020	Mosaic Semi	
										PUMA67S4000I-020	Mosaic Semi	
										PUMA67S4000M-020 †	Mosaic Semi	15
										PUMA67S4000MB-020 †	Mosaic Semi	
				Common	160	400	5	66		DPS256X32BV3-20C	Dense-Pac	
								50		DPS512X16B-20C	Dense-Pac	
									Dual Enable	DPS512X16C-20C	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS256X32BV3-20 †	Dense-Pac	20
	25	CMOS	TTL			360	5	68		PUMA67S4000L-025	Mosaic Semi	
										PUMA67S4000LI-025	Mosaic Semi	
										PUMA67S4000LM-025 †	Mosaic Semi	
										PUMA67S4000LMB-025 †	Mosaic Semi	
					0.08	840	5	60		MS32256L-025	Mosaic Semi	25
										MS32256LI-025	Mosaic Semi	
					16	840	5	60		MS32256-025	Mosaic Semi	
										MS32256I-025	Mosaic Semi	
					40	360	5	68		PUMA67S4000-025	Mosaic Semi	
										PUMA67S4000I-025	Mosaic Semi	30
										PUMA67S4000M-025 †	Mosaic Semi	
										PUMA67S4000MB-025 †	Mosaic Semi	
				Common	160	410	5	66		DPS256X32BV3-25B †	Dense-Pac	
						400	5	66		DPS256X32BV3-25C	Dense-Pac	
										DPS256X32BV3-25I	Dense-Pac	35
						410	5	66		DPS256X32BV3-25M †	Dense-Pac	
						400	5	50	Dual Enable	DPS512X16B-25C	Dense-Pac	
										DPS512X16B-25I	Dense-Pac	
						440	5	50		DPS512X16B-25M †	Dense-Pac	
						400	5	50	Dual Enable	DPS512X16C-25C	Dense-Pac	40
										DPS512X16C-25I	Dense-Pac	
						440	5	50	Dual Enable	DPS512X16C-25M †	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS256X32BV3-25 †	Dense-Pac	
	30	CMOS	TTL	Common	160	400	5	50		DPS512X16B-30C	Dense-Pac	
										DPS512X16B-30I	Dense-Pac	45
						440	5	50		DPS512X16B-30M †	Dense-Pac	
						400	5	50	Dual Enable	DPS512X16C-30C	Dense-Pac	
										DPS512X16C-30I	Dense-Pac	
						440	5	50	Dual Enable	DPS512X16C-30M †	Dense-Pac	
	35	CMOS	TTL			360	5	68		PUMA67S4000L-35	Mosaic Semi	50
										PUMA67S4000LI-35	Mosaic Semi	
										PUMA67S4000LM-35 †	Mosaic Semi	
										PUMA67S4000LMB-35 †	Mosaic Semi	
					0.08	840	5	60		MS32256L-35	Mosaic Semi	
										MS32256LI-35	Mosaic Semi	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx16	35	CMOS	TTL								(Cont'd)	
					16	840	5	60		MS32256-35	Mosaic Semi	
										MS32256I-35	Mosaic Semi	
					40	360	5	68		PUMA67S4000-35	Mosaic Semi	
										PUMA67S4000I-35	Mosaic Semi	
										PUMA67S4000M-35 †	Mosaic Semi	5
										PUMA67S4000MB-35 †	Mosaic Semi	
				Common	160	410	5	66		DPS256X32BV3-35B †	Dense-Pac	
						400	5	66		DPS256X32BV3-35C	Dense-Pac	
										DPS256X32BV3-35I	Dense-Pac	
						410	5	66		DPS256X32BV3-35M †	Dense-Pac	10
						400	5	50		DPS512X16B-35C	Dense-Pac	
										DPS512X16B-35I	Dense-Pac	
						440	5	50		DPS512X16B-35M †	Dense-Pac	
						400	5	50	Dual Enable	DPS512X16C-35C	Dense-Pac	
										DPS512X16C-35I	Dense-Pac	15
						440	5	50	Dual Enable	DPS512X16C-35M †	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS256X32BV3-35 †	Dense-Pac	
	45	CMOS	TTL		0.08	840	5	60		MS32256L-45	Mosaic Semi	
										MS32256LI-45	Mosaic Semi	
					16	840	5	60		MS32256-45	Mosaic Semi	20
										MS32256I-45	Mosaic Semi	
				Common	160	410	5	66		DPS256X32BV3-45B †	Dense-Pac	
						400	5	66		DPS256X32BV3-45C	Dense-Pac	
										DPS256X32BV3-45I	Dense-Pac	
						410	5	66		DPS256X32BV3-45M †	Dense-Pac	25
						400	5	50		DPS512X16B-45C	Dense-Pac	
										DPS512X16B-45I	Dense-Pac	
						440	5	50		DPS512X16B-45M †	Dense-Pac	
						400	5	50	Dual Enable	DPS512X16C-45C	Dense-Pac	
										DPS512X16C-45I	Dense-Pac	30
						440	5	50	Dual Enable	DPS512X16C-45M †	Dense-Pac	
	70	CMOS	TTL		24	220	5	45		IDT7MP4047-70	IDT	
				Common	24	160	5	66		DPS256X32-70C	Dense-Pac	
								50		DPS512X16-70C	Dense-Pac	
										DPS512X16A3-70C	Dense-Pac	35
	85	CMOS	TTL		24	220	5	45		IDT7MP4047-85	IDT	
				Common	24	160	5	66		DPS256X32-85C	Dense-Pac	
						170	5	66		DPS256X32-85I	Dense-Pac	
						180	5	66		DPS256X32-85M †	Dense-Pac	
						160	5	50		DPS512X16-85C	Dense-Pac	40
						170	5	50		DPS512X16-85I	Dense-Pac	
						180	5	50		DPS512X16-85M †	Dense-Pac	
										DPS512X16A3-85B †	Dense-Pac	
						160	5	50		DPS512X16A3-85C	Dense-Pac	
						170	5	50		DPS512X16A3-85I	Dense-Pac	45
						180	5	50		DPS512X16A3-85M †	Dense-Pac	
	100	CMOS	TTL		0.01	60	5	80		DS2229-120	Dallas	
					24	220	5	45		IDT7MP4047-100	IDT	
				Common	24	160	5	66		DPS256X32-10C	Dense-Pac	
						170	5	66		DPS256X32-10I	Dense-Pac	50
						180	5	66		DPS256X32-10M †	Dense-Pac	
						160	5	50		DPS512X16-10C	Dense-Pac	
						170	5	50		DPS512X16-10I	Dense-Pac	
						180	5	50		DPS512X16-10M †	Dense-Pac	
										DPS512X16A3-10B †	Dense-Pac	55
						160	5	50		DPS512X16A3-10C	Dense-Pac	
						170	5	50		DPS512X16A3-10I	Dense-Pac	
						180	5	50		DPS512X16A3-10M †	Dense-Pac	
	120	CMOS	TTL		24	220	5	45		IDT7MP4047-120	IDT	
				Common	24	160	5	66		DPS256X32-12C	Dense-Pac	60
						170	5	66		DPS256X32-12I	Dense-Pac	
						180	5	66		DPS256X32-12M †	Dense-Pac	
						160	5	50		DPS512X16-12C	Dense-Pac	
						170	5	50		DPS512X16-12I	Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
512Kx16	120	CMOS	TTL	Common	24	180	5	50		DPS512X16-12M †	Dense-Pac	
										DPS512X16A3-12B †	Dense-Pac	
						160	5	50		DPS512X16A3-12C	Dense-Pac	
						170	5	50		DPS512X16A3-12I	Dense-Pac	
						180	5	50		DPS512X16A3-12M †	Dense-Pac	5
	150	CMOS	TTL	Common	24	160	5	66		DPS256X32-15C	Dense-Pac	
						170	5	66		DPS256X32-15I	Dense-Pac	
						180	5	66		DPS256X32-15M †	Dense-Pac	
						160	5	50		DPS512X16-15C	Dense-Pac	
						170	5	50		DPS512X16-15I	Dense-Pac	10
						180	5	50		DPS512X16-15M †	Dense-Pac	
										DPS512X16A3-15B †	Dense-Pac	
						160	5	50		DPS512X16A3-15C	Dense-Pac	
						170	5	50		DPS512X16A3-15I	Dense-Pac	
						180	5	50		DPS512X16A3-15M †	Dense-Pac	15
512Kx32	20	CMOS	TTL	Common	320	800	5	66		DPS512X32BV3-20C	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-20 †	Dense-Pac	
	25	CMOS	TTL	Common	320	880	5	66		DPS512X32BV3-25B	Dense-Pac	
						800	5	66		DPS512X32BV3-25C	Dense-Pac	
										DPS512X32BV3-25I	Dense-Pac	20
						880	5	66		DPS512X32BV3-25M †	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-25 †	Dense-Pac	
	25–120	CMOS	TTL				5	66		**WS512K32-XHX** †	**White Tech (3851)**	
	35	CMOS	TTL	Common	320	880	5	66		DPS512X32BV3-35B	Dense-Pac	
						800	5	66		DPS512X32BV3-35C	Dense-Pac	25
										DPS512X32BV3-35I	Dense-Pac	
						880	5	66		DPS512X32BV3-35M †	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-35 †	Dense-Pac	
	45	CMOS	TTL	Common	320	880	5	66		DPS512X32BV3-45B	Dense-Pac	
										DPS512X32BV3-45B †	Dense-Pac	30
						800	5	66		DPS512X32BV3-45C	Dense-Pac	
										DPS512X32BV3-45I	Dense-Pac	
						880	5	66		DPS512X32BV3-45M †	Dense-Pac	
	70		TTL				5	66		DPS512C32MV3-70	Dense-Pac	
		CMOS	TTL	Common	48	320	5	66		DPS512X32-70C	Dense-Pac	35
										DPS512X32V3-70C	Dense-Pac	
	85		TTL				5	66		DPS512C32MV3-85	Dense-Pac	
		CMOS	TTL	Common	48	320	5	66		DPS512X32-85C	Dense-Pac	
						340	5	66		DPS512X32-85I	Dense-Pac	
						360	5	66		DPS512X32-85M †	Dense-Pac	40
										DPS512X32V3-85B †	Dense-Pac	
						320	5	66		DPS512X32V3-85C	Dense-Pac	
						340	5	66		DPS512X32V3-85I	Dense-Pac	
						360	5	66		DPS512X32V3-85M †	Dense-Pac	
	100		TTL				5	66		DPS512C32MV3-100	Dense-Pac	45
		CMOS	TTL	Common	48	320	5	66		DPS512X32-10C	Dense-Pac	
						340	5	66		DPS512X32-10I	Dense-Pac	
						360	5	66		DPS512X32-10M †	Dense-Pac	
										DPS512X32V3-10B †	Dense-Pac	
						320	5	66		DPS512X32V3-10C	Dense-Pac	50
						340	5	66		DPS512X32V3-10I	Dense-Pac	
						360	5	66		DPS512X32V3-10M †	Dense-Pac	
	120		TTL				5	66		DPS512C32MV3-120	Dense-Pac	
		CMOS	TTL	Common	48	320	5	66		DPS512X32-12C	Dense-Pac	
						340	5	66		DPS512X32-12I	Dense-Pac	55
						360	5	66		DPS512X32-12M †	Dense-Pac	
										DPS512X32V3-12B †	Dense-Pac	
						320	5	66		DPS512X32V3-12C	Dense-Pac	
						340	5	66		DPS512X32V3-12I	Dense-Pac	
						360	5	66		DPS512X32V3-12M †	Dense-Pac	60
	150		TTL				5	66		DPS512C32MV3-150	Dense-Pac	
		CMOS	TTL	Common	48	320	5	66		DPS512X32-15C	Dense-Pac	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx32	150	CMOS	TTL	Common	48						(Cont'd)	
						340	5	66		DPS512X32-15I	Dense-Pac	
						360	5	66		DPS512X32-15M	† Dense-Pac	
										DPS512X32V3-15B	† Dense-Pac	
						320	5	66		DPS512X32V3-15C	Dense-Pac	
						340	5	66		DPS512X32V3-15I	Dense-Pac	5
						360	5	66		DPS512X32V3-15M	† Dense-Pac	
512Kx4	15	CMOS					5	64		MH6432NZ-15	Mitsubishi	
	20	CMOS					5	64		MH6432NZ-20	Mitsubishi	
	100	CMOS					5	32		MH51208ANA-10	Mitsubishi	
										MH51208UNA-10	Mitsubishi	10
512Kx8	10	CMOS	TTL		12	180	5	68		PUMA67S4000-10	Mosaic Semi	
	12	CMOS	TTL		12	180	5	68		PUMA67S4000-12	Mosaic Semi	
	15	BiCMOS	TTL		12	110	5	32		IDT7M4048-15	IDT	
	17	BiCMOS	TTL		120	240	5	32		IDT7M4048-17	IDT	
	20	BiCMOS	TTL		120	240	5	32		IDT7M4048-20	IDT	15
		CMOS			20	340	5	66		PUMA2S4000L-020	Mosaic Semi	
										PUMA2S4000ML-020	† Mosaic Semi	
					220	340	5	66		PUMA2S4000-020	Mosaic Semi	
										PUMA2S4000M-020	† Mosaic Semi	
			TTL		240	350	5	32		CYM1464-20C	Cypress	20
				Common	80	200	5	50	Stack Family	DPS256X16B-20C	Dense-Pac	
									Dual Enable	DPS256X16C-20C	Dense-Pac	
								32	Stack Family	**DPS512S8-20**	**Dense-Pac (3576)**	
	25	BiCMOS	TTL		120	240	5	32		IDT7M4048-25	IDT	
		CMOS			20	340	5	66		PUMA2S4000L-025	Mosaic Semi	25
										PUMA2S4000ML-025	† Mosaic Semi	
					220	340	5	66		PUMA2S4000-025	Mosaic Semi	
										PUMA2S4000M-025	† Mosaic Semi	
				Common	1.9	365	5	32		MS8512FKL-25	Mosaic Semi	
					162	365	5	32		MS8512FK-25	Mosaic Semi	30
			TTL		240	350	5	32		CYM1464-25C	Cypress	
				Common			5	32	Stack Family	**DPS512S8EJ4-25**	**Dense-Pac (3596)**	
					80	200	5	50	Stack Family	DPS256X16B-25C	Dense-Pac	
										DPS256X16B-25I	Dense-Pac	
						220	5	50	Stack Family	DPS256X16B-25M	† Dense-Pac	35
						200	5	50	Dual Enable	DPS256X16C-25C	Dense-Pac	
										DPS256X16C-25I	Dense-Pac	
						220	5	50	Dual Enable	DPS256X16C-25M	† Dense-Pac	
						200	5	32	Stack Family	**DPS512S8-25**	**Dense-Pac (3576)**	
	25–120	CMOS	TTL		200	450	5	66		**WS128K32-XG4X**	**† White Tech (3851)**	40
	25–55	CMOS	TTL				5	32		**WS512K8-XPX**	**White Tech (3851)**	
	30						5	32		**S512KX8-30**	**Peps (3706)**	
		BiCMOS	TTL		120	240	5	32		IDT7M4048-30	IDT	
		CMOS		Common	1.9	365	5	32		MS8512FKL-30	Mosaic Semi	
					162	365	5	32		MS8512FK-30	Mosaic Semi	45
			TTL		240	300	5	32		CYM1464-30C	Cypress	
				Common			5	32	Stack Family	**DPS512S8EJ4-30**	**Dense-Pac (3596)**	
					80	200	5	50	Stack Family	DPS256X16B-30C	Dense-Pac	
										DPS256X16B-30I	Dense-Pac	
						220	5	50	Stack Family	DPS256X16B-30M	† Dense-Pac	50
						200	5	50	Dual Enable	DPS256X16C-30C	Dense-Pac	
										DPS256X16C-30I	Dense-Pac	
						220	5	50	Dual Enable	DPS256X16C-30M	† Dense-Pac	
						200	5	32	Stack Family	**DPS512S8-30**	**Dense-Pac (3576)**	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8											(Cont'd)	
	35	BiCMOS	TTL		120	240	5	32		IDT7M4048-35	IDT	
		CMOS					5	32		CYM1466-35C	Cypress	
					20	340	5	66		PUMA2S4000L-35	Mosaic Semi	
										PUMA2S4000ML-35 †	Mosaic Semi	
					220	340	5	66		PUMA2S4000-35	Mosaic Semi	5
										PUMA2S4000M-35 †	Mosaic Semi	
				Common	1.9	365	5	32		MS8512FKL-35	Mosaic Semi	
					162	365	5	32		MS8512FK-35	Mosaic Semi	
			TTL		120	250	5	32		CYM1466-35M †	Cypress	
					240	300	5	32		CYM1464-35C	Cypress	10
				Common			5	32	Stack Family	**DPS512S8EJ4-35**	**Dense-Pac (3596)**	
					80	200	5	50	Stack Family	DPS256X16B-35C	Dense-Pac	
										DPS256X16B-35I	Dense-Pac	
						220	5	50	Stack Family	DPS256X16B-35M †	Dense-Pac	
						200	5	50	Dual Enable	DPS256X16C-35C	Dense-Pac	15
										DPS256X16C-35I	Dense-Pac	
						220	5	50	Dual Enable	DPS256X16C-35M †	Dense-Pac	
						200	5	32	Stack Family	**DPS512S8-35**	**Dense-Pac (3576)**	
					240	400	5	48		EDI8F16256-35C	EDI	
			TTL/CMOS				5	32	High Speed	**DPS512S8AP-35**	**Dense-Pac (3576)**	20
	45						5	32		**S512KX8-45**	**Peps (3706)**	
		BiCMOS	TTL		120	240	5	32		IDT7M4048-45	IDT	
					250	480	5	32		IDT7MB4048-45	IDT	
		CMOS					5	32		CYM1466-45C	Cypress	
										DPS512S8A-45	**Dense-Pac (3576)**	25
					60	185	5	66		PUMA2S4000-45	Mosaic Semi	
						165	5	66		PUMA2S4000M-45 †	Mosaic Semi	
				Common	0.88	370	5	32		MS8512FKL-45	Mosaic Semi	
					250	370	5	32		MS8512FK-45	Mosaic Semi	
			TTL		120	250	5	32		CYM1466-45M †	Cypress	30
					240	300	5	32		CYM1464-45C	Cypress	
				Common			5	32	Stack Family	**DPS512S8EJ4-45**	**Dense-Pac (3596)**	
					80	200	5	50		DPS256X16B-45C	Dense-Pac	
									Stack Family	DPS256X16B-45I	Dense-Pac	
						220	5	50	Stack Family	DPS256X16B-45M †	Dense-Pac	35
						200	5	50	Dual Enable	DPS256X16C-45C	Dense-Pac	
										DPS256X16C-45I	Dense-Pac	
						220	5	50	Dual Enable	DPS256X16C-45M †	Dense-Pac	
						200	5	32	Stack Family	**DPS512S8-45**	**Dense-Pac (3576)**	
	55						5	32		**S512KX8-55**	**Peps (3706)**	40
		BiCMOS	TTL		120	240	5	32		IDT7M4048-55	IDT	
					250	480	5	32		IDT7MB4048-55	IDT	
		CMOS					5	32		CYM1466-55C	Cypress	
								50		**DPS512S8-55** †	**Dense-Pac (3576)**	
								32		**DPS512S8A-55**	**Dense-Pac (3576)**	45
					50	185	5	66		PUMA2S4000-55	Mosaic Semi	
						165	5	66		PUMA2S4000M-55 †	Mosaic Semi	
				Common	0.88	370	5	32		MS8512FKL-55	Mosaic Semi	
					250	370	5	32		MS8512FK-55	Mosaic Semi	
			TTL		120	250	5	32		CYM1466-55M †	Cypress	50
					240	300	5	32		CYM1464-55C	Cypress	
				Common	95	150	5	48		DPS45128-55C	Dense-Pac	
					105	155	5	48		DPS45128-55I	Dense-Pac	
										DPS45128-55M †	Dense-Pac	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source (Cont'd)	Line
512Kx8	60	BiCMOS	TTL				5	32		IDT7MB4048-60	IDT	
					12	110	5	32		IDT7M4048-60	IDT	
	65	BiCMOS	TTL				5	32		IDT7MB4048-65	IDT	
		CMOS	TTL		12	110	5	32		IDT7M4048-65	IDT	
	70						5	32		**S512KX8-70**	**Peps (3736)**	5
			TTL				5	66		DPS128C32V3-70	Dense-Pac	
		BiCMOS	TTL				5	32		IDT7MB4048-70	IDT	
					12	110	5	32		IDT7M4048-70	IDT	
		CMOS					5	32		**DPS512S8A-70**	**Dense-Pac (3576)**	
					60	185	5	66		PUMA2S4000-70	Mosaic Semi	10
						165	5	66		PUMA2S4000M-70	† Mosaic Semi	
				Common	0.88	370	5	32		MS8512FKL-70	Mosaic Semi	
					250	370	5	32		MS8512FK-70	Mosaic Semi	
			TTL		12	110	5	32		CYM1465-70C	Cypress	
								36		IDT7MP4058-70	IDT	15
					120	250	5	32		CYM1466-70M	† Cypress	
				Common	6	40	5	32	Very Low Power	**DPS512S8PLL-70**	**Dense-Pac (3576)**	
					8	50	5	32	Low Power	**DPS512S8PL-70**	**Dense-Pac (3576)**	
					12	80	5	66		DPS128X32-70C	Dense-Pac	
								50		DPS256X16-70C	Dense-Pac	20
										DPS256X16A3-70C	Dense-Pac	
						50	5	32	Stack Family	**DPS512S8H4-70**	**Dense-Pac (3597)**	
										DPS512S8P-70	**Dense-Pac (3576)**	
					95	150	5	48		DPS45128-70C	Dense-Pac	
					105	155	5	48		DPS45128-70I	Dense-Pac	25
										DPS45128-70M	† Dense-Pac	
	80	CMOS	TTL		12	110	5	36		IDT7MP4058-80	IDT	
	85		TTL				5	66		DPS128C32V3-85	Dense-Pac	
		BiCMOS	TTL				5	32		IDT7MB4048-85	IDT	
					12	110	5	32		IDT7M4048-85	IDT	30
		CMOS					5	32		CYM1466-85C	Cypress	
								50		**DPS512S8-85**	**† Dense-Pac (3576)**	
								32		MH51208ANA-85	Mitsubishi	
										MH51208UNA-85	Mitsubishi	
			TTL		12	110	5	32		CYM1465-85C	Cypress	35
										CYM1465-85I	Cypress	
										DPS512S8-85C	**Dense-Pac (3576)**	
								36		IDT7MP4058-85	IDT	
						180	5	68		PUMA67S4000-85	Mosaic Semi	
					15	110	5	32		CYM1466-85M	† Cypress	40
				Common	6	40	5	32	Very Low Power	**DPS512S8PLL-85**	**Dense-Pac (3576)**	
					8	50	5	32	Low Power	**DPS512S8PL-85**	**Dense-Pac (3576)**	
					12	80	5	66		DPS128X32-85C	Dense-Pac	
						85	5	66		DPS128X32-85I	Dense-Pac	
						90	5	66		DPS128X32-85M	† Dense-Pac	45
						320	5	66		DPS128X32V3-85B°	† Dense-Pac	
						280	5	66		DPS128X32V3-85C	Dense-Pac	
						300	5	66		DPS128X32V3-85I	Dense-Pac	
						320	5	66		DPS128X32V3-85M	† Dense-Pac	
						80	5	50		DPS256X16-85C	Dense-Pac	50
						85	5	50		DPS256X16-85I	Dense-Pac	
						90	5	50		DPS256X16-85M	† Dense-Pac	
										DPS256X16A3-85B	† Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	85	CMOS	TTL	Common	12						(Cont'd)	
						80	5	50		DPS256X16A3-85C	Dense-Pac	
						85	5	50		DPS256X16A3-85I	Dense-Pac	
						90	5	50		DPS256X16A3-85M	† Dense-Pac	
						50	5	32	Stack Family	**DPS512S8H4-85**	**Dense-Pac (3597)**	
										DPS512S8P-85	**Dense-Pac (3576)**	5
						89	5	32		MC434000-85	NEC	
					95	150	5	48		DPS45128-85C	Dense-Pac	
					105	155	5	48		DPS45128-85I	Dense-Pac	
										DPS45128-85M	† Dense-Pac	
	100						5	32		**S512KX8-100**	**Peps (3706)**	10
			TTL				5	66		DPS128C32V3-100	Dense-Pac	
		BiCMOS	TTL				5	32		IDT7MB4048-100	IDT	
					12	110	5	32		IDT7M4048-100	IDT	
		CMOS					5	32		CYM1466-100C	Cypress	
			TTL		12	110	5	32		CYM1465-100C	Cypress	15
										CYM1465-100I	Cypress	
										DPS512S8-10C	**Dense-Pac (3576)**	
										DPS512S8-10I	**Dense-Pac (3576)**	
						120	5	32		**DPS512S8-10M**	**† Dense-Pac (3576)**	
						110	5	36		IDT7MP4058-100	IDT	20
					15	110	5	32		CYM1466-100M	† Cypress	
				Common	6	40	5	32	Very Low Power	**DPS512S8PLL-10**	**Dense-Pac (3576)**	
					8	50	5	32	Low Power	**DPS512S8PL-10**	**Dense-Pac (3576)**	
					12	80	5	66		DPS128X32-10C	Dense-Pac	
						85	5	66		DPS128X32-10I	Dense-Pac	25
						90	5	66		DPS128X32-10M	† Dense-Pac	
						320	5	66		DPS128X32V3-10B	† Dense-Pac	
						280	5	66		DPS128X32V3-10C	Dense-Pac	
						300	5	66		DPS128X32V3-10I	Dense-Pac	
						320	5	66		DPS128X32V3-10M	† Dense-Pac	30
						80	5	50		DPS256X16-10C	Dense-Pac	
						85	5	50		DPS256X16-10I	Dense-Pac	
						90	5	50		DPS256X16-10M	† Dense-Pac	
										DPS256X16A3-10B	† Dense-Pac	
						80	5	50		DPS256X16A3-10C	Dense-Pac	35
						85	5	50		DPS256X16A3-10I	Dense-Pac	
						90	5	50		DPS256X16A3-10M	† Dense-Pac	
						50	5	32	Stack Family	**DPS512S8H4-10**	**Dense-Pac (3597)**	
										DPS512S8P-10	**† Dense-Pac (3576)**	
						89	5	32		MC434000-10	NEC	40
					16	90	5	50		DPS512S8A3-10	† Dense-Pac	
										DPS512S8A3-10C	Dense-Pac	
					95	150	5	48		DPS45128-100C	Dense-Pac	
					105	155	5	48		DPS45128-100I	Dense-Pac	
										DPS45128-100M	† Dense-Pac	45
	120						5	32		**S512KX8-120**	**Peps (3706)**	
			TTL				5	66		DPS128C32V3-120	Dense-Pac	
		BiCMOS	TTL				5	32		IDT7MB4048-120	IDT	
					12	110	5	32		IDT7M4048-120	IDT	
		CMOS					5	32		CYM1466-120C	Cypress	50
									(128Kx8)x4	MH51208ANA-12	Mitsubishi	
										MH51208UNA-12	Mitsubishi	
			TTL		12	110	5	32		CYM1465-120C	Cypress	
										CYM1465-120I	Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Modules											**(Cont'd)**	
512Kx8	120	CMOS	TTL		12	110	5	32			(Cont'd)	
										DPS512S8-12C	**Dense-Pac (3576)**	
										DPS512S8-12I	**Dense-Pac (3576)**	
						120	5	32		**DPS512S8-12M**	† **Dense-Pac (3576)**	
						110	5	36		IDT7MP4058-120	IDT	
					15	110	5	32		CYM1466-120M	† Cypress	5
				Common	6	40	5	32	Very Low Power	**DPS512S8PLL-12**	**Dense-Pac (3576)**	
					8	50	5	32	Low Power	**DPS512S8PL-12**	**Dense-Pac (3576)**	
					12	80	5	66		DPS128X32-12C	Dense-Pac	
						85	5	66		DPS128X32-12I	Dense-Pac	
						90	5	66		DPS128X32-12M	† Dense-Pac	10
						320	5	66		DPS128X32V3-12B	† Dense-Pac	
						280	5	66		DPS128X32V3-12C	Dense-Pac	
						300	5	66		DPS128X32V3-12I	Dense-Pac	
						320	5	66		DPS128X32V3-12M	† Dense-Pac	
						80	5	50		DPS256X16-12C	Dense-Pac	15
						85	5	50		DPS256X16-12I	Dense-Pac	
						90	5	50		DPS256X16-12M	† Dense-Pac	
										DPS256X16A3-12B	† Dense-Pac	
						80	5	50		DPS256X16A3-12C	Dense-Pac	
						85	5	50		DPS256X16A3-12I	Dense-Pac	20
						90	5	50		DPS256X16A3-12M	† Dense-Pac	
						50	5	32	Stack Family	**DPS512S8H4-12**	**Dense-Pac (3597)**	
								38		**DPS512S8P-12**	† **Dense-Pac (3576)**	
					16	90	5	50		DPS512S8A3-12	† Dense-Pac	
						100	5	50		DPS512S8A3-12B	† Dense-Pac	25
						90	5	50		DPS512S8A3-12C	Dense-Pac	
						95	5	50		DPS512S8A3-12I	Dense-Pac	
						100	5	50		DPS512S8A3-12M	† Dense-Pac	
					95	150	5	48		DPS45128-120C	Dense-Pac	
					105	155	5	48		DPS45128-120I	Dense-Pac	30
										DPS45128-120M	† Dense-Pac	
	135	CMOS	TTL	Common	95	150	5	48		DPS45128-135C	Dense-Pac	
					105	155	5	48		DPS45128-135I	Dense-Pac	
										DPS45128-135M	† Dense-Pac	
	150		TTL				5	66		DPS128C32V3-150	Dense-Pac	35
		BiCMOS	TTL		250	520	5	32		IDT7MB4048-15	IDT	
		CMOS	TTL		12	110	5	32		CYM1465-150C	Cypress	
										CYM1465-150I	Cypress	
										DPS512S8-15C	**Dense-Pac (3576)**	
										DPS512S8-15I	**Dense-Pac (3576)**	40
						120	5	32		**DPS512S8-15M**	**Dense-Pac (3576)**	
				Common	6	40	5	32	Very Low Power	**DPS512S8PLL-15**	**Dense-Pac (3576)**	
					8	50	5	32	Low Power	**DPS512S8PL-15**	**Dense-Pac (3576)**	
					12	80	5	66		DPS128X32-15C	Dense-Pac	
						85	5	66		DPS128X32-15I	Dense-Pac	45
						90	5	66		DPS128X32-15M	† Dense-Pac	
						320	5	66		DPS128X32V3-15B	† Dense-Pac	
						280	5	66		DPS128X32V3-15C	Dense-Pac	
						300	5	66		DPS128X32V3-15I	Dense-Pac	
						320	5	66		DPS128X32V3-15M	† Dense-Pac	50
						80	5	50		DPS256X16-15C	Dense-Pac	
						85	5	50		DPS256X16-15I	Dense-Pac	
						90	5	50		DPS256X16-15M	† Dense-Pac	
										DPS256X16A3-15B	† Dense-Pac	
						80	5	50		DPS256X16A3-15C	Dense-Pac	55
						85	5	50		DPS256X16A3-15I	Dense-Pac	
						90	5	50		DPS256X16A3-15M	† Dense-Pac	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
						50	5	32	Stack Family	**DPS512S8H4-15**	**Dense-Pac (3597)**	
								38		**DPS512S8P-15**	† **Dense-Pac (3576)**	
					16	90	5	50		DPS512S8A3-15	† Dense-Pac	
						100	5	50		DPS512S8A3-15B	† Dense-Pac	
						90	5	50		DPS512S8A3-15C	Dense-Pac	5
						95	5	50		DPS512S8A3-15I	Dense-Pac	
						100	5	50		DPS512S8A3-15M	† Dense-Pac	
					95	150	5	48		DPS45128-150C	Dense-Pac	
					105	155	5	48		DPS45128-150I	Dense-Pac	
										DPS45128-150M	† Dense-Pac	10
	170	BiCMOS	TTL		250	520	5	32		IDT7MB4048-17	IDT	
		CMOS	TTL	Common	95	150	5	48		DPS45128-170C	Dense-Pac	
					105	155	5	48		DPS45128-170I	Dense-Pac	
										DPS45128-170M	† Dense-Pac	
	200	BiCMOS	TTL		250	520	5	32		IDT7MB4048-20	IDT	15
		CMOS	TTL	Common	95	150	5	48		DPS45128-200C	Dense-Pac	
					105	155	5	48		DPS45128-200I	Dense-Pac	
										DPS45128-200M	† Dense-Pac	
	250	BiCMOS	TTL		250	480	5	32		IDT7MB4048-25	IDT	
	300	BiCMOS	TTL		250	480	5	32		IDT7MB4048-30	IDT	20
	350	BiCMOS	TTL		250	480	5	32		IDT7MB4048-35	IDT	
8K16	85	CMOS	TTL		8	112	5	66	Also has 2M UVEPROM	PUMA2X0211-1285	Mosaic Semi	
1Mx8	25	CMOS	TTL/CMOS	Common			5	66	PGA	DPS256X32BV3-25	† Dense-Pac	
1Mx1	35	CMOS					5	28		EDI8M11024C35C4C	EDI	
	70	CMOS					5	28		EDI8M11024C70C4C	EDI	25
1Mx4	20	CMOS	TTL	Common	240	300	5	48		EDI8F16256C-20C	EDI	
	25	CMOS	TTL		160	800	5	48		EDI8M16256C-25B	† EDI	
	30	CMOS	TTL		160	800	5	48		EDI8M16256C-30B	† EDI	
				Common	240	300	5	48		EDI8F16256C-30C	EDI	
	35	CMOS	TTL		160	800	5	48		EDI8M16256C-35B	† EDI	30
				Common	240	300	5	48		EDI8F16256C-35C	EDI	
	45	CMOS	TTL		160	800	5	48		EDI8M16256C-45B	† EDI	
				Common	240	300	5	48		EDI8F16256C-45C	EDI	
	50	CMOS	TTL	Common	240	300	5	48		EDI8F16256C-25C	EDI	
	55	CMOS	TTL		160	800	5	48		EDI8M16256C-55B	† EDI	35
				Common	240	300	5	48		EDI8F16256C-55C	EDI	
	70	CMOS	TTL		160	800	5	48		EDI8M16256C-70B	† EDI	
1Mx8	20	CMOS	TTL/CMOS	Common			5	50	PGA	DPS512X16BA3-20	† Dense-Pac	
	25	CMOS	TTL/CMOS	Common			5	50	PGA	DPS512X16BA3-25	† Dense-Pac	
	35	CMOS	TTL/CMOS				5	50	PGA	DPS1MX8AA3-35	Dense-Pac	40
								66	PGA	DPS1MX8AV3-35	Dense-Pac	
				Common			5	50	PGA	DPS512X16BA3-35	† Dense-Pac	
	45	CMOS	TTL/CMOS	TS			5V	50	PGA	DPS1MX8AA3-45	† Dense-Pac	
								66	PGA	DPS1MX8AV3-45	† Dense-Pac	
	55	CMOS	TTL/CMOS				5	50	PGA	DPS1MX8AA3-55	† Dense-Pac	45
								66	PGA	DPS1MX8AV3-55	† Dense-Pac	
	70	CMOS					5	50		DPS1MX8-70	† Dense-Pac	
			TTL		0.95	130	5	36		EDI8F81024LP-70C	EDI	
					20	130	5	36		EDI8F81024C-70C	EDI	
	85	CMOS					5	36		CYM1471L-85C	Cypress	50
								50		DPS1MX8-85	† Dense-Pac	
			TTL		0.95	130	5	36		EDI8F81024LP-85C	EDI	
					20	130	5	36		EDI8F81024C-85C	EDI	
	100	CMOS					5	36		CYM1471L-100C	Cypress	
								50		DPS1MX8-100	† Dense-Pac	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
1Mx8	100	CMOS	TTL		0.95	130	5	36		EDI8F81024LP-100C	EDI	
					20	130	5	36		EDI8F81024C-100C	EDI	
	120	CMOS					5	36		CYM1471L-120C	Cypress	
								50		DPS1MX8-120	† Dense-Pac	
			TTL		0.95	130	5	36		EDI8F81024LP-120C	EDI	5
					20	130	5	36		EDI8F81024C-120C	EDI	
	150	CMOS					5	50		DPS1MX8-150	† Dense-Pac	
			TTL		0.95	130	5	36		EDI8F81024LP-150C	EDI	
					20	130	5	36		EDI8F81024C-150C	EDI	
1Mx9	25	CMOS					5	44		MS91000-25	Mosaic Semi	10
	30	CMOS					5	44		MS91000-30	Mosaic Semi	
	35	CMOS					5	44		MS91000-35	Mosaic Semi	
1Mx16	35	CMOS					5	66		DPS512X32A-35	Dense-Pac	
			TTL/CMOS				5	66	PGA	DPS1MX16AV3-35	Dense-Pac	
	45	CMOS	TTL/CMOS				5	66	PGA	DPS1MX16AV3-45	† Dense-Pac	15
	55	CMOS					5	66		DPS512X32A-55	† Dense-Pac	
			TTL/CMOS				5	66	PGA	DPS1MX16AV3-55	† Dense-Pac	
	70	CMOS					5	66		DPS1MX16-70	† Dense-Pac	
										DPS512X32A-70	Dense-Pac	
								44		MS161000-70	Mosaic Semi	20
	85	CMOS					5	66		DPS1MX16-85	† Dense-Pac	
								44		MS161000-85	Mosaic Semi	
	100	CMOS					5	44		MS161000-10	Mosaic Semi	
			TTL		32	187	5	44		MS161000FKXA-10	Mosaic Semi	
	120	CMOS					5	44		MS161000-12	Mosaic Semi	25
			TTL		32	187	5	44		MS161000FKXA-12	Mosaic Semi	
	150	CMOS	TTL		32	187	5	44		MS161000FKXA-15	Mosaic Semi	
1Mx32	35	CMOS	TTL		320	1440	5	80		EDI9F321024C-35C	EDI	
	45	CMOS	TTL		320	1440	5	80		EDI9F321024C-45C	EDI	
									Supports R4000 CPU	EDI9F321024C-45CD	EDI	30
	55	CMOS	TTL		320	1440	5	80		EDI9F321024C-55C	EDI	
1Mx16	20	CMOS	TTL	Common	320	560	5	66		DPS512X32BV3-20C	Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-20	† Dense-Pac	
	25	CMOS	TTL	Common	320	600	5	66		DPS512X32BV3-25B	† Dense-Pac	
						560	5	66		DPS512X32BV3-25C	Dense-Pac	35
										DPS512X32BV3-25I	Dense-Pac	
						600	5	66		DPS512X32BV3-25M	† Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-25	† Dense-Pac	
	25–120	CMOS	TTL				5	66		**WS512K32-XHX**	† **White Tech** **(3851)**	
	35	CMOS	TTL	Common	320	560	5	66		DPS512X32BV3-35C	Dense-Pac	40
										DPS512X32BV3-35I	Dense-Pac	
						600	5	66		DPS512X32BV3-35M	† Dense-Pac	
			TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-35	† Dense-Pac	
	45	CMOS	TTL	Common	320	560	5	66		DPS512X32BV3-45C	Dense-Pac	
										DPS512X32BV3-45I	Dense-Pac	45
						600	5	66		DPS512X32BV3-45M	† Dense-Pac	
	70		TTL				5	66		DPS512C32MV3-70	Dense-Pac	
		CMOS					5	44		MS161000FKX-70	Mosaic Semi	
			TTL	Common	48	185	5	66		DPS512X32-70C	Dense-Pac	
										DPS512X32V3-70C	Dense-Pac	50
	85		TTL				5	66		DPS512C32MV3-85	Dense-Pac	
		CMOS					5	44		MS161000FKX-85	Mosaic Semi	
			TTL		52	190	5	48		**DPS1MS16-85C**	**Dense-Pac** **(3579)**	
				Common	48	185	5	66		DPS512X32-85C	Dense-Pac	
						195	5	66		DPS512X32-85I	Dense-Pac	55
						205	5	66		DPS512X32-85M	† Dense-Pac	
										DPS512X32V3-85B	† Dense-Pac	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
1Mx16	85	CMOS	TTL	Common	48	185	5	66		DPS512X32V3-85C	Dense-Pac	
						195	5	66		DPS512X32V3-85I	Dense-Pac	
						205	5	66		DPS512X32V3-85M †	Dense-Pac	
	100	CMOS	TTL				5	66		DPS512C32MV3-100	Dense-Pac	
							5	44		MS161000FKX-10	Mosaic Semi	5
			TTL		52	190	5	48		**DPS1MS16-10C**	**Dense-Pac** (3579)	
				Common	48	185	5	66		DPS512X32-10C	Dense-Pac	
						195	5	66		DPS512X32-10I	Dense-Pac	
						205	5	66		DPS512X32-10M †	Dense-Pac	
										DPS512X32V3-10B †	Dense-Pac	10
						185	5	66		DPS512X32V3-10C	Dense-Pac	
						195	5	66		DPS512X32V3-10I	Dense-Pac	
						205	5	66		DPS512X32V3-10M †	Dense-Pac	
	120	CMOS	TTL				5	66		DPS512C32MV3-120	Dense-Pac	
							5	66		DPS1MX16-12C	Dense-Pac	15
								44		MS161000FKX-12	Mosaic Semi	
			TTL		52	190	5	48		**DPS1MS16-12C**	**Dense-Pac** (3579)	
				Common	48	185	5	66		DPS512X32-12C	Dense-Pac	
						195	5	66		DPS512X32-12I	Dense-Pac	
						205	5	66		DPS512X32-12M †	Dense-Pac	20
										DPS512X32V3-12B †	Dense-Pac	
						185	5	66		DPS512X32V3-12C	Dense-Pac	
						195	5	66		DPS512X32V3-12I	Dense-Pac	
						205	5	66		DPS512X32V3-12M †	Dense-Pac	
	150	CMOS	TTL				5	66		DPS512C32MV3-150	Dense-Pac	25
							5	66		DPS1MX16-15C	Dense-Pac	
			TTL		52	190	5	48		**DPS1MS16-15C**	**Dense-Pac** (3579)	
				Common	48	185	5	66		DPS512X32-15C	Dense-Pac	
						195	5	66		DPS512X32-15I	Dense-Pac	
						205	5	66		DPS512X32-15M †	Dense-Pac	30
										DPS512X32V3-15B †	Dense-Pac	
						185	5	66		DPS512X32V3-15C	Dense-Pac	
						195	5	66		DPS512X32V3-15I	Dense-Pac	
						205	5	66		DPS512X32V3-15M †	Dense-Pac	
	100	CMOS					5	66		DPS1MX16-10C	Dense-Pac	35
1Mx32	20	CMOS	TTL		480	1200	5	80		IDT7MP4104-20	IDT	
	25	CMOS	TTL		480	1200	5	80		IDT7MP4104-25	IDT	
	35	CMOS	TTL		480	1200	5	80		IDT7MP4104-35	IDT	
1Mx36	15	CMOS		Common	9	1080	5	72		DM1M36SJ-15	Ramtron	
	20	CMOS		Common	9	1080	5	72		DM1M36SJ-20	Ramtron	40
1Mx8	20	CMOS	TTL			230	5	68		PUMA67S4000L-020	Mosaic Semi	
										PUMA67S4000LI-020	Mosaic Semi	
										PUMA67S4000LM-020 †	Mosaic Semi	
										PUMA67S4000LMB-020 †	Mosaic Semi	
					0.08	660	5	60		MS32256L-020	Mosaic Semi	45
										MS32256LI-020	Mosaic Semi	
					16	660	5	60		MS32256-020	Mosaic Semi	
										MS32256I-020	Mosaic Semi	
					40	230	5	68		PUMA67S4000-020	Mosaic Semi	
										PUMA67S4000I-020	Mosaic Semi	50
										PUMA67S4000M-020 †	Mosaic Semi	
										PUMA67S4000MB-020 †	Mosaic Semi	
				Common	160	280	5	66		DPS256X32BV3-20C	Dense-Pac	
								50		DPS512X16B-20C	Dense-Pac	
									Dual Enable	DPS512X16C-20C	Dense-Pac	55
			TTL/CMOS	Common			5	66	PGA	DPS256X32BV3-20 †	Dense-Pac	
	25	CMOS	TTL			230	5	68		PUMA67S4000L-025	Mosaic Semi	
										PUMA67S4000LI-025	Mosaic Semi	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
1Mx8	25	CMOS	TTL			230	5	68		(Cont'd)	
										PUMA67S4000LM-025 †	Mosaic Semi
										PUMA67S4000LMB-025 †	Mosaic Semi
					0.08	660	5	60		MS32256L-025	Mosaic Semi
										MS32256LI-025	Mosaic Semi
					16	660	5	60		MS32256-025	Mosaic Semi
										MS32256I-025	Mosaic Semi
					40	230	5	68		PUMA67S4000-025	Mosaic Semi
										PUMA67S4000I-025	Mosaic Semi
										PUMA67S4000M-025 †	Mosaic Semi
										PUMA67S4000MB-025 †	Mosaic Semi
				Common	160	280	5	66		DPS256X32BV3-25B †	Dense-Pac
										DPS256X32BV3-25C	Dense-Pac
										DPS256X32BV3-25I	Dense-Pac
										DPS256X32BV3-25M †	Dense-Pac
								50		DPS512X16B-25C	Dense-Pac
										DPS512X16B-25I	Dense-Pac
						440	5	50		DPS512X16B-25M †	Dense-Pac
						280	5	50	Dual Enable	DPS512X16C-25C	Dense-Pac
										DPS512X16C-25I	Dense-Pac
						440	5	50	Dual Enable	DPS512X16C-25M †	Dense-Pac
			TTL/CMOS	Common			5V	32	PGA	**DPS1MS8EJ4-25**	**Dense-Pac (3596)**
	30	CMOS	TTL	Common	160	280	5	50		DPS512X16B-30C	Dense-Pac
										DPS512X16B-30I	Dense-Pac
						440	5	50		DPS512X16B-30M †	Dense-Pac
						280	5	50	Dual Enable	DPS512X16C-30C	Dense-Pac
										DPS512X16C-30I	Dense-Pac
						440	5	50	Dual Enable	DPS512X16C-30M †	Dense-Pac
			TTL/CMOS	Common			5V	32	PGA	**DPS1MS8EJ4-30**	**Dense-Pac (3596)**
	35	CMOS	TTL			230	5	68		PUMA67S4000L-35	Mosaic Semi
										PUMA67S4000LI-35	Mosaic Semi
										PUMA67S4000LM-35 †	Mosaic Semi
										PUMA67S4000LMB-35 †	Mosaic Semi
					0.08	660	5	60		MS32256L-35	Mosaic Semi
										MS32256LI-35	Mosaic Semi
					16	660	5	60		MS32256-35	Mosaic Semi
										MS32256I-35	Mosaic Semi
					40	230	5	68		PUMA67S4000-35	Mosaic Semi
										PUMA67S4000I-35	Mosaic Semi
										PUMA67S4000M-35 †	Mosaic Semi
										PUMA67S4000MB-35 †	Mosaic Semi
				Common	160	280	5	66		DPS256X32BV3-35B †	Dense-Pac
										DPS256X32BV3-35C	Dense-Pac
										DPS256X32BV3-35I	Dense-Pac
										DPS256X32BV3-35M †	Dense-Pac
								50		DPS512X16B-35C	Dense-Pac
										DPS512X16B-35I	Dense-Pac
						440	5	50	Dual Enable	DPS512X16B-35M †	Dense-Pac
						280	5	50	Dual Enable	DPS512X16C-35C	Dense-Pac
										DPS512X16C-35I	Dense-Pac
						440	5	50	Dual Enable	DPS512X16C-35M †	Dense-Pac
			TTL/CMOS	Common			5V	32	PGA	**DPS1MS8EJ4-35**	**Dense-Pac (3596)**
							5	66	PGA	DPS256X32BV3-35 †	Dense-Pac
	45	CMOS					5	50		DPS1MS8-45M †	Dense-Pac
			TTL		0.08	660	5	60		MS32256L-45	Mosaic Semi
										MS32256LI-45	Mosaic Semi

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx8	45	CMOS	TTL								(Cont'd)	
					16	660	5	60		MS32256-45	Mosaic Semi	
										MS32256I-45	Mosaic Semi	
				Common	160	280	5	66		DPS256X32BV3-45B †	Dense-Pac	
										DPS256X32BV3-45C	Dense-Pac	
										DPS256X32BV3-45I	Dense-Pac	5
										DPS256X32BV3-45M †	Dense-Pac	
								50		DPS512X16B-45C	Dense-Pac	
										DPS512X16B-45I	Dense-Pac	
						440	5	50		DPS512X16B-45M †	Dense-Pac	
						280	5	50	Dual Enable	DPS512X16C-45C	Dense-Pac	10
										DPS512X16C-45I	Dense-Pac	
						440	5	50	Dual Enable	DPS512X16C-45M †	Dense-Pac	
			TTL/CMOS	Common			5V	32	PGA	**DPS1MS8EJ4-45**	**Dense-Pac (3596)**	
				TS			5V	50	PGA	DPS1MS8AA3-45C	Dense-Pac	
	55	CMOS					5	50		DPS1MS8-55M †	Dense-Pac	15
										DPS1MS8A-55C	Dense-Pac	
	70	CMOS					5	50		DPS1MS8-70M †	Dense-Pac	
										DPS1MS8A-70C	Dense-Pac	
								36	(128Kx8)x8	MH1M08AOA-7	Mitsubishi	
										MH1M08B-7	Mitsubishi	20
								35		MS81000RKX-70	Mosaic Semi	
			TTL				5	32		**DPS1MS8H4-70**	**Dense-Pac (3597)**	
				Common	24	90	5	66		DPS256X32-70C	Dense-Pac	
						95	5	50		DPS512X16-70C	Dense-Pac	
	80	CMOS					5	30		MH1M08B-8	Mitsubishi	25
	85	CMOS					5	50		DPS1MS8-85C	Dense-Pac	
								36		MH1M08TNA-85	Mitsubishi	
								35		MS81000RKX-85	Mosaic Semi	
								36		MS82000RKX-85	Mosaic Semi	
			TTL				5	32		**DPS1MS8H4-85**	**Dense-Pac (3597)**	30
					0.88	178	5	35		MS81000RKXAL-85	Mosaic Semi	
					16	95	5	36		CYM1471-85C	Cypress	
					44	178	5	35		MS81000RKXA-85	Mosaic Semi	
				Common	24	90	5	66		DPS256X32-85C	Dense-Pac	
						100	5	66		DPS256X32-85I	Dense-Pac	35
						105	5	66		DPS256X32-85M †	Dense-Pac	
						95	5	50		DPS512X16-85C	Dense-Pac	
						100	5	50		DPS512X16-85I	Dense-Pac	
						105	5	50		DPS512X16-85M †	Dense-Pac	
										DPS512X16A3-85B †	Dense-Pac	40
						95	5	50		DPS512X16A3-85C	Dense-Pac	
						100	5	50		DPS512X16A3-85I	Dense-Pac	
						105	5	50		DPS512X16A3-85M †	Dense-Pac	
			TTL/CMOS				5	50	PGA	DPS1MS8AA3-85M †	Dense-Pac	
	100	CMOS					5	36	(128Kx8)x8	MH1M08B-10	Mitsubishi	45
										MH1M08TNA-10	Mitsubishi	
								35		MS81000RKX-10	Mosaic Semi	
								36		MS82000RKX-10	Mosaic Semi	
			TTL				5	32		**DPS1MS8H4-10**	**Dense-Pac (3597)**	
					0.88	178	5	35		MS81000RKXAL-10	Mosaic Semi	50
					16	95	5	36		CYM1471-100C	Cypress	
					44	178	5	35		MS81000RKXA-10	Mosaic Semi	
				Common	24	90	5	66		DPS256X32-10C	Dense-Pac	
						100	5	66		DPS256X32-10I	Dense-Pac	
						105	5	66		DPS256X32-10M †	Dense-Pac	55
						95	5	50		DPS512X16-10C	Dense-Pac	
						100	5	50		DPS512X16-10I	Dense-Pac	
						105	5	50		DPS512X16-10M †	Dense-Pac	
										DPS512X16A3-10B †	Dense-Pac	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Mx8	100	CMOS	TTL	Common	24						(Cont'd)	
						95	5	50		DPS512X16A3-10C	Dense-Pac	
						100	5	50		DPS512X16A3-10I	Dense-Pac	
						105	5	50		DPS512X16A3-10M †	Dense-Pac	
					30	105	5	50		DPS1MS8-10C	Dense-Pac	
	120	CMOS					5	36		MH1M08TNA-12	Mitsubishi	5
										MS82000RKX-12	Mosaic Semi	
			TTL				5	32		**DPS1MS8H4-12**	**Dense-Pac (3597)**	
					0.88	178	5	35		MS81000RKXAL-12	Mosaic Semi	
					16	95	5	36		CYM1471-120C	Cypress	
					44	178	5	35		MS81000RKXA-12	Mosaic Semi	10
				Common	24	90	5	66		DPS256X32-12C	Dense-Pac	
						100	5	66		DPS256X32-12I	Dense-Pac	
						105	5	66		DPS256X32-12M †	Dense-Pac	
						95	5	50		DPS512X16-12C	Dense-Pac	
						100	5	50		DPS512X16-12I	Dense-Pac	15
						105	5	50		DPS512X16-12M †	Dense-Pac	
										DPS512X16A3-12B †	Dense-Pac	
						95	5	50		DPS512X16A3-12C	Dense-Pac	
						100	5	50		DPS512X16A3-12I	Dense-Pac	
						105	5	50		DPS512X16A3-12M †	Dense-Pac	20
					30	105	5	50		DPS1MS8-12C	Dense-Pac	
						110	5	50		DPS1MS8-12I	Dense-Pac	
						115	5	50		DPS1MS8-12M †	Dense-Pac	
	150	CMOS	TTL				5	32		**DPS1MS8H4-15**	**Dense-Pac (3597)**	
				Common	24	90	5	66		DPS256X32-15C	Dense-Pac	25
						100	5	66		DPS256X32-15I	Dense-Pac	
						105	5	66		DPS256X32-15M †	Dense-Pac	
						95	5	50		DPS512X16-15C	Dense-Pac	
						100	5	50		DPS512X16-15I	Dense-Pac	
						105	5	50		DPS512X16-15M †	Dense-Pac	30
										DPS512X16A3-15B †	Dense-Pac	
						95	5	50		DPS512X16A3-15C	Dense-Pac	
						100	5	50		DPS512X16A3-15I	Dense-Pac	
						105	5	50		DPS512X16A3-15M †	Dense-Pac	
					30	105	5	50		DPS1MS8-15C	Dense-Pac	35
						110	5	50		DPS1MS8-15I	Dense-Pac	
						115	5	50		DPS1MS8-15M †	Dense-Pac	
1Mx9	25	CMOS					5	44		MS91000RKX-25	Mosaic Semi	
	30	CMOS					5	44		MS91000RKX-30	Mosaic Semi	
			TTL		350	1125	5	44		CYM1560-30C	Cypress	40
	35	CMOS					5	44		MS91000RKX-35	Mosaic Semi	
			TTL		350	1125	5	44		CYM1560-35C	Cypress	
	45	CMOS	TTL		350	1125	5	44		CYM1560-45C	Cypress	
12Kx8	150	CMOS					5	32		EDI8M8512C150C	EDI	
16Mx8	60	CMOS	TTL	Common			5	34		**DPD16MX8PH4-60**	**Dense-Pac (3598)**	45
	70	CMOS	TTL	Common			5	34		**DPD16MX8PH4-70**	**Dense-Pac (3598)**	
	80	CMOS	TTL	Common			5	34		**DPD16MX8PH4-80**	**Dense-Pac (3598)**	
	100	CMOS	TTL	Common			5	34		**DPD16MX8PH4-10**	**Dense-Pac (3598)**	
	120	CMOS	TTL	Common			5	34		**DPD16MX8PH4-12**	**Dense-Pac (3598)**	
2Mx8	35	CMOS					5	66		DPS512X32A-35	Dense-Pac	50
			TTL/CMOS				5	66	PGA	DPS2MX8AV3-35	Dense-Pac	
	45	CMOS	TTL/CMOS				5	66	PGA	DPS2MX8AV3-45 †	Dense-Pac	
	55	CMOS					5	66		DPS512X32A-55	Dense-Pac	
			TTL/CMOS				5	66	PGA	DPS2MX8AV3-55 †	Dense-Pac	
	70	CMOS					5	66		DPS2MX8V3-70 †	Dense-Pac	55
										DPS512X32A-70	Dense-Pac	
			TTL		0.5	210	5	36		EDI8F82048LP-70C	EDI	
					20	210	5	36		EDI8F82048C-70C	EDI	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Modules											**(Cont'd)**	
2Mx8											(Cont'd)	
	85	CMOS					5	36		CYM11481L-85C	Cypress	
								66		DPS2MX8V3-85	† Dense-Pac	
								36		MS82000-85	Mosaic Semi	
			TTL		0.5	210	5	36		EDI8F82048LP-85C	EDI	
					20	210	5	36		EDI8F82048C-85C	EDI	5
	100	CMOS					5	36		CYM1481L-100C	Cypress	
								66		DPS2MX8V3-100	† Dense-Pac	
								36		MS82000-10	Mosaic Semi	
			TTL		0.5	210	5	36		EDI8F82048LP-100C	EDI	
					20	210	5	36		EDI8F82048C-100C	EDI	10
	120	CMOS					5	36		CYM1481L-120C	Cypress	
								66		DPS2MX8V3-120	† Dense-Pac	
								36		MS82000-12	Mosaic Semi	
			TTL		0.5	210	5	36		EDI8F82048LP-120C	EDI	
					20	210	5	36		EDI8F82048C-120C	EDI	15
					205	210	5	36	Supports R4000 CPU	EDI8F82048C-120F	EDI	
	150	CMOS					5	66		DPS2MX8V3-150	† Dense-Pac	
			TTL		0.5	210	5	36		EDI8F82048LP-150C	EDI	
					20	210	5	36		EDI8F82048C-150C	EDI	
2Mx16	35	CMOS	TTL		320	1200	5	80		EDI9F321024C-35C	EDI	20
	45	CMOS	TTL		320	1200	5	80		EDI9F321024C-45C	EDI	
	55	CMOS	TTL		320	1200	5	80		EDI9F321024C-55C	EDI	
2Mx8	20	CMOS	TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-20	Dense-Pac	
	25	CMOS	TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-25	† Dense-Pac	
	25–120	CMOS					5	36		**WS2M8-XCX**	**White Tech (3851)**	25
			TTL				5	66		**WS512K32-XHX**	**† White Tech (3851)**	
	35	CMOS	TTL/CMOS	Common			5	66	PGA	DPS512X32BV3-35	† Dense-Pac	
	55	CMOS	TTL		12	110	5	36		IDTMB4084-55	IDT	
										IDT7MP4059-55	IDT	
	70		TTL				5	66		DPS512C32MV3-70	Dense-Pac	30
		CMOS	TTL		12	110	5	36		IDTMB4084-70	IDT	
										IDT7MP4059-70	IDT	
				Common	48	115	5	66		DPS512X32-70C	Dense-Pac	
										DPS512X32V3-70C	Dense-Pac	
	85		TTL				5	66		DPS512C32MV3-85	Dense-Pac	35
		CMOS	TTL		12	110	5	36		IDTMB4084-85	IDT	
										IDT7MP4059-85	IDT	
					32	110	5	36		CYM1481-85C	Cypress	
					52	190	5	48		**DPS1MS16-85C**	**Dense-Pac (3579)**	
				Common	48	115	5	66		DPS512X32-85C	Dense-Pac	40
						120	5	66		DPS512X32-85I	Dense-Pac	
						125	5	66		DPS512X32-85M	† Dense-Pac	
										DPS512X32V3-85B	† Dense-Pac	
						115	5	66		DPS512X32V3-85C	Dense-Pac	
						120	5	66		DPS512X32V3-85I	Dense-Pac	45
						125	5	66		DPS512X32V3-85M	† Dense-Pac	
	100		TTL				5	66		DPS512C32MV3-100	Dense-Pac	
		CMOS	TTL		12	110	5	36		IDTMB4084-100	IDT	
										IDT7MP4059-100	IDT	
					32	110	5	36		CYM1481-100C	Cypress	50
					52	190	5	48		**DPS1MS16-10C**	**Dense-Pac (3579)**	
				Common	48	115	5	66		DPS512X32-10C	Dense-Pac	
						120	5	66		DPS512X32-10I	Dense-Pac	
						125	5	66		DPS512X32-10M	† Dense-Pac	
										DPS512X32V3-10B	† Dense-Pac	55
						115	5	66		DPS512X32V3-10C	Dense-Pac	
						120	5	66		DPS512X32V3-10I	Dense-Pac	
						125	5	66		DPS512X32V3-10M	† Dense-Pac	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Modules (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Mx8											(Cont'd)	
	120		TTL				5	66		DPS512C32MV3-120	Dense-Pac	
		CMOS	TTL		12	110	5	36		IDTMB4084-120	IDT	
					32	110	5	36		CYM1481-120C	Cypress	
					52	190	5	48		**DPS1MS16-12C**	**Dense-Pac (3579)**	
				Common	48	115	5	66		DPS512X32-12C	Dense-Pac	5
						120	5	66		DPS512X32-12I	Dense-Pac	
						125	5	66		DPS512X32-12M †	Dense-Pac	
										DPS512X32V3-12B †	Dense-Pac	
						115	5	66		DPS512X32V3-12C	Dense-Pac	
						120	5	66		DPS512X32V3-12I	Dense-Pac	10
						125	5	66		DPS512X32V3-12M †	Dense-Pac	
	150		TTL				5	66		DPS512C32MV3-150	Dense-Pac	
		CMOS	TTL		52	190	5	48		**DPS1MS16-15C**	**Dense-Pac (3579)**	
				Common	48	115	5	66		DPS512X32-15C	Dense-Pac	
						120	5	66		DPS512X32-15I	Dense-Pac	15
						125	5	66		DPS512X32-15M †	Dense-Pac	
										DPS512X32V3-15B †	Dense-Pac	
						115	5	66		DPS512X32V3-15C	Dense-Pac	
						120	5	66		DPS512X32V3-15I	Dense-Pac	
						125	5	66		DPS512X32V3-15M †	Dense-Pac	20
32K16	85	CMOS	TTL		12	166	5	66	Also has 512K EEPROM	PUMA2X0212-2085	Mosaic Semi	
4Mx8	35	CMOS	TTL		320	1080	5	80		EDI9F321024C-35C	EDI	
	45	CMOS	TTL		320	1080	5	80		EDI9F321024C-45C	EDI	
	55	CMOS	TTL		320	1080	5	80		EDI9F321024C-55C	EDI	
4Mx1	35	CMOS					5	66		3S4000-35	Mosaic Semi	25
	45	CMOS					5	66		3S4000-45	Mosaic Semi	
	55	CMOS					5	66		3S4000-55	Mosaic Semi	
	70	CMOS					5	66		3S4000-70	Mosaic Semi	
	85	CMOS					5	66		3S4000-85	Mosaic Semi	
	100	CMOS					5	66		3S4000-10	Mosaic Semi	30
	120	CMOS					5	66		3S4000-12	Mosaic Semi	
4Mx16	80	CMOS					5	30		MH1M08AOA-8	Mitsubishi	
8Mx8	60	CMOS	TTL				5	34		**DPD8MX8PY4-60**	**Dense-Pac (3598)**	
	70	CMOS	TTL				5	34		**DPD8MX8PY4-70**	**Dense-Pac (3598)**	
	80	CMOS	TTL				5	34		**DPD8MX8PY4-80**	**Dense-Pac (3598)**	35
	100	CMOS	TTL				5	34		**DPD8MX8PY4-10**	**Dense-Pac (3598)**	

Static—Multiport

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
64x5x2	55	CMOS					5	24		MK45264-55	SGS-Thomson	
										MK45265-55	SGS-Thomson	
	70	CMOS					5	24		MK45264-70	SGS-Thomson	
										MK45265-70	SGS-Thomson	40
256x8	240						5	40	Two Port	MCM68HC34	Motorola	
504 Byte	300	CMOS					5	28		SAE81C80A	Siemens	
1Kx8	25	CMOS					5	108	Four Port	IDT7050L-25	IDT	
										IDT7050S-25	IDT	
	30	CMOS					5	108	Four Port	IDT7050L-30B †	IDT	45
										IDT7050S-30B †	IDT	
			TTL		65	170	5	48	Two Port	CY7C131-30I	Cypress	
	35						5	48	Two Port	IDT7130LA-35 °	IDT	
										IDT7140LA-35 °	IDT	
										IDT7140SA-35 °	IDT	50
		CMOS					5	108	Four Port	IDT7050L-35	IDT	
										IDT7050L-35B †	IDT	
										IDT7050S-35	IDT	
										IDT7050S-35B †	IDT	
	45						5	48	Two Port	IDT7130LA-45 °†	IDT	55
										IDT7130LA-45B °‡	IDT	
										IDT7130SA-45 °	IDT	
										IDT7130SA-45B °‡	IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
1Kx8	45						5	48	Two Port	IDT7140LA-45	° IDT	
										IDT7140LA-45B	°‡ IDT	
										IDT7140SA-45	° IDT	
										IDT7140SA-45B	°‡ IDT	
		CMOS					5	108	Four Port	IDT7050L-45	IDT	5
										IDT7050L-45B	† IDT	
										IDT7050S-45	IDT	
										IDT7050S-45B	† IDT	
	55						5	48	Two Port	IDT7130LA-55	° IDT	
										IDT7130LA-55B	‡ IDT	10
										IDT7130SA-55	° IDT	
										IDT7130SA-55B	°‡ IDT	
										IDT7140LA-55	° IDT	
										IDT7140SA-55	° IDT	
										IDT7140SA-55B	°‡ IDT	15
		NMOS					5	48	Two Port	AM2130-55	AMD	
	70						5	48	Two Port	IDT7130LA-70	° IDT	
										IDT7130LA-70B	°‡ IDT	
										IDT7130SA-70	° IDT	
										IDT7130SA-70B	°‡ IDT	20
										IDT7140LA-70	° IDT	
										IDT7140LA-70B	°‡ IDT	
										IDT7140SA-70	° IDT	
										IDT7140SA-70B	°‡ IDT	
		NMOS					5	48	Two Port	AM2130-70	AMD	25
	90						5	48	Two Port	IDT7130LA-90	° IDT	
										IDT7130LA-90B	°‡ IDT	
										IDT7130SA-90	° IDT	
										IDT7130SA-90B	°‡ IDT	
										IDT7140LA-90	° IDT	30
										IDT7140LA-90B	°‡ IDT	
										IDT7140SA-90B	°‡ IDT	
		2-Port					5	48		IDT7140SA-90	° IDT	
	100						5	48	Two Port	AM2130-10	AMD	
									Two Port, Refurbished	IDT7130LA-100B	°‡ IDT	35
									Two Port	IDT7130SA-100	° IDT	
										IDT7130SA-100B	°‡ IDT	
										IDT7140LA-100	° IDT	
										IDT7140LA-100B	°‡ IDT	
										IDT7140SA-100	° IDT	40
										IDT7140SA-100B	°‡ IDT	
	120						5	48	Two Port	IDT7130LA-120B	°‡ IDT	
										IDT7130SA-120	IDT	
										IDT7130SA-120B	°‡ IDT	
										IDT7140LA-120	° IDT	45
										IDT7140LA-120B	°‡ IDT	
										IDT7140SA-120	° IDT	
										IDT7140SA-120B	°‡ IDT	
1Kx9	20	CMOS					5	48	Two Port	IDT7010L-20	IDT	
										IDT7010S-20	IDT	50
								52	Two Port	IDT70101L-20	IDT	
										IDT70101S-20	IDT	
								48	Two Port	IDT70104L-20	IDT	
										IDT70104S-20	IDT	
								52	Two Port	IDT70105L-20	IDT	55
										IDT70105S-20	IDT	
	25	CMOS					5	48	Two Port	IDT7010L-25	IDT	
										IDT7010L-25B	† IDT	
										IDT7010S-25	IDT	
										IDT7010S-25B	† IDT	60
								52	Two Port	IDT70101L-25	IDT	
										IDT70101L-25B	† IDT	
										IDT70101S-25	IDT	
										IDT70101S-25B	† IDT	
								48	Two Port	IDT70104L-25	IDT	65
										IDT70104L-25B	† IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

(Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx9	25	CMOS					5	48	Two Port	IDT70104S-25	IDT	
										IDT70104S-25B	† IDT	
								52	Two Port	IDT70105L-25	IDT	
										IDT70105L-25B	† IDT	
										IDT70105S-25	IDT	5
										IDT70105S-25B	† IDT	
	35	CMOS					5	48	Two Port	IDT7010L-35	IDT	
										IDT7010L-35B	† IDT	
										IDT7010S-35	IDT	
										IDT7010S-35B	† IDT	10
								52	Two Port	IDT70101L-35	IDT	
										IDT70101L-35B	† IDT	
										IDT70101S-35	IDT	
								48	Two Port	IDT70104L-35	IDT	
										IDT70104L-35B	† IDT	15
										IDT70104S-35	IDT	
										IDT70104S-35B	† IDT	
								52	Two Port	IDT70105L-35	IDT	
										IDT70105L-35B	† IDT	
									Low Port	IDT70105S-35	IDT	20
									Two Port	IDT70105S-35B	† IDT	
	45	CMOS					5	48	Two Port	IDT7010L-45	IDT	
										IDT7010L-45B	† IDT	
										IDT7010S-45	IDT	
										IDT7010S-45B	† IDT	25
								52	Two Port	IDT70101L-45	IDT	
										IDT70101L-45B	† IDT	
										IDT70101S-45	IDT	
									Two Port	IDT70101S-45B	† IDT	
								48	Two Port	IDT70104L-45	IDT	30
										IDT70104L-45B	† IDT	
										IDT70104S-45	IDT	
										IDT70104S-45B	† IDT	
								52	Two Port	IDT70105L-45	IDT	
										IDT70105L-45B	† IDT	35
										IDT70105S-45	IDT	
										IDT70105S-45B	† IDT	
	55	CMOS					5	48	Low Port	IDT7010L-55	IDT	
									Two Port	IDT7010L-55B	† IDT	
										IDT7010S-55	IDT	40
										IDT7010S-55B	† IDT	
								52	Two Port	IDT70101L-55	IDT	
										IDT70101L-55B	IDT	
										IDT70101S-55	IDT	
										IDT70101S-55B	† IDT	45
								48	Two Port	IDT70104L-55	IDT	
										IDT70104L-55B	† IDT	
										IDT70104S-55	IDT	
										IDT70104S-55B	† IDT	
								52	Two Port	IDT70105L-55	IDT	50
										IDT70105L-55B	† IDT	
										IDT70105S-55	IDT	
										IDT70105S-55B	† IDT	
	70	CMOS					5	48	Two Port	IDT7010L-70B	† IDT	
										IDT7010S-70B	† IDT	55
								52	Two Port	IDT70101L-70B	† IDT	
										IDT70101S-70B	† IDT	
								48	Two Port	IDT70104L-70B	† IDT	
										IDT70104S-70B	† IDT	
								52	Two Port	IDT70105L-70B	† IDT	60
										IDT70105S-70B	† IDT	
1Kx8	20	CMOS	TTL		145	215	5	48		IDT7030LA-20	IDT	
										IDT7040LA-20	IDT	
								52		IDT7130LA-20	IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
1Kx8	20	CMOS	TTL		180	265	5	48		IDT7030SA-20	IDT	
								52		IDT7130SA-20	IDT	
										IDT7140SA-20	IDT	
					185	265	5	48		IDT7040SA-20	IDT	
	25	CMOS	TTL		65	170	5	48	Two Port	CY7C130-25C	Cypress	5
								52	Two Port	CY7C131-25C	Cypress	
								48		CY7C132-25C	Cypress	
										CY7C140-25C	Cypress	
								52		CY7C141-25C	Cypress	
					140	210	5	48		IDT7030LA-25	IDT	10
										IDT7040LA-25	IDT	
								52		IDT7130LA-25	IDT	
					160	240	5	48		IDT7030LA-25M	† IDT	
										IDT7040LA-25M	† IDT	
								52		IDT7130LA-25M	† IDT	15
					175	260	5	48		IDT7030SA-25	IDT	
										IDT7040SA-25	IDT	
								52		IDT7130SA-25	IDT	
										IDT7140SA-25	IDT	
					195	300	5	48		IDT7030SA-25M	† IDT	20
										IDT7040SA-25M	† IDT	
								52		IDT7130SA-25M	† IDT	
										IDT7140SA-25M	† IDT	
	30	CMOS	TTL		65	170	5	48	Two Port	CY7C130-30C	Cypress	
										CY7C130-30I	Cypress	25
										CY7C131-30C	Cypress	
										CY7C140-30C	Cypress	
										CY7C140-30I	Cypress	
										CY7C141-30C	Cypress	
									Two Port	CY7C141-30I	Cypress	30
					135	205	5	52		IDT7130LA-30	IDT	
					155	235	5	52		IDT7130LA-30M	† IDT	
					170	255	5	52		IDT7130SA-30	IDT	
										IDT7140SA-30	IDT	
					190	295	5	52		IDT7130SA-30M	† IDT	35
										IDT7140SA-30M	† IDT	
				Separate	65	295	5	132		IDT7050L-30	IDT	
					80	340	5	132		IDT7050S-30	IDT	
	35	CMOS	TTL		45	120	5	48	Two Port	CY7C130-35C	Cypress	
										CY7C130-35I	Cypress	40
								52		CY7C131-35C	Cypress	
								48	Two Port	CY7C131-35I	Cypress	
										CY7C140-35C	Cypress	
										CY7C140-35I	Cypress	
								52	Two Port	CY7C141-35C	Cypress	45
								48	Two Port	CY7C141-35I	Cypress	
					65	170	5	48	Two Port	CY7C130-35M	† Cypress	
								52		CY7C131-35M	† Cypress	
								48	Two Port	CY7C140-35M	† Cypress	
								52		CY7C141-35M	† Cypress	50
					130	200	5	48		IDT7030LA-35	IDT	
										IDT7040LA-35	IDT	
					150	230	5	48		IDT7030LA-35M	† IDT	
										IDT7040LA-35M	† IDT	
								52		IDT7130LA-35M	† IDT	55
					165	250	5	48		IDT7030SA-35	IDT	
										IDT7040SA-35	IDT	
					185	290	5	48		IDT7030SA-35M	† IDT	
										IDT7040SA-35M	† IDT	
								52		IDT7130SA-35M	IDT	60
										IDT7140SA-35M	† IDT	
	45	CMOS	TTL		35	90	5	48	Two Port	CY7C130-45C	Cypress	
										CY7C130-45I	Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Multiport											**(Cont'd)**	
1Kx8	45	CMOS	TTL		35	90	5				(Cont'd)	
								52	Two Port	CY7C131-45C	Cypress	
								48	Two Port	CY7C131-45I	Cypress	
										CY7C140-45C	Cypress	
										CY7C140-45I	Cypress	
								52		CY7C141-45C	Cypress	5
								48	Two Port	CY7C141-45I	Cypress	
					45	120	5	52	Two Port	CY7C131-45M	† Cypress	
								48	Two Port	CY7C140-45M	† Cypress	
								52		CY7C141-45M	† Cypress	
					145	225	5	48		IDT7030LA-45M	† IDT	10
										IDT7040LA-45M	† IDT	
					180	285	5	48		IDT7030SA-45M	† IDT	
										IDT7040SA-45M	† IDT	
	55						5	48	Two Port	IDT7140LA-55B	°‡ IDT	
		CMOS			30	120	5	48	Two Port	MS6130L-55	Mosel-Vitelic	15
					40	170	5	48	Two Port	MS6130-55	Mosel-Vitelic	
			TTL		35	90	5	48	Two Port	CY7C130-55I	Cypress	
								52	Two Port	CY7C131-55C	Cypress	
								48	Two Port	CY7C131-55I	Cypress	
										CY7C140-55C	Cypress	20
										CY7C140-55I	Cypress	
								52	Two Port	CY7C141-55C	Cypress	
								48	Two Port	CY7C141-55I	Cypress	
					45	120	5	52	Two Port	CY7C131-55M	† Cypress	
								48	Two Port	CY7C140-55M	† Cypress	25
								52		CY7C141-55M	† Cypress	
	70	CMOS			75	120	5	48	Two Port	MS6130L-70	Mosel-Vitelic	
					110	170	5	48	Two Port	MS6130-70	Mosel-Vitelic	
	90	CMOS			110	170	5	48	Two Port	MS6130-90	Mosel-Vitelic	
	120	NMOS					5	48	Two Port	AM2130-12	AMD	30
1Kx9	35	CMOS					5	52	Two Port	IDT70101S-35B	† IDT	
2Kx8	25	CMOS					5	108	Four Port	IDT7052L-25	IDT	
	30	CMOS					5	108	Four Port	IDT7052L-30B	† IDT	
										IDT7052S-30B	† IDT	
	35						5	48	Two Port	IDT7132LA-35	° IDT	35
										IDT7132SA-35	° IDT	
										IDT7142SA-35	° IDT	
								52	Two Port	IDT71421LA-35	IDT	
										IDT71421SA-35	IDT	
		CMOS					5	108	Four Port	IDT7052L-35	IDT	40
										IDT7052L-35B	† IDT	
										IDT7052S-35	IDT	
										IDT7052S-35B	† IDT	
	45						5	48	Two Port	IDT7132LA-45	° IDT	
										IDT7132LA-45B	°‡ IDT	45
										IDT7132SA-45	° IDT	
										IDT7132SA-45B	°‡ IDT	
								52	Two Port	IDT71321LA-45B	‡ IDT	
								48	Two Port	IDT71322L-45B	‡ IDT	
										IDT71322S-45B	‡ IDT	50
										IDT7142LA-45B	°‡ IDT	
										IDT7142SA-45	° IDT	
										IDT7142SA-45B	°‡ IDT	
								52	Two Port	IDT71421LA-45	IDT	
										IDT71421LA-45B	‡ IDT	55
										IDT71421SA-45	IDT	
		CMOS					5	108	Four Port	IDT7052L-45	IDT	
										IDT7052L-45B	† IDT	
										IDT7052S-45	IDT	
										IDT7052S-45B	† IDT	60
	55						5	48	Two Port	IDT7132LA-55	° IDT	
										IDT7132LA-55B	°‡ IDT	
										IDT7132SA-55B	°‡ IDT	
								52	Two Port	IDT71321LA-55B	‡ IDT	
								48	Two Port	IDT71322L-55	IDT	65
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8	55						5	48	Two Port		(Cont'd)	
										IDT71322L-55B	† IDT	
										IDT71322S-55	IDT	
										IDT71322S-55B	† IDT	
										IDT7142LA-55B	°‡ IDT	
										IDT7142SA-55	° IDT	5
										IDT7142SA-55B	°‡ IDT	
								52	Two Port	IDT71421LA-55	IDT	
										IDT71421LA-55B	‡ IDT	
										IDT71421SA-55	IDT	
										IDT71421SA-55B	‡ IDT	10
	70						5	48	Two Port	IDT7132LA-70	° IDT	
										IDT7132LA-70B	°‡ IDT	
										IDT7132SA-70B	°‡ IDT	
										IDT71322L-70	IDT	
										IDT71322L-70B	† IDT	15
										IDT71322S-70	IDT	
										IDT71322S-70B	† IDT	
										IDT7142LA-70B	°‡ IDT	
										IDT7142SA-70	° IDT	
										IDT7142SA-70B	°‡ IDT	20
								52	Two Port	IDT71421LA-70B	‡ IDT	
										IDT71421SA-70B	‡ IDT	
		CMOS					5	48	Two Port	V61C32-70	Mosel-Vitelic	
										V61C32-70L	Mosel-Vitelic	
	90						5	48	Two Port	IDT7132LA-90	° IDT	25
										IDT7132LA-90B	°‡ IDT	
										IDT7132SA-90B	°‡ IDT	
										IDT7142LA-90B	°‡ IDT	
										IDT7142SA-90	° IDT	
										IDT7142SA-90B	°‡ IDT	30
		CMOS					5	48	Two Port	V61C32-90	Mosel-Vitelic	
										V61C32-90L	Mosel-Vitelic	
	100						5	48	Two Port	IDT7132LA-100	° IDT	
										IDT7132LA-100B	°‡ IDT	
										IDT7132SA-100	° IDT	35
										IDT7132SA-100B	°‡ IDT	
										IDT7142LA-100	° IDT	
										IDT7142LA-100B	°‡ IDT	
										IDT7142SA-100	° IDT	
										IDT7142SA-100B	°‡ IDT	40
	120						5	48	Two Port	IDT7132LA-120	° IDT	
										IDT7132LA-120B	°‡ IDT	
										IDT7132SA-120	° IDT	
										IDT7132SA-120B	°‡ IDT	
										IDT7142LA-120	° IDT	45
										IDT7142LA-120B	°‡ IDT	
										IDT7142SA-120	° IDT	
										IDT7142SA-120B	°‡ IDT	
2Kx9	20	CMOS					5	48	Two Port	IDT7012L-20	IDT	
										IDT7012S-20	IDT	50
								52	Two Port	IDT70121L-20	IDT	
										IDT70121S-20	IDT	
										IDT70125L-20	IDT	
										IDT70125S-20	IDT	
	25	CMOS					5	48	Two Port	IDT7012L-25	IDT	55
										IDT7012L-25B	† IDT	
										IDT7012S-25	IDT	
										IDT7012S-25B	† IDT	
								52	Two Port	IDT70121L-25	IDT	
										IDT70121L-25B	† IDT	60
										IDT70121S-25	IDT	
										IDT70121S-25B	† IDT	
										IDT70125L-25	IDT	
									Two Port	IDT70125L-25B	† IDT	
										IDT70125S-25	IDT	65
										IDT70125S-25B	† IDT	
	35	CMOS					5	48	Two Port	IDT7012L-35	IDT	
										IDT7012L-35B	† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static–Multiport											(Cont'd)	
2Kx9	35	CMOS					5	48	Two Port		(Cont'd)	
										IDT7012S-35	IDT	
										IDT7012S-35B	† IDT	
								52		IDT70121L-35	IDT	
										IDT70121L-35B	† IDT	
									Two Port	IDT70121S-35	IDT	5
										IDT70121S-35B	† IDT	
									Two Port	IDT70125L-35	IDT	
										IDT70125L-35B	† IDT	
										IDT70125S-35	IDT	
										IDT70125S-35B	† IDT	10
	45	CMOS					5	48	Two Port	IDT7012L-45	IDT	
										IDT7012L-45B	† IDT	
										IDT7012S-45	IDT	
										IDT7012S-45B	† IDT	
								52		IDT70121L-45	IDT	15
									Two Port	IDT70121L-45B	† IDT	
										IDT70121S-45	IDT	
										IDT70121S-45B	† IDT	
										IDT70125L-45	IDT	
										IDT70125L-45B	† IDT	20
										IDT70125S-45	IDT	
										IDT70125S-45B	† IDT	
	55	CMOS					5	48	Two Port	IDT7012L-55	IDT	
										IDT7012L-55B	† IDT	
										IDT7012S-55	IDT	25
										IDT7012S-55B	† IDT	
								52	Two Port	IDT70121L-55	IDT	
										IDT70121L-55B	† IDT	
										IDT70121S-55	IDT	
										IDT70121S-55B	† IDT	30
										IDT70125L-55	IDT	
										IDT70125L-55B	† IDT	
									Two Port	IDT70125S-55	IDT	
										IDT70125S-55B	† IDT	
	70	CMOS					5	48	Two Port	IDT7012L-70B	† IDT	35
										IDT7012S-70B	† IDT	
								52		IDT70121L-70B	† IDT	
									Two Port	IDT70121S-70B	† IDT	
										IDT70125L-70B	† IDT	
									Two Port	IDT70125S-70B	† IDT	40
2Kx16	70						5	68	Two Port	IDT7133L-70B	°‡ IDT	
										IDT7133S-70B	°‡ IDT	
									Two Port	IDT7143L-70B	°‡ IDT	
										IDT7143S-70B	°‡ IDT	
	90						5	68	Two Port	IDT7133L-90	° IDT	45
										IDT7133L-90B	°† IDT	
										IDT7133S-90	° IDT	
										IDT7133S-90B	°‡ IDT	
										IDT7143L-90	° IDT	
										IDT7143L-90B	°† IDT	50
		2-Port					5	68		IDT7143S-90B	°‡ IDT	
2Kx16	25	CMOS	TTL		180	270	5	68		IDT7133LA-25	IDT	
										IDT7143LA-25	IDT	
					200	300	5	68		IDT7133SA-25	IDT	
										IDT7143SA-25	IDT	55
	35	CMOS	TTL		170	265	5	68		IDT7133LA-35	IDT	
										IDT7143LA-35	IDT	
					190	295	5	68		IDT7133SA-35	IDT	
										IDT7143SA-35	IDT	
					200	295	5	68		IDT7133LA-35M	† IDT	60
										IDT7143LA-35M	† IDT	
					220	325	5	68		IDT7133SA-35M	† IDT	
										IDT7143SA-35M	† IDT	
	45	CMOS	TTL		170	260	5	68		IDT7133LA-45	IDT	
										IDT7143LA-45	IDT	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
2Kx16	45	CMOS	TTL							(Cont'd)	
					190	290	5	68		IDT7133LA-45M	† IDT
										IDT7133SA-45	IDT
										IDT7143LA-45M	† IDT
										IDT7143SA-45	IDT
					210	320	5	68		IDT7133SA-45M	† IDT
										IDT7143SA-45M	† IDT
	55	CMOS	TTL		160	255	5	68		IDT7133LA-55	IDT
										IDT7143LA-55	IDT
					180	285	5	68		IDT7133SA-55	IDT
										IDT7143SA-55	IDT
					190	285	5	68		IDT7133LA-55M	† IDT
										IDT7143LA-55M	† IDT
					210	315	5	68		IDT7133SA-55M	† IDT
										IDT7143SA-55M	† IDT
	70	CMOS	TTL		160	250	5	68		IDT7133LA-70	IDT
										IDT7143LA-70	IDT
					180	280	5	68		IDT7133LA-70M	† IDT
										IDT7133SA-70	IDT
										IDT7143LA-70M	† IDT
										IDT7143SA-70	IDT
					200	310	5	68		IDT7133SA-70M	† IDT
										IDT7143SA-70M	† IDT
	90						5	68	Two Port	IDT7143S-90	° IDT
		CMOS	TTL		160	250	5	68		IDT7133LA-90	IDT
										IDT7143LA-90	IDT
					180	280	5	68		IDT7133LA-90M	† IDT
										IDT7133SA-90	IDT
										IDT7143LA-90M	† IDT
										IDT7143SA-90	IDT
					200	310	5	68		IDT7133SA-90M	† IDT
										IDT7143SA-90M	† IDT
2Kx8	20	CMOS	TTL		145	215	5	48		IDT7032LA-20	IDT
										IDT7042LA-20	IDT
								52		IDT7132LA-20	IDT
								48		IDT71321LA-20	IDT
								52		IDT7142LA-20	IDT
								48		IDT71421LA-20	IDT
					180	265	5	48		IDT7032SA-20	IDT
										IDT7042SA-20	IDT
								52		IDT7132SA-20	IDT
										IDT71321SA-20	† IDT
										IDT7142SA-20	IDT
								48		IDT71421SA-20	IDT
	25	CMOS					5	108	Four Port	IDT7052S-25	IDT
			TTL		65	170	5	52		CY7C136-25C	Cypress
								48		CY7C142-25C	Cypress
								52		CY7C146-25C	Cypress
					140	210	5	48		IDT7032LA-25	IDT
										IDT7042LA-25	IDT
								52		IDT7132LA-25	IDT
								48		IDT71321LA-25	IDT
								52		IDT7142LA-25	IDT
								48		IDT71421LA-25	IDT
					160	240	5	48		IDT7032LA-25M	† IDT
										IDT7042LA-25M	† IDT
								52		IDT7132LA-25M	† IDT
								48		IDT71321LA-25M	† IDT
								52		IDT7142LA-25M	† IDT
								48		IDT71421LA-25M	† IDT
					175	260	5	48		IDT7032SA-25	IDT
										IDT7042SA-25	IDT
								52		IDT7132SA-25	IDT
										IDT71321SA-25	IDT
										IDT7142SA-25	IDT

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8	25	CMOS	TTL		175	260	5	48		IDT71421SA-25	IDT	
					195	300	5	48		IDT7032SA-25M	† IDT	
										IDT7042SA-25M	† IDT	
								52		IDT7132SA-25M	† IDT	
										IDT71321SA-25M	† IDT	5
										IDT7142SA-25M	† IDT	
								48		IDT71421SA-25M	† IDT	
	30	CMOS	TTL		65	170	5	48		CY7C132-30C	Cypress	
									Two Port	CY7C132-30I	Cypress	
										CY7C136-30C	Cypress	10
									Two Port	CY7C136-30I	Cypress	
										CY7C142-30C	Cypress	
									Two Port	CY7C142-30I	Cypress	
										CY7C146-30C	Cypress	
									Two Port	CY7C146-30I	Cypress	15
					135	205	5	52		IDT7132LA-30	IDT	
								48		IDT71321LA-30	IDT	
								52		IDT7142LA-30	IDT	
								48		IDT71421LA-30	IDT	
					155	235	5	52		IDT7132LA-30M	† IDT	20
								48		IDT71321LA-30M	† IDT	
								52		IDT7142LA-30M	† IDT	
								48		IDT71421LA-30M	† IDT	
					170	255	5	52		IDT7132SA-30	IDT	
										IDT71321SA-30	IDT	25
										IDT7142SA-30	IDT	
								48		IDT71421SA-30	IDT	
					190	295	5	52		IDT7132SA-30M	† IDT	
										IDT71321SA-30M	† IDT	
										IDT7142SA-30M	† IDT	30
								48		IDT71421SA-30M	† IDT	
				Separate	65	295	5	132		IDT7052L-30	IDT	
					80	340	5	132		IDT7052S-30	IDT	
	35	CMOS			5	195	5	48	Dual Port	MS6132-35	Mosel-Vitelic	
			TTL		45	120	5	48		CY7C132-35C	Cypress	35
									Two Port	CY7C132-35I	Cypress	
								52		CY7C136-35C	Cypress	
								48	Two Port	CY7C136-35I	Cypress	
										CY7C142-35C	Cypress	
									Two Port	CY7C142-35I	Cypress	40
								52		CY7C146-35C	Cypress	
								48	Two Port	CY7C146-35I	Cypress	
					65	170	5	48	Two Port	CY7C132-35M	† Cypress	
										CY7C136-35M	† Cypress	
										CY7C142-35M	† Cypress	45
								52		CY7C146-35M	† Cypress	
					130	200	5	48		IDT7032LA-35	IDT	
										IDT7042LA-35	IDT	
						195	5	52		IDT7142SA-35M	† IDT	
					150	230	5	48		IDT7032LA-35M	† IDT	50
										IDT7042LA-35M	† IDT	
								52		IDT7132LA-35M	† IDT	
								48		IDT71321LA-35M	† IDT	
								52		IDT7142LA-35M	† IDT	
								48		IDT71421LA-35M	† IDT	55
					165	250	5	48		IDT7032SA-35	IDT	
										IDT7042SA-35	IDT	
					185	290	5	48		IDT7032SA-35M	† IDT	
										IDT7042SA-35M	† IDT	
								52		IDT7132SA-35M	† IDT	60
										IDT71321SA-35M	† IDT	
								48		IDT71421SA-35M	† IDT	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8											(Cont'd)	
	45	CMOS			5	195	5	48	Two Port	MS6132-45	Mosel-Vitelic	
			TTL		35	90	5	48		CY7C132-45C	Cypress	
									Two Port	CY7C132-45I	Cypress	
								52		CY7C136-45C	Cypress	
								48	Two Port	CY7C136-45I	Cypress	5
										CY7C142-45C	Cypress	
									Two Port	CY7C142-45I	Cypress	
								52		CY7C146-45C	Cypress	
								48	Two Port	CY7C146-45I	Cypress	
					45	120	5	48		CY7C132-45M	† Cypress	10
								52		CY7C136-45M	† Cypress	
								48		CY7C142-45M	† Cypress	
								52		CY7C146-45M	† Cypress	
					145	225	5	48		IDT7032LA-45M	† IDT	
										IDT7042LA-45M	† IDT	15
					180	285	5	48		IDT7032SA-45M	† IDT	
										IDT7042SA-45M	† IDT	
	55	CMOS			5	195	5	48	Two Port	MS6132-55	Mosel-Vitelic	
			TTL		35	90	5	48		CY7C132-55C	Cypress	
									Two Port	CY7C132-55I	Cypress	20
								52		CY7C136-55C	Cypress	
								48	Two Port	CY7C136-55I	Cypress	
										CY7C142-55I	Cypress	
								52		CY7C146-55C	Cypress	
								48	Two Port	CY7C146-55I	Cypress	25
					45	120	5	48		CY7C132-55M	† Cypress	
								52		CY7C136-55M	† Cypress	
										CY7C146-55M	† Cypress	
	70						5	52	Two Port	IDT71321SA-70B	‡ IDT	
4Kx8	45						5	68	Two Port	IDT7134L-45B	°‡ IDT	30
										IDT7134S-45	IDT	
										IDT7134S-45B	°‡ IDT	
								52	Two Port	IDT71342L-45B	‡ IDT	
										IDT71342S-45B	‡ IDT	
	55						5	68	Two Port	IDT7134L-55B	°† IDT	35
										IDT7134S-55	° IDT	
										IDT7134S-55B	°† IDT	
								52	Two Port	IDT71342L-55B	‡ IDT	
										IDT71342S-55B	‡ IDT	
	70						5	68	Two Port	IDT7134L-70B	°‡ IDT	40
										IDT7134S-70	° IDT	
										IDT7134S-70B	°‡ IDT	
								52	Two Port	IDT71342L-70B	‡ IDT	
										IDT71342S-70B	‡ IDT	
4Kx16	30	CMOS					5	84	Two Port	IDT7024L-30	IDT	45
										IDT7024S-30	IDT	
	35	CMOS					5	84	Two Port	IDT7024L-35	IDT	
										IDT7024S-35	IDT	
	45	CMOS					5	84	Two Port	IDT7024L-45	IDT	
										IDT7024L-45B	† IDT	50
										IDT7024S-45	IDT	
										IDT7024S-45B	† IDT	
	55	CMOS					5	84	Two Port	IDT7024L-55	IDT	
										IDT7024L-55B	† IDT	
										IDT7024S-55	IDT	55
										IDT7024S-55B	† IDT	
	70	CMOS					5	84	Two Port	IDT7024L-70B	† IDT	
										IDT7024S-70B	† IDT	
4Kx16	25	CMOS	TTL	Separate	220	310	5	84		IDT7024L-25	IDT	
					250	360	5	84		IDT7024S-25	IDT	60
	35	CMOS	TTL	Separate	240	340	5	84		IDT7024L-35M	† IDT	
					290	400	5	84		IDT7024S-35M	† IDT	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx8	15	BiCMOS	TTL		90	260	5	68	Two Port	CY7B138-15C	Cypress	
	20	BiCMOS			80	240	5	48	Two Port	CY7B134-20C	Cypress	
										CY7B1342-20C	Cypress	
										CY7B135-20C	Cypress	
	25	BiCMOS			75	220	5	48	Two Port	CY7B134-25C	Cypress	5
										CY7B134-25I	Cypress	
										CY7B1342-25C	Cypress	
									Two Port, Semaphores	CY7B1342-25I	Cypress	
									Two Port	CY7B135-25C	Cypress	
										CY7B135-25I	Cypress	10
					80	280	5	48	Two Port	CY7B134-25M	† Cypress	
										CY7B1342-25M	† Cypress	
										CY7B135-25M	† Cypress	
								68	Two Port	CY7B138-25M	Cypress	
			TTL		75	220	5	68	Two Port	CY7B138-25C	Cypress	15
										CY7B138-25I	Cypress	
		CMOS	TTL		150	240	5	52		IDT7134LA-25	IDT	
										IDT71342LA-25	IDT	
					180	280	5	52		IDT7134SA-25	IDT	
										IDT71342SA-25	IDT	20
	35	BiCMOS			70	210	5	48	Two Port	CY7B134-35C	Cypress	
										CY7B134-35I	Cypress	
										CY7B1342-35C	Cypress	
									Two Port, Semaphores	CY7B1342-35I	Cypress	
									Two Port	CY7B135-35C	Cypress	25
										CY7B135-35I	Cypress	
								68	Two Port	CY7B138-35C	Cypress	
					75	250	5	48	Two Port	CY7B134-35M	† Cypress	
										CY7B1342-35M	† Cypress	
										CY7B135-35M	† Cypress	30
								68	Two Port	CY7B138-35M	† Cypress	
			TTL		70	210	5	68	Two Port	CY7B138-35I	Cypress	
		CMOS			5	195	5	48		MS6134-35	Mosel-Vitelic	
								52	Dual Port	MS61342-35	Mosel-Vitelic	
			TTL		140	220	5	52		IDT7134LA-35	IDT	35
										IDT71342LA-35	IDT	
					170	260	5	52		IDT7134LA-35M	† IDT	
										IDT7134SA-35	IDT	
										IDT71342LA-35M	† IDT	
										IDT71342SA-35	IDT	40
					200	300	5	52		IDT7134SA-35M	† IDT	
										IDT71342SA-35M	† IDT	
	45	CMOS			5	195	5			MS6134-45	Mosel-Vitelic	
								52	Two Port	MS61342-45	Mosel-Vitelic	
			TTL		130	200	5	52		IDT7134LA-45	IDT	45
										IDT71342LA-45	IDT	
					160	240	5	52		IDT7134LA-45M	† IDT	
										IDT7134SA-45	IDT	
										IDT71342LA-45M	† IDT	
										IDT71342SA-45	IDT	50
					190	280	5	52		IDT7134SA-45M	† IDT	
										IDT71342SA-45M	† IDT	
	55	CMOS			5	195	5			MS6134-55	Mosel-Vitelic	
								52	Two Port	MS61342-55	Mosel-Vitelic	
			TTL		130	200	5	52		IDT7134LA-55	IDT	55
										IDT71342LA-55	IDT	
					150	220	5	52		IDT7134LA-55M	† IDT	
										IDT71342LA-55M	† IDT	
					160	240	5	52		IDT7134SA-55	IDT	
										IDT71342SA-55	IDT	60
					180	270	5	52		IDT7134SA-55M	† IDT	
										IDT71342SA-55M	† IDT	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Multiport (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
4Kx8											(Cont'd)
	70	CMOS	TTL		130	200	5	52		IDT7134LA-70	IDT
										IDT71342LA-70	IDT
					150	220	5	52		IDT7134LA-70M	† IDT
										IDT71342LA-70M	† IDT
					160	240	5	52		IDT7134SA-70	IDT
					180	270	5	52		IDT7134SA-70M	† IDT
4Kx9	15	BiCMOS			300	390	5	68		IDT7099S-15	IDT
			TTL			250	5	52		IDT7014S-15	IDT
					90	260	5	68		CY7B139-15C	Cypress
	20	BiCMOS			270	360	5	68		IDT7099S-20	IDT
					290	390	5	68		IDT7099S-20M	† IDT
			TTL			245	5	52		IDT7014S-20	IDT
						260	5	52		IDT7014S-20M	† IDT
	25	BiCMOS			250	340	5	68		IDT7099S-25	IDT
					270	370	5	68		IDT7099S-25M	† IDT
			TTL			240	5	52		IDT7014S-25	IDT
						255	5	52		IDT7014S-25M	† IDT
					75	220	5	68		CY7B139-25C	Cypress
										CY7B139-25I	Cypress
					80	280	5	68		CY7B139-25M	† Cypress
	30	BiCMOS			250	360	5	68		IDT7099S-30M	† IDT
	35	BiCMOS									
			TTL			250	5	52		IDT7014S-35M	† IDT
					70	210	5	68		CY7B139-35C	Cypress
										CY7B139-35I	Cypress
					75	250	5	68		CY7B139-35M	† Cypress
8Kx8	35	CMOS					5	68	Two Port	IDT7005L-35	IDT
										IDT7005S-35	IDT
	45	CMOS					5	68		IDT7005L-45	IDT
									Two Port	IDT7005L-45B	IDT
										IDT7005S-45	IDT
										IDT7005S-45B	IDT
	55	CMOS					5	68	Two Port	IDT7005L-55	IDT
										IDT7005L-55B	IDT
		CMOS, 2-Port					5	68		IDT7005S-55B	IDT
	70	CMOS					5	68	Two Port	IDT7005L-70B	IDT
										IDT7005S-70B	IDT
8Kx16	30	CMOS					5	84	Two Port	IDT7025L-30	IDT
										IDT7025S-30	IDT
	35	CMOS					5	84	Two Port	IDT7025L-35	IDT
										IDT7025S-35	IDT
	45	CMOS					5	84	Two Port	IDT7025L-45	IDT
										IDT7025L-45B	† IDT
										IDT7025S-45	IDT
										IDT7025S-45B	† IDT
	55	CMOS					5	84	Two Port	IDT7025L-55	IDT
										IDT7025L-55B	† IDT
										IDT7025S-55	IDT
									Low Port	IDT7025S-55B	† IDT
	70	CMOS					5	84	Two Port	IDT7025L-70B	† IDT
										IDT7025S-70B	† IDT
8Kx16	25	CMOS	TTL	Separate	250	360	5	84		IDT7025S-25	IDT
	35	CMOS	TTL	Separate	290	400	5	84		IDT7025S-35M	† IDT
8Kx8	15	BiCMOS			90	260	5	68	Two Port	CY7B144-15C	Cypress
	25	BiCMOS			75	220	5	68	Two Port	CY7B144-25C	Cypress
					80	280	5	68	Two Port	CY7B144-25M	† Cypress
			TTL		75	220	5	68		CY7B144-25I	† Cypress
	35	BiCMOS			70	210	5	68	Two Port	CY7B144-35C	Cypress
					75	250	5	68	Two Port	CY7B144-35M	† Cypress
			TTL		70	210	5	68		CY7B144-35I	Cypress
	45	CMOS			0.2	120	5	64	Two Port	MS6138-45	Mosel-Vitelic
	55	CMOS					5	68	Two Port	IDT7005S-55	IDT
					0.2	120	5	64	Dual Port	MS6138-55	Mosel-Vitelic
											(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—Multiport											**(Cont'd)**	
8Kx8											(Cont'd)	
	70	CMOS			0.2	120	5	64	Dual Port	MS6138-70	Mosel-Vitelic	
8Kx9	15	BiCMOS	TTL		90	260	5	68		CY7B145-15C	Cypress	
	25	BiCMOS	TTL		75	220	5	68		CY7B145-25C	Cypress	
										CY7B145-25I	Cypress	
					80	280	5	68		CY7B145-25M	† Cypress	5
	35	BiCMOS	TTL		70	210	5	68		CY7B145-35C	Cypress	
										CY7B145-35I	Cypress	
					75	250	5	68		CY7B145-35M	† Cypress	
16Kx8	35	CMOS					5	68	Low Power	IDT7006L-35	IDT	
									Two Port	IDT7006S-35	IDT	10
	45	CMOS					5	68	Two Port	IDT7006L-45	IDT	
										IDT7006L-45B	† IDT	
										IDT7006S-45	IDT	
										IDT7006S-45B	† IDT	
	55	CMOS					5	68	Two Port	IDT7006L-55	IDT	15
										IDT7006L-55B	† IDT	
										IDT7006S-55	IDT	
										IDT7006S-55B	† IDT	
	70	CMOS					5	68	Two Port	IDT7006L-70B	† IDT	
										IDT7006S-70B	† IDT	20
Static—NOVRAMs												
8x8	1000	CMOS			0.001	10	5	8		**S24H30I**	**Seiko Instr (3761)**	
										S24H30R	**Seiko Instr (3761)**	
										S24S30I	**Seiko Instr (3761)**	
										S24S30R	**Seiko Instr (3761)**	
16x16	400	CMOS	TTL/CMOS		0.03	20	5	8	Serial	CAT24C44	Catalyst Semi	25
										CAT24C44I	Catalyst Semi	
					1	10	5	8		X24C44	Xicor	
										X24C45	Xicor	
	1000	CMOS			0.001	10	5	8		**S24H45I**	**Seiko Instr (3761)**	
										S24H45R	**Seiko Instr (3761)**	30
										S24S45I	**Seiko Instr (3761)**	
										S24S45R	**Seiko Instr (3761)**	
24Kx8	250				10	75	5	30	Cartridge	DS1217A192K-25	Dallas	
64x4	120	CMOS	TTL/CMOS		2	40	5	18		X22C10	Xicor	
	200	CMOS	TTL/CMOS		0.03	40	5	18		CAT22C10I-20	Catalyst Semi	35
	300	CMOS	TTL/CMOS		0.03	40	5	18		CAT22C10I-30	Catalyst Semi	
64x4	200	CMOS			0.001	30	5	18		**S22H10I**	**Seiko Instr (3761)**	
						20	5	18		**S22H10R**	**Seiko Instr (3761)**	
						30	5	18		**S22S10I**	**Seiko Instr (3761)**	
						20	5	18		**S22S10R**	**Seiko Instr (3761)**	40
			TTL/CMOS		0.03	40	5	18		CAT22C10-20	Catalyst Semi	
	300	CMOS	TTL/CMOS		0.03	40	5	18		CAT22C10-30	Catalyst Semi	
256x4	150	CMOS	TTL/CMOS		2	40	5	20		X22C12	Xicor	
	200	CMOS	TTL/CMOS		0.03	50	5	18		CAT22C12I-20	Catalyst Semi	
	300	CMOS	TTL/CMOS		0.03	50	5	18		CAT22C12I-30	Catalyst Semi	45
256x4	200	CMOS			0.001	30	5	18		**S22H12I**	**Seiko Instr (3761)**	
						20	5	18		**S22H12R**	**Seiko Instr (3761)**	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
Static—NOVRAMs											**(Cont'd)**	
256x4	200	CMOS			0.001						(Cont'd)	
						30	5	18		S22S12I	Seiko Instr	
						20	5	18		**S22S12R**	**Seiko Instr (3761)**	
			TTL/CMOS		0.03	50	5	18		CAT22C12-20	Catalyst Semi	
	300	CMOS	TTL/CMOS		0.03	50	5	18		CAT22C12-30	Catalyst Semi	
384Kx8	250				25	100	5	30	Cartridge	DS1217M3-25	Dallas	5
512x8	35	CMOS			10	100	5	28		X22C05-35	Xicor	
	45	CMOS			10	100	5	28		X22C05-45	Xicor	
	55	CMOS			10	100	5	28		X22C05-55	Xicor	
	150	CMOS			10	100	5	28		X22C04-15	Xicor	
	200	CMOS			10	100	5	28		X22C04-20	Xicor	10
	250	CMOS			10	100	5	28		X22C04-25	Xicor	
	300	CMOS			10	100	5	28		X22C04	Xicor	
512x8	35	CMOS			10	100	5	28		X20C05-35	Xicor	
	45	CMOS			10	100	5	28		X20C05-45	Xicor	
	55	CMOS			10	100	5	28		X20C05-55	Xicor	15
	150	CMOS			10	100	5	28		X20C04-15	Xicor	
	200	CMOS			10	100	5	28		X20C04-20	Xicor	
		Ferroelectric	TTL/CMOS	Common	1.2	8	5	24		FM1208S-200	Ramtron	
	250	CMOS			10	100	5	28		X20C04-25	Xicor	
			TTL/CMOS	Common	1.2	8	5	24		FM1208-250	Ramtron	20
	300	CMOS			10	100	5	28		X20C04	Xicor	
2Kx8	35	CMOS					5	24		X22C17-35	Xicor	
					10	100	5	28		X22C16-35	Xicor	
	45	CMOS					5	24		X22C17-45	Xicor	
					10	100	5	28		X22C16-45	Xicor	25
	55	CMOS					5	24		X22C17-55	Xicor	
					10	100	5	28		X22C16-55	Xicor	
	100	CMOS			7	85	5	24		DS1220Y-100	Dallas	
					10	85	5	24		DS1220AB-100	Dallas	
										DS1220AD-100	Dallas	30
	120	CMOS			7	85	5	24		DS1220Y-120	Dallas	
					10	85	5	24		DS1220AB-120	Dallas	
										DS1220AD-120	Dallas	
	150	CMOS			7	85	5	24		DS1220Y-150	Dallas	
						25	5	24	Ramport	DS1380	Dallas	35
										DS1380S	Dallas	
										DS1381	Dallas	
					10	85	5	24		DS1220AB-150	Dallas	
										DS1220AD-150	Dallas	
	200						5	24		GR281	Greenwich	40
										NVR2	Greenwich	
		CMOS			7	85	5	24		DS1220Y-200	Dallas	
					10	85	5	24		DS1220AB-200	Dallas	
										DS1220AD-200	Dallas	
	250				10	75	5	30	Cartridge	DS1217A16K-25	Dallas	45
2Kx8	25	CMOS			27	80	5	28		**STK10C48-25**	**Simtek (3785)**	
					30	85	5	28		**STK11C48-25**	**Simtek (3785)**	
	30	CMOS			2	75	5	28		**STK10C48-30M**	**† Simtek (3785)**	
					27	80	5	28		**STK10C48-30**	**Simtek (3785)**	
										STK11C48-30	**Simtek (3785)**	50
					30	85	5	28		**STK10C48-30I**	**Simtek (3785)**	
										STK11C48-30I	**Simtek (3785)**	
										STK11C48-30M	**† Simtek (3785)**	
	35	CMOS					5	28		**STK10C48-35M**	**† Simtek (3785)**	
								24		X20C17-35	Xicor	55
					10	100	5	28		X20C16-35	Xicor	
					23	75	5	28		**STK10C48-35**	**Simtek (3785)**	
										STK11C48-35	**Simtek (3785)**	
					27	80	5	28		**STK10C48-35I**	**Simtek (3785)**	
										STK11C48-35I	**Simtek (3785)**	60
										STK11C48-35M	**† Simtek (3785)**	
											(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—NOVRAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2Kx8											(Cont'd)	
	45	CMOS					5	28		**STK10C48-45M**	† **Simtek (3785)**	
								24		X20C17-45	Xicor	
					10	100	5	28		X20C16-45	Xicor	
					20	65	5	28		**STK10C48-45**	**Simtek (3785)**	
										STK11C48-45	**Simtek (3785)**	5
					23	75	5	28		**STK10C48-45I**	**Simtek (3785)**	
										STK11C48-45I	**Simtek (3785)**	
					24	75	5	28		**STK11C48-45M**	† **Simtek (3785)**	
	55	CMOS					5	24		X20C17-55	Xicor	
					10	100	5	28		X20C16-55	Xicor	10
	200	Ferroelectric	TTL/CMOS	Common	1	15	5	24		FM1408S-200	Ramtron	
	250	Ferroelectric	TTL/CMOS	Common	1	15	5	24		FM1408S-250	Ramtron	
4Kx8	25	CMOS					5	32	Real Time Clock	STK1391-25	Simtek	
	30	CMOS					5	32	Real Time Clock	STK1391-30	Simtek	
	35	CMOS					5	32	Real Time Clock	STK1391-35	Simtek	15
	45	CMOS					5	32	Real Time Clock	STK1391-45	Simtek	
8Kx8	70				10	85	5	28		DS1225D-70	Dallas	
		CMOS			10	85	5	28		DS1225E-70	Dallas	
	85				10	85	5	28		DS1225D-85	Dallas	
		CMOS			10	85	5	28		DS1225E-85	Dallas	20
	100				10	85	5	28		DS1225D-100	Dallas	
		CMOS					5	28		MK48Z08-10	SGS-Thomson	
										MK48Z18-10	SGS-Thomson	
										MK48Z19-10	SGS-Thomson	
					10	85	5	28		DS1225E-100	Dallas	25
	120				10	85	5	28		DS1225D-120	Dallas	
		CMOS			10	85	5	28		DS1225E-120	Dallas	
	150						5	28		GR881	Greenwich	
		CMOS					5	28		MK48Z08-15	SGS-Thomson	
										MK48Z18-15	SGS-Thomson	30
										MK48Z19-15	SGS-Thomson	
					10	85	5	28		DS1225AB-150	Dallas	
										DS1225AD-150	Dallas	
										DS1225Y-150	Dallas	
	170	CMOS			10	85	5	28		DS1225AB-170	Dallas	35
										DS1225AD-170	Dallas	
										DS1225Y-170	Dallas	
	200	CMOS			10	85	5	28		DS1225AB-200	Dallas	
										DS1225AD-200	Dallas	
										DS1225Y-200	Dallas	40
									Phantom Clock	DS1243Y	Dallas	
	250				10	75	5	30	Cartridge	DS1217A64K-25	Dallas	
8Kx8	25	CMOS			30	85	5	28		**STK10C68-25**	**Simtek (3785)**	
										STK11C68-25	**Simtek (3785)**	
										STK13C68-25	Simtek	45
								32	Real Time Clock	**STK1390-25**	**Simtek (3784)**	
								28		STK14C68-25	Simtek	
					34	95	5	28		**STK10C68-25I**	**Simtek (3785)**	
										STK11C68-25I	**Simtek (3785)**	
										STK13C68-25I	Simtek	50
								32	Real Time Clock	**STK1390-25I**	**Simtek (3784)**	
								28		STK14C68-25I	Simtek	
	30	CMOS			27	80	5	28		**STK10C68-30**	**Simtek (3785)**	
										STK11C68-30	**Simtek (3785)**	
										STK13C68-30	Simtek	55
								32	Real Time Clock	**STK1390-30**	**Simtek (3784)**	
								28		STK14C68-30	Simtek	
					30	85	5	28		**STK10C68-30I**	**Simtek (3785)**	
										STK10C68-30M	† **Simtek (3785)**	
										STK11C68-30I	**Simtek (3785)**	60
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—NOVRAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8	30	CMOS			30	85	5	28			(Cont'd)	
										STK11C68-30M	† **Simtek (3785)**	
										STK13C68-30I	Simtek	
								32	Real Time Clock	**STK1390-30I**	**Simtek (3784)**	
								28		STK14C68-30I	Simtek	
					35	85	5	28	Auto Store nvSRAM	**STK12C68-30**	**Simtek (3782)**	5
					39	95	5	28	Auto Store nvSRAM	**STK12C68-30I**	**Simtek (3782)**	
	35	CMOS			23	75	5	28		**STK10C68-35**	**Simtek (3785)**	
										STK11C68-35	**Simtek (3785)**	
										STK13C68-35	Simtek	
								32	Real Time Clock	**STK1390-35**	**Simtek (3784)**	10
								28		STK14C68-35	Simtek	
					27	80	5	28		**STK10C68-35I**	**Simtek (3785)**	
										STK10C68-35M	† **Simtek (3785)**	
										STK11C68-35I	**Simtek (3785)**	
										STK11C68-35M	† **Simtek (3785)**	15
										STK13C68-35I	Simtek	
								32	Real Time Clock	**STK1390-35I**	**Simtek (3784)**	
								28		STK14C68-35I	Simtek	
					32	80	5	28	Auto Store nvSRAM	**STK12C68-35**	**Simtek (3782)**	
					35	85	5	28	Auto Store nvSRAM	**STK12C68-35I**	**Simtek (3782)**	20
										STK12C68-35M	† **Simtek (3782)**	
	45	CMOS			20	65	5	28		**STK10C68-45**	**Simtek (3785)**	
										STK11C68-45	**Simtek (3785)**	
										STK13C68-45	Simtek	
								32	Real Time Clock	**STK1390-45**	**Simtek (3784)**	25
								28		STK14C68-45	Simtek	
					23	75	5	28		**STK10C68-45I**	**Simtek (3785)**	
										STK10C68-45M	† **Simtek (3785)**	
										STK11C68-45I	**Simtek (3785)**	
										STK11C68-45M	† **Simtek (3785)**	30
										STK13C68-45I	Simtek	
								32	Real Time Clock	**STK1390-45I**	**Simtek (3784)**	
								28		STK14C68-45I	Simtek	
					28	75	5	28	Auto store nvSRAM	**STK12C68-45**	**Simtek (3782)**	
					32	80	5	28	Auto store nvSRAM	**STK12C68-45I**	**Simtek (3782)**	35
										STK12C68-45M	† **Simtek (3782)**	
	55	CMOS			20	70	5	28		**STK10C68-55M**	† **Simtek (3785)**	
										STK11C68-55M	† **Simtek (3785)**	
					28	75	5	28		STK12C68-55M	Simtek	
	85						5	28		bq4010-85	Benchmarq	40
		CMOS		Common	4	75	5	28		bq4010Y-85	Benchmarq	
	100	CMOS					5	28		MK48T08-10	SGS-Thomson	
	150						5	28		bq4010-150	Benchmarq	
		CMOS					5	28		MK48T08-15	SGS-Thomson	
				Common	4	75	5	28		bq4010Y-150	Benchmarq	45
	200						5	28		bq4010-200	Benchmarq	
		CMOS		Common	4	75	5	28		bq4010Y-200	Benchmarq	
	250	Ferroelectric	CMOS/TTL		0.6	25	5	28		FM1608S-250	Ramtron	
16Kx1	400						5			MRAM	‡ Honeywell	
16Kx8	250				10	75	5	30	Cartridge	DS1217A128K-25	Dallas	50
32Kx8	70	CMOS			10	85	5	28		DS1230AB-70	Dallas	
										DS1230Y-70	Dallas	
										DS1630AB-70	Dallas	
										DS1630Y-70	Dallas	
	85	CMOS			10	85	5	28		DS1230AB-85	Dallas	55
										DS1630AB-85	Dallas	
										DS1630Y-85	Dallas	
	100	CMOS					5	28		MK48Z30-10	SGS-Thomson	
					10	85	5	28		DS1230AB-100	Dallas	
										DS1630AB-100	Dallas	60
										DS1630Y-100	Dallas	

(Continued)

MEMORY

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—NOVRAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx8											(Cont'd)	
	120	CMOS					5	28		MK48Z30-12	SGS-Thomson	
					10	85	5	28		DS1230AB-120	Dallas	
										DS1230Y-120	Dallas	
									Phantom Clock	DS1244Y-120	Dallas	
										DS1630AB-120	Dallas	5
										DS1630Y-120	Dallas	
	150	CMOS					5	28		GR3281	Greenwich	
					10	85	5	28		DS1230AB-150	Dallas	
										DS1230Y-150	Dallas	
									Phantom Clock	DS1244Y-150	Dallas	10
	200	CMOS			10	85	5	28		DS1230AB-200	Dallas	
										DS1230Y-200	Dallas	
									Phantom Clock	DS1244Y-200	Dallas	
	250				10	75	5	30	Cartridge	DS1217A256K-25	Dallas	
32Kx8	20	CMOS					5	40		**STK12C88-20**	**Simtek (3783)**	15
	25	CMOS					5	40		**STK12C88-25**	**Simtek (3783)**	
	30	CMOS					5	40		**STK12C88-30**	**Simtek (3783)**	
	85	CMOS			10	85	5	28		DS1230Y-85	Dallas	
	100						5	28		bq4011-100	Benchmarq	
		CMOS			10	85	5	28		DS1230Y-100	Dallas	20
			Common	4	75	5	28			bq4011Y-100	Benchmarq	
	150						5	28		bq4011-150	Benchmarq	
		CMOS		Common	4	75	5	28		bq4011Y-150	Benchmarq	
	200						5	28		bq4011-200	Benchmarq	
		CMOS		Common	4	75	5	28		bq4011Y-200	Benchmarq	25
64Kx8	250				25	100	5	30	Cartridge	DS1217M1/2-25	Dallas	
128Kx8										GR12881	Greenwich	
	70						5	32		DS1245-70	Dallas	
		CMOS			10	85	5	32		DS1245AB-70	Dallas	
										DS1245Y-70	Dallas	30
										DS1645AB-70	Dallas	
										DS1645EE-70	Dallas	
										DS1645Y-70	Dallas	
	85	CMOS			10	85	5	32		DS1245AB-85	Dallas	
										DS1245Y-85	Dallas	35
										DS1645AB-85	Dallas	
										DS1645EE-85	Dallas	
										DS1645Y-85	Dallas	
	100	CMOS			10	85	5	32		DS1245AB-100	Dallas	
										DS1245EE-100	Dallas	40
										DS1245Y-100	Dallas	
										DS1645AB-100	Dallas	
										DS1645EE-100	Dallas	
										DS1645Y-100	Dallas	
	120	CMOS			10	85	5	32		DS1245AB-120	Dallas	45
										DS1245EE-120	Dallas	
										DS1245Y-120	Dallas	
									Phantom Clock	DS1248Y-120	Dallas	
										DS1645AB-120	Dallas	
										DS1645Y-120	Dallas	50
	150	CMOS					5	32		GR12882	Greenwich	
					10	85	5	32	Phantom Clock	DS1248Y-150	Dallas	
	250				25	100	5	30	Cartridge	DS1217M1-25	Dallas	
128Kx16	85						5	40		bq4024-85	Benchmarq	
		CMOS		Common	4	200	5	40		bq4024Y-85	Benchmarq	55
	120						5	40		bq4024-120	Benchmarq	
		CMOS		Common	5	200	5	40		bq4024Y-120	Benchmarq	
128Kx8	85						5	32		bq4013-85	Benchmarq	
		CMOS		Common	4	105	5	32		bq4013Y-85	Benchmarq	
	120						5	32		bq4013-120	Benchmarq	60
		CMOS		Common	4	105	5	32		bq4013Y-120	Benchmarq	
	200	CMOS			10	85	5	32	Phantom Clock	DS1248Y-200	Dallas	
256Kx8	120						5	32		bq4014-120	Benchmarq	
	250				25	100	5	30	Cartridge	DS1217M2-25	Dallas	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—NOVRAMs (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
256Kx16	85						5	40		bq4025-85	Benchmarq
		CMOS		Common	5	200	5	40		bq4025Y-85	Benchmarq
	120						5	40		bq4025-120	Benchmarq
		CMOS		Common	5	200	5	40		bq4025Y-120	Benchmarq
256Kx8	85						5	32		bq4014-85	Benchmarq
		CMOS		Common	4	110	5	32		bq4014Y-85	Benchmarq
	120	CMOS		Common	4	110	5	32		bq4014Y-120	Benchmarq
512Kx8	70	CMOS			10	85	5	32		DS1650AB-70	Dallas
										DS1650Y-70	Dallas
	85	CMOS			10	85	5	32		DS1650AB-85	Dallas
										DS1650Y-85	Dallas
	100	CMOS			10	85	5	32		DS1650AB-100	Dallas
										DS1650Y-100	Dallas
	250				25	100	5	30	Cartridge	DS1217M4-25	Dallas
512Kx8	85						5	32		bq4015-85	Benchmarq
		CMOS		Common	5	115	5	32		bq4015Y-85	Benchmarq
	120						5	32		bq4015-120	Benchmarq
		CMOS		Common	5	115	5	28		bq4015Y-120	Benchmarq

Static—Pseudostatic

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source
32Kx8	70	CMOS	TTL		1	70	5	28		TC51832-70	Toshiba
										TC51832L-70	Toshiba
	85	CMOS	TTL		1	55	5	28		TC51832-85	Toshiba
										TC51832L-85	Toshiba
	100	CMOS	TTL		1	45	5	28		TC51832-10	Toshiba
	120	CMOS	TTL		3	55	5	28		**LH5P832-12**	**Sharp (3763)**
64Kx8	80	CMOS	TTL		1	80	5	32		**LH5P864-80**	**Sharp (3763)**
128Kx8	60	CMOS	TTL		1	104	5	32		**LH5P8128-60L**	**Sharp (3763)**
										LH5P8129-60L	**Sharp (3763)**
	80	CMOS			2	75	5	32	Pseudostatic	MSM548128D-80	OKI
										MSM548128L-80	OKI
			TTL		1	80	5	32		**LH5P8128-80L**	**Sharp (3763)**
										LH5P8129-80L	**Sharp (3763)**
					2	70	5	32	Pseudostatic	TC518128A-80	Toshiba
										TC518129A-80	Toshiba
	100	CMOS			2	75	5	32	Pseudostatic	MSM548128D-10	OKI
										MSM548128L-10	OKI
			TTL		1	65	5	32		**LH5P8128-10L**	**Sharp (3763)**
										LH5P8129-10L	**Sharp (3763)**
					2	60	5	32	Pseudostatic	TC518128A-10	Toshiba
										TC518129A-10	Toshiba
	120	CMOS			2	75	5	32	Pseudostatic	MSM548128D-12	OKI
										MSM548128L-12	OKI
512Kx8	60	CMOS	TTL		1	100	5	32	Pseudostatic	LH5P8512-60L	Sharp
	70	CMOS	TTL		1	100	5	32	Pseudostatic	LH5P8512-70L	Sharp
						70	5	32		TC518512-70	Toshiba
										TC518512L-70	Toshiba
	80	CMOS			2	75	5	32	Pseudostatic	MSM548512D-80	OKI
										MSM548512L-80	OKI
			TTL		0.2	75	5	32		**658512-8**	**Krueger (3663)**
					1	100	5	32	Pseudo-Static	LH5P8512-80L	Sharp
						60	5	32		TC518512-80	Toshiba
										TC518512L-80	Toshiba
	100	CMOS			2	75	5	32	Pseudostatic	MSM548512D-10	OKI
										MSM548512L-10	OKI
			TTL		0.2	65	5	32		**658512-10**	**Krueger (3663)**
					1	50	5	32		TC518512-10	Toshiba
										TC518512L-10	Toshiba
	120	CMOS			2	75	5	32	Pseudostatic	MSM548512D-12	OKI
										MSM548512L-12	OKI

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Pseudostatic (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
512Kx8	120	CMOS	TTL		0.2	55	5	32		**658512-12**	(Cont'd) **Krueger** **(3663)**	

Static—Cache Tag

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
2x8Kx15	13	CMOS	TTL	Common		360	5	52	R3000A BiCameral RAM	P4C215-13	Performance	
	17	CMOS	TTL	Common		360	5	52	R3000A BiCameral RAM	P4C215-17	† Performance	
	23	CMOS	TTL	Common		360	5	52	R3000A BiCameral RAM	P4C215-23	† Performance	
2x8Kx16	13	CMOS	TTL	Common		360	5	52	2-Way Address Latch	P4C214-13	Performance	5
	20	CMOS	TTL	Common		360	5	52	2-Way Address Latch	P4C214-20	Performance	
	25	CMOS	TTL	Common		360	5	52	2-Way Address Latch	P4C214-25	Performance	
2x8Kx15	20	CMOS	TTL	Common		360	5	52	R3000A BiCameral RAM	P4C215-20	† Performance	
2x8Kx16	13	CMOS	TTL	Common		250	3.3	52	2-Way Address Latch	P3C214-13	Performance	
	15	CMOS	TTL	Common		250	3.3	52	2-Way Address Latch	P3C214-15	ℓ Performance	10
						360	5	52	2-Way Address Latch	P4C214-15	Performance	
	20	CMOS	TTL	Common		250	3.3	52	2-Way Address Latch	P3C214-20	ℓ Performance	
	25	CMOS	TTL	Common		250	3.3	52	2-Way Address Latch	P3C214-25	ℓ Performance	
2x4096x16	25	CMOS					5	52		ATT7C183-25	AT&T	
										ATT7C184-25	AT&T	15
	35	CMOS					5	52		ATT7C183-35	AT&T	
										ATT7C184-35	AT&T	
	45	CMOS					5	52		ATT7C183-45	AT&T	
										ATT7C184-45	AT&T	
1Kx4	10	CMOS	TTL	Separate		90	5	24		CY7C150-10C	° Cypress	20
	12	CMOS	TTL	Separate		90	5	24		CY7C150-12C	° Cypress	
						100	5	24		CY7C150-12M	°† Cypress	
	15	CMOS	TTL	Separate		100	5	24		CY7C150-15M	°† Cypress	
2Kx8	20	CMOS					5	28		SN74ACT2152A-20	° TI	
										SN74ACT2154A-20	° TI	25
	25	CMOS					5	28		SN74ACT2152A-25	° TI	
										SN74ACT2154A-25	° TI	
				Common			5	24		ATT7C116-25	AT&T	
2Kx20	22	CMOS					5	68		MK4202-22	SGS-Thomson	
2Kx20	17	CMOS	TTL		50	250	5	68		MK4202-17	SGS-Thomson	30
	20	CMOS	TTL		50	250	5	68		MK4202-20	SGS-Thomson	
	25	CMOS	TTL		50	250	5	68		MK4202-25	SGS-Thomson	
4Kx1	5	BiCMOS	ECL	Separate		200	–5.2	24	100K ECL	CY100E470-5	† Aspen	
4Kx4	5	BiCMOS	ECL	Separate		320	–5.2	28	10K/10KH ECL	CY10E484-5	Aspen	
							–4.5	28	100K ECL	CY100E484-5	Aspen	35
							–5.2	28	100K ECL	CY101E484-5	Aspen	
	10	CMOS					5	22		ATT7C180-10	AT&T	
										ATT7C181-10	AT&T	
			TTL			90	5	22		IDT6178S-10	IDT	
	12	CMOS					5	22		ATT7C180-12	AT&T	40
										ATT7C181-12	AT&T	
										IDT6177S-12	IDT	
			TTL			90	5	22		IDT6178S-12	° IDT	
						110	5	22		IDT6178S-12B	IDT	
			TTL/CMOS	Common			5	22	Totem Pole Match	L7C180-12	† LogicDev	45
									Open Drain Match	L7C181-12	† LogicDev	
	15	CMOS					5	22		ATT7C180-15	AT&T	
										ATT7C181-15	AT&T	
										IDT6177S-15B	† IDT	
			TTL			110	5	22		IDT6178S-15B	°† IDT	50
			TTL/CMOS	Common			5	22	Totem Pole Match	L7C180-15	† LogicDev	
									Open Drain Match	L7C181-15	† LogicDev	
	18	CMOS				140	5	24		MCM62351-18	Motorola	
	20	CMOS					5	22		ATT7C180-20	AT&T	
										ATT7C181-20	AT&T	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY–RAMs (Cont'd)

Static–Cache Tag (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
4Kx4	20	CMOS									(Cont'd)	
						140	5	22		MCM4180-20	Motorola	
										MK41H80-20	SGS-Thomson	
			TTL/CMOS	Common			5	22	Totem Pole Match	L7C180-20	† LogicDev	
									Open Drain Match	L7C181-20	† LogicDev	
	22	CMOS				140	5	24		MCM62350-22	Motorola	5
										MCM62351-22	Motorola	
								22		MK41H80-22	SGS-Thomson	
	25	CMOS					5	22		ATT7C180-25	AT&T	
										ATT7C181-25	AT&T	
						140	5	22		MCM4180-25	Motorola	10
								24		MCM62350-25	Motorola	
										MCM62351-25	Motorola	
								22		MK41H80-25	SGS-Thomson	
				Common			5	20		ATT7C168-25	AT&T	
								22		ATT7C170-25	AT&T	15
			TTL/CMOS	Common			5	22	Totem Pole Match	L7C180-25	† LogicDev	
									Open Drain Match	L7C181-25	† LogicDev	
	35	CMOS					5	22		4180-35	† Motorola	
								24		62350-35	† Motorola	
										62351-35	† Motorola	20
								22		MK41H80-35	SGS-Thomson	
	45	CMOS					5	22		4180-45	† Motorola	
								24		62350-45	† Motorola	
										62351-45	† Motorola	
4Kx1	5	BiCMOS	ECL	Separate		200	–5.2	24	10K/10KH ECL	CY10E470-5	† Aspen	25
4Kx10	17	CMOS	TTL				5	68		MK45180-17	SGS-Thomson	
	20	CMOS	TTL				5	68		MK45180-20	SGS-Thomson	
4Kx16x2	25	CMOS	TTL	Common		220	5	52		CY7C183-25C	Cypress	
										CY7C184-25C	Cypress	
	35	CMOS	TTL	Common		170	5	52		CY7C183-35C	Cypress	30
						200	5	48		CY7C183-35M	† Cypress	
						170	5	52		CY7C184-35C	Cypress	
						200	5	48		CY7C184-35M	† Cypress	
	45	CMOS	TTL	Common		140	5	52		CY7C183-45C	Cypress	
						160	5	48		CY7C183-45M	† Cypress	35
						140	5	52		CY7C184-45C	Cypress	
	45	CMOS	TTL	Common		160	5	48		CY7C184-45M	† Cypress	
4Kx18	12	BiCMOS				325	5	68		CY7B180-12C	Cypress	
										CY7B181-12C	Cypress	
	15	BiCMOS				315	5	68		CY7B180-15C	Cypress	40
						390	5	68		CY7B180-15M	† Cypress	
						315	5	68		CY7B181-15C	Cypress	
						390	5	68		CY7B181-15M	† Cypress	
	20	BiCMOS				390	5	68		CY7B180-20M	† Cypress	
										CY7B181-20M	† Cypress	45
4Kx4	10	CMOS	TTL				5	24		MK41S80-10	SGS-Thomson	
	12	CMOS	TTL				5	24		MK41S80-12	SGS-Thomson	
	15	CMOS	TTL				5	24		MK41S80-15	SGS-Thomson	
	18	CMOS				140	5	22		MCM4180-18	Motorola	
	20	CMOS				140	5	24		MCM62350-20	Motorola	50
										MCM62351-20	Motorola	
	22	CMOS				140	5	22		MCM4180-22	Motorola	
8Kx8	10	BiCMOS	TTL	Separate	45	45	5	28		CY7B185-10	Aspen	
	12	BiCMOS	TTL			190	5	28		IDT71B74S-12	IDT	
				Separate	55	150	5	28		CY7B185-12	† Aspen	55
		CMOS	TTL/CMOS	Common			5	28		L7C174-12	† LogicDev	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Cache Tag (Cont'd)

Organi-zation	Max Access Time (ns)	Process Tech-nology	I/O Comp-atibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
8Kx8											(Cont'd)	
	15	BiCMOS	TTL			170	5	28		IDT71B74S-15	IDT	
						190	5	28		IDT71B74S-15B	† IDT	
		CMOS	TTL/CMOS	Common			5	28		L7C174-15	† LogicDev	
	18	BiCMOS	TTL			150	5	28		IDT71B74S-18	IDT	
						170	5	28		IDT71B74S-18B	† IDT	5
	20	CMOS					5	28		MK48H74-20	SGS-Thomson	
			TTL/CMOS	Common			5	28		L7C174-20	† LogicDev	
	25	BiCMOS	TTL			170	5	28		IDT71B74S-25B	† IDT	
		CMOS	TTL/CMOS	Common			5	28		L7C174-25	† LogicDev	
	30	CMOS	TTL			110	5	28		IDT7174-30	IDT	10
	35	CMOS	TTL			110	5	28		IDT7174-35	IDT	
						125	5	28		IDT7174-35B	† IDT	
			TTL/CMOS	Common			5	28		L7C174-35	† LogicDev	
	45	CMOS	TTL			110	5	28		IDT7174-45	IDT	
						125	5	28		IDT7174-45B	† IDT	15
	55	CMOS	TTL			125	5	28		IDT7174-55B	† IDT	
8Kx9	20	CMOS	TTL			250	5	48		CY7C184-20C	Cypress	
8Kx16	30	CMOS					5	52		V63C328-03	Mosel-Vitelic	
										V63C330-03	Mosel-Vitelic	
	35	CMOS						52		V63C330-03A	Mosel-Vitelic	20
	40	CMOS					5	52		V63C328-02	Mosel-Vitelic	
										V63C330-02	Mosel-Vitelic	
	45	CMOS					5	52		V63C328-01	Mosel-Vitelic	
										V63C330-01	Mosel-Vitelic	
8Kx16	25	CMOS			6	140	5	52		V63C330-25	Mosel-Vitelic	25
	30	CMOS			6	140	5	52		V63C330-30	Mosel-Vitelic	
	35	CMOS			6	140	5	52		V63C328-35	Mosel-Vitelic	
										V63C330-35	Mosel-Vitelic	
	40	CMOS			6	140	5	52		V63C328-40	Mosel-Vitelic	
	45	CMOS			6	140	5	52		V63C328-45	Mosel-Vitelic	30
										V63C330-45	Mosel-Vitelic	
	100	CMOS	TTL			240	5	52		**CXK584000-100LL**	**Sony (3787)**	
8Kx20x2	12	BiCMOS	TTL			300	5	68		μPD46741A-12	NEC	
	15	BiCMOS	TTL			300	5	68		μPD46741A-15	NEC	
	17	CMOS				220	5	52		HM62A2016-17	Hitachi	35
8Kx8	9	BiCMOS	TTL	Separate	50	150	5	28		CY7B185-9	Aspen	
	10	CMOS					5	28		ATT7C173-10	AT&T	
	12	CMOS	CMOS/TTL	Common	0.5	275	5	28		ATT7C173-12	AT&T	
										ATT7C173L-12	ℓ AT&T	
										ATT7C174-12	AT&T	40
										ATT7C174L-12	ℓ AT&T	
	15	CMOS					5	28		ATT7C174-15	AT&T	
										ATT7C174L-15	ℓ AT&T	
			CMOS/TTL	Common	0.5	240	5	28		ATT7C173-15	AT&T	
										ATT7C173L-15	ℓ AT&T	45
			TTL				5	24		MK48S80-15	SGS-Thomson	
	17	CMOS	TTL				5	24		MK48S80-17	SGS-Thomson	
	20	CMOS	CMOS/TTL	Common	0.5	185	5	28		ATT7C173-20	AT&T	
										ATT7C173L-20	ℓ AT&T	
										ATT7C174-20	AT&T	50
										ATT7C174L-20	ℓ AT&T	
											(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Cache Tag (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
											(Cont'd)	
8Kx8	20	CMOS	TTL				5	24		MK48S74-20	SGS-Thomson	
										MK48S80-20	SGS-Thomson	
	25	CMOS	CMOS/TTL	Common	0.5	275	5	28		ATT7C173-25	AT&T	
										ATT7C173L-25	ℓ AT&T	
						150	5	28		ATT7C174-25	AT&T	5
										ATT7C174L-25	ℓ AT&T	
			TTL				5	24		MK48S74-25	SGS-Thomson	
										MK48S80-25	SGS-Thomson	
8Kx9	20	CMOS	TTL	Common		250	5	48		CY7C183-20C	Cypress	
16Kx4	8	BiCMOS	ECL	Separate		180	–5.2	24	10K/10KH ECL	CY10E494-8	Aspen	10
							–4.5	28	100K ECL	CY100E494-8	Aspen	
							–5.2	28	100K ECL	CY101E494-8	Aspen	
			TTL	Separate	50	140	5	28		CY7B161-8	Aspen	
										SY7B160-8	Aspen	
	10	BiCMOS	TTL	Separate	40	130	5	28		CY7B160-10	† Aspen	15
	25	CMOS		Common			5	22		ATT7C164-25	AT&T	
								24		ATT7C166-25	AT&T	
				Separate			5	28		ATT7C162-25	AT&T	
16Kx5	20	CMOS					5	32		SN74ACT2163-20	° TI	
16Kx16	13	CMOS	TTL	Common	40	360	3.3	52		P3C218-13	ℓ† Performance	20
	15	CMOS	TTL	Common	40	360	3.3	52		P3C218-15	ℓ† Performance	
	20	CMOS		Common		350	5	52		CY7C157A-20	Cypress	
			TTL	Common	40	360	3.3	52		P3C218-20	ℓ† Performance	
	24	CMOS		Common		300	5	52		CY7C157A-24	Cypress	
	25	CMOS	TTL	Common	40	360	3.3	52		P3C218-25	ℓ† Performance	25
	33	CMOS		Common		250	5	52		CY7C157A-33	Cypress	
16Kx1	25	CMOS		Separate			5	20		ATT7C167-25	AT&T	
16Kx10x2	12	BiCMOS	TTL			300	5	52		µPD46710A-12	NEC	
	15	BiCMOS	TTL			300	5	52		µPD46710A-15	NEC	
16Kx16	13	CMOS	TTL	Common	40	360	5	52		P4C218-13	Performance	30
	15	CMOS	CMOS/TTL	Common	0.5	275	5	52	Latched Data I/O	ATT7C157-15	AT&T	
			TTL	Common	40	360	5	52		P4C218-15	Performance	
	20	CMOS	CMOS/TTL	Common	0.5	275	5	52		ATT7C157-20	AT&T	
			TTL	Common	40	360	5	52		P4C218-20	Performance	
	24	CMOS	CMOS/TTL	Common	0.5	200	5	52	Latched Data I/O	ATT7C157-24	AT&T	35
			TTL	Common		325	5	52		CY7C157A-24M	† Cypress	
	25	CMOS	TTL	Common	40	360	5	52		P4C218-25	Performance	
	33	CMOS	CMOS/TTL	Common	0.5	175	5	52	Latched Data I/O	ATT7C157-33	AT&T	
			TTL	Common		275	5	52		CY7C157A-33M	† Cypress	
16Kx4	8	BiCMOS	TTL	Common	50	140	5	24		CY7B164-8	Aspen	40
										CY7B166-8	Aspen	
				Separate	50	140	5	28		CY7B162-8	Aspen	
32Kx9	15	CMOS					5	32		IDT71589S-15	IDT	
	20	CMOS				130	5	32		IDT71589S-20	IDT	
	25	CMOS				130	5	32		IDT71589S-25	IDT	45
										IDT71589S-25B	† IDT	
	35	CMOS				130	5	32		IDT71589S-35	IDT	
										IDT71589S-35B	† IDT	
32Kx9	14	BiCMOS				210	5	44		CY7B173-14C	Cypress	
										CY7B174-14C	Cypress	50
	18	BiCMOS				210	5	44		CY7B173-18C	Cypress	
						230	5	44		CY7B173-18M	† Cypress	
						210	5	44		CY7B174-18C	Cypress	
						230	5	44		CY7B174-18M	† Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Static—Cache Tag (Cont'd)

Organization	Max Access Time (ns)	Process Technology	I/O Compatibility	Data I/O Config.	Max Standby Current (mA)	Max Active Current (mA)	Supply Voltage (V)	No. of Pins	Comments	Device	Source	Line
32Kx9											(Cont'd)	
	21	BiCMOS				210	5	44		CY7B173-21C	Cypress	
						230	5	44		CY7B173-21M	† Cypress	
						210	5	44		CY7B174-21C	Cypress	
						230	5	44		CY7B174-21M	† Cypress	
64Kx1	25	CMOS		Separate			5	22		ATT7C187-25	AT&T	5
64Kx4	15	CMOS		Common			5	24		ATT7C194-15	AT&T	
128Kx8	20	CMOS				150	5	32		HM62A8128-20	Hitachi	
128Kx9	20	CMOS				150	5	32		HM62A9128-20	Hitachi	
	25	BiCMOS	TTL					113		IDT7MB6089-25	IDT	
		CMOS	TTL			960	5	80		IDT7MP6085-25	IDT	10
	33	BiCMOS	TTL					113		IDT7MB6089-33	IDT	
		CMOS	TTL			960	5	80		IDT7MP6085-33	IDT	
	40	CMOS	TTL			960	5	80		IDT7MP6085-40	IDT	
	50	CMOS	TTL			1150	5	80		IDT7MP6085-50	IDT	
256Kx4	12	BiCMOS	TTL			2200	5	80		IDT7MP6074-12	IDT	15
	15	BiCMOS	TTL			2200	5	80		IDT7MP6074-15	IDT	
	17	BiCMOS	TTL			2200	5	80		IDT7MP6074-17	IDT	
	20	BiCMOS	TTL			2200	5	80		IDT7MP6074-20	IDT	
	25	BiCMOS	TTL			2200	5	80		IDT7MP6074-25	IDT	
	30	BiCMOS	TTL			2200	5	80		IDT7MP6074-30	IDT	20
256Kx9	25	CMOS	TTL			1920	5	80		IDT7MP6087-25	IDT	
	33	CMOS	TTL			1920	5	80		IDT7MP6087-33	IDT	
	40	CMOS	TTL			1920	5	80		IDT7MP6087-40	IDT	
	50	CMOS	TTL			2300	5	80		IDT7MP6087-50	IDT	
1Mx4	12	BiCMOS	TTL			2200	5	80		IDT7MP6084-12	IDT	25
	15	BiCMOS	TTL			2200	5	80		IDT7MP6084-15	IDT	
		CMOS	TTL/CMOS	Common	1	80	5	28		DM2202J-15	Ramtron	
									Write Per Bit	DM2212J-15	Ramtron	
	17	BiCMOS	TTL			2200	5	80		IDT7MP6084-17	IDT	
	20	BiCMOS	TTL			2200	5	80		IDT7MP6084-20	IDT	30
		CMOS	TTL/CMOS	Common	1	80	5	28		DM2202J-20	Ramtron	
									Write Per Bit	DM2212J-20	Ramtron	
	25	BiCMOS	TTL			2200	5	80		IDT7MP6084-25	IDT	
	30	BiCMOS	TTL			2200	5	80		IDT7MP6084-30	IDT	
4Mx1	15	CMOS	TTL/CMOS		1	80	5	28		DM2200J-15	Ramtron	35
	20	CMOS	TTL/CMOS		1	80	5	28		DM2200J-20	Ramtron	
4Mx4	12	BiCMOS	TTL			2200	5	80		IDT7MP6094-12	IDT	
	15	BiCMOS	TTL			2200	5	80		IDT7MP6094-15	IDT	
	17	BiCMOS	TTL			2200	5	80		IDT7MP6094-17	IDT	
	20	BiCMOS	TTL			2200	5	80		IDT7MP6094-20	IDT	40
	25	BiCMOS	TTL			2200	5	80		IDT7MP6094-25	IDT	
	30	BiCMOS	TTL			2200	5	80		IDT7MP6094-30	IDT	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—Plug-In Cards

Function	Device	Source		Line
DRAM, 3Mx16, 60-Pin Two-Piece Type	MF13M1-M1CAP	Mitsubishi		
DRAM, 8Mx16, 60-Pin Two-Piece Type	MF18M1-M1AAP	Mitsubishi		
DRAM, 8Mx18, 60-Pin Two-Piece Type	MF18M1-977AP	Mitsubishi		
	MF18M1-978AP	Mitsubishi		
DRAM, 8Mx32, 88-Pin Two-Piece Type	MF18M1-L18AT	Mitsubishi		5
	MF18M1-17AT	Mitsubishi		
DRAM, 8Mx36, 88-Pin Two-Piece Type	MF18M1-L27AT	Mitsubishi		
	MF18M1-L28AT	Mitsubishi		
DRAM, 12Mx16, 60-Pin Two-Piece Type	MF112M-M1AAP	Mitsubishi		
	MF112M1-M1AAP	Mitsubishi		10
DRAM, 32Kx36, 88-Pin Two-Piece Type	DWF100SYD0	Epson		
DRAM, 64Kx36, 88-Pin Two-Piece Type	DWF200SYD0	Epson		
DRAM, 128Kx36, 88-Pin Two-Piece Type	DWF400SYD0	Epson		
DRAM, 256Kx36, 88-Pin Two-Piece Type	DWF800SYD0	Epson		
DRAM, 512Kx16, 60-Pin Two-Piece Type	MF1513-M1CAP	Mitsubishi		15
DRAM, 512Kx18, 60-Pin Two-Piece Type	DWE100CMD0	Epson		
DRAM, 512Kx32/1Mx16, 88-Pin Card-Edge	MT8D88C132V-10	MicronSemi		
	MT8D88C132V-7	MicronSemi		
	MT8D88C132V-8	MicronSemi		
DRAM, 512Kx32, 88-Pin Card-Edge	TP11J51320HLA-70 ℓ	IBM		20
	TP11J51320HLA-80 ℓ	IBM		
DRAM, 512Kx36, 88-Pin Card-Edge	TP11J51360HLA-70 ℓ	IBM		
	TP11J51360HLA-80 ℓ	IBM		
DRAM, 1Mx16, 60-Pin Two-Piece Type	MF11M1-M1CAP	Mitsubishi		
DRAM, 1Mx18, 60-Pin Two-Piece Type	MF11M1-977AP	Mitsubishi		25
DRAM, 1Mx32/2Mx16, 88-Pin Card-Edge	MT8D88C132-6	MicronSemi		
	MT8D88C132-7	MicronSemi		
	MT8D88C132-8	MicronSemi		
	MT8D88C132VH-10	MicronSemi		
	MT8D88C132VH-7	MicronSemi		30
	MT8D88C132VH-8	MicronSemi		
DRAM, 1Mx32, 88-Pin Card-Edge	TP11J1320HLA-70 ℓ	IBM		
	TP11J1320HLA-80 ℓ	IBM		
DRAM, 1Mx36/2Mx32/2Mx36, 88-Pin Card-Edge	TP11J1360HLA-70 ℓ	IBM		
	TP11J1360HLA-80 ℓ	IBM		35
DRAM, 2Mx16, 60-Pin Two-Piece Type	MF12M1-M1CAP	Mitsubishi		
DRAM, 2Mx18, 60-Pin Two-Piece Type	MF12M1-977AP	Mitsubishi		
	MF12M1-978AP	Mitsubishi		
DRAM, 2Mx18, 60-Pin Two-Piece Type	DWE400CMD1	Epson		
DRAM, 2Mx32/4Mx16, 88-Pin Card-Edge	MT16D88C232-6	MicronSemi		40
	MT16D88C232-7	MicronSemi		
	MT16D88C232-8	MicronSemi		
	MT16D88C232V-10	MicronSemi		
	MT16D88C232V-7	MicronSemi		
	MT16D88C232V-8	MicronSemi		45
	MT16D88C232VH-10	MicronSemi		
	MT16D88C232VH-7	MicronSemi		
	MT16D88C232VH-8	MicronSemi		
DRAM, 4Mx16, 60-Pin Two-Piece Type	MF14M1-M1AAP	Mitsubishi		
DRAM, 4Mx18, 60-Pin Two-Piece Type	MF14M1-977AP	Mitsubishi		50
	MF14M1-978AP	Mitsubishi		
DRAM, 4Mx32, 88-Pin Two-Piece Type	MF14M1-L17AT	Mitsubishi		
	MF14M1-L18AT	Mitsubishi		
DRAM, 4Mx36, 88-Pin Two-Piece Type	MF14M1-L27AT	Mitsubishi		
	MF14M1-L28AT	Mitsubishi		55
	MF14M1L27AT	Mitsubishi		
DRAM, 4Mx18, 60-Pin Two-Piece Type	DWE800CMD0	Epson		
DRAM, 4Mx32/8Mx16, 88-Pin Card-Edge	MT8D88C432-6	MicronSemi		
	MT8D88C432-7	MicronSemi		
	MT8D88C432-8	MicronSemi		60
	MT8D88C432V-6	MicronSemi		
	MT8D88C432V-7	MicronSemi		
	MT8D88C432V-8	MicronSemi		
	MT8D88C432VH-6	MicronSemi		
	MT8D88C432VH-7	MicronSemi		65
	MT8D88C432VH-8	MicronSemi		
EEPROM 13x8 Serial Control/Security Logic	AT88SC06	ATMEL		
EEPROM, 192Kx8, 60-Pin Two-Piece Type	MF8192-F1EAP	Mitsubishi		
EEPROM 512x1 Serial with Security Logic	AT88SC102	ATMEL		
EEPROM 1Kx1 Serial with Security Logic	AT88SC101	ATMEL		70
EEPROM 2Kx1 Serial with Gate Array	AT88SC200	ATMEL		
EEPROM, 8Kx8, 60-Pin Two-Piece Type	MF808A-F1EAP	Mitsubishi		
EEPROM, 8Kx8, 34-Pin Card Edge	EEC008SEC0	Epson		
EEPROM, 8Kx8, 40-Pin Card-Edge	EEC008IEC0	Epson		
EEPROM, 16Kx8, 60-Pin Two-Piece Type	MF816A-F1EAP	Mitsubishi		75
EEPROM 16Kx8 Program/Application Enhanced 80C31 Microcontroller with 512-bit PKC	AT88SC54C	ATMEL		
EEPROM, 16Kx8, 34-Pin Card Edge	EEC016SEC0	Epson		
EEPROM, 16Kx8, 40-Pin Card-Edge	EEC016IEC0	Epson		
EEPROM, 32Kx8, 60-Pin Two-Piece Type	MF832A-F1EAP	Mitsubishi		
EEPROM, 32Kx8, 34-Pin Card Edge	EEC032SEC0	Epson		80
EEPROM, 32Kx8, 40-Pin Card-Edge	EEC032IEC0	Epson		
EEPROM, 64Kx8, 60-Pin Two-Piece Type	MF864A-F1EAP	Mitsubishi		
EEPROM, 128Kx8, 60-Pin Two-Piece Type	MF8128-F1EAP	Mitsubishi		
Flash EEPROM, 8Mx8/16, 68-Pin	MF88M1-G7DAT	Mitsubishi		
Flash EEPROM, 10Mx8/16, 68-Pin	MF810M-G7DAT	Mitsubishi		85
Flash EEPROM, 20Mx8/16, 68-Pin	MF820M-G7DAT	Mitsubishi		
Flash EEPROM, 40M, 68-Pin Two-Piece Type	**IMC040FLSP**	**Intel**	**(3654)**	
Flash EEPROM, 32Kx8, 40-Pin Card-Edge	FEC032IEC0	Epson		
Flash EEPROM, 64Kx8, 40-Pin Card-Edge	FEC064IEC0	Epson		
Flash EEPROM, 64Kx8, 50-Pin Card Edge	FEC065HEC0	Epson		90
Flash EEPROM, 128Kx16, 50-Pin Card-Edge	FEC257HEC0	Epson		
Flash EEPROM, 128Kx16, 68-Pin Two-Piece Type	HWB257SDX0	Epson		
	HWB257SDY0	Epson		
Flash EEPROM, 128Kx8, 40-Pin Card-Edge	FEC128IEC0	Epson		
Flash EEPROM, 256Kx8/16, 68-Pin Two-Piece Type	MF8257-G1EAT	Mitsubishi		95
Flash EEPROM, 256Kx16, 50-Pin Card-Edge	FEC513HEC0	Epson		
Flash EEPROM, 256Kx16, 68-Pin Two-Piece Type	HWB513SDX0	Epson		
	HWB513SDY0	Epson		
Flash EEPROM, 256Kx8, 40-Pin Card-Edge	FEC256IEC0	Epson		
Flash EEPROM, 512Kx8/16, 68-Pin Two-Piece Type	MF8513-G1EAT	Mitsubishi		100
Flash EEPROM, 512Kx16, 50-Pin Card-Edge	FEC101HEC0	Epson		
Flash EEPROM, 512Kx16, 68-Pin Two-Piece Type	HWB101SDX0	Epson		
	HWB101SDY0	Epson		
Flash EEPROM, 512Kx8, 40-Pin Card-Edge	FEC512IEC0	Epson		
Flash EEPROM, 1Mx8/16, 68-Pin Two-Piece Type	MF81M1-G1EAT	Mitsubishi		105
Flash EEPROM, 1Mx16, 68-Pin Two-Piece Type	HWB201SDX0	Epson		
	HWB201SDY0	Epson		
Flash EEPROM, 1Mx8, 40-Pin Card-Edge	FEC100IEC0	Epson		
Flash EEPROM, 2Mx8/16, 68-Pin	MF82M1-G7DAT	Mitsubishi		
Flash EEPROM, 2Mx8/16, 68-Pin Two-Piece Type	MF82M1-G1EAT	Mitsubishi		110
Flash EEPROM, 2Mx16, 68-Pin Two-Piece Type	HWB401SDX0	Epson		
	HWB401SDY0	Epson		
Flash EEPROM, 4Mx8/16, 68-Pin	MF84M1-G7DAT	Mitsubishi		
Flash EEPROM, 4Mx8/16, 68-Pin Two-Piece Type	MF84M1-G1EAT	Mitsubishi		
Flash EPROM, 5M, 68-Pin Two-Piece Type	**IFD005P2SA**	**Intel**	**(3660)**	115
Flash EPROM, 10M, 68-Pin Two-Piece Type	**IFD010P2SA**	**Intel**	**(3660)**	
	IMC010FLSA	**Intel**	**(3656)**	
Flash EPROM, 128Kx8/64Kx16, 68-Pin Two-Piece Type	**IMC001FLKA**	**Intel**	**(3659)**	
Flash EPROM, 256Kx8/128Kx16, 68-Pin Two-Piece Type	**MB98A8081-20**	**Fujitsu**	**(3621)**	
	MB98A80811-20	Fujitsu		120
	IMC002FLKA	**Intel**	**(3658)**	
Flash EPROM, 512Kx8/256Kx16, 68-Pin Two-Piece Type	**MB98A8091-20**	**Fujitsu**	**(3621)**	
	MB98A8091-25	Fujitsu		
	MB98A80911-25	Fujitsu		
	MB98A8092-20	**Fujitsu**	**(3622)**	125
	MB98A8092-25	**Fujitsu**	**(3622)**	
	MB98A80921-20	**Fujitsu**	**(3622)**	
	MB98A80921-25	**Fujitsu**	**(3622)**	
	IMC004FLKA	**Intel**	**(3657)**	
	IMC004FLSP	**Intel**	**(3655)**	130
Flash EPROM, 1Mx8/512Kx16, 68-Pin Two-Piece Type	**MB98A8101-20**	**Fujitsu**	**(3621)**	
	MB98A81011-20	Fujitsu		

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—Plug-In Cards (Cont'd)

Function	Device	Source	Line
Flash EPROM, 1Mx8/512Kx16, 68-Pin Two-Piece Type			
	MB98A8102-20	**Fujitsu (3622)**	
	MB98A81021-25	**Fujitsu (3622)**	
Flash EPROM, 2M, 68-Pin Two-Piece Type			
	IMC002FLSA	**Intel (3656)**	
Flash EPROM, 2Mx8/1Mx16, 68-Pin Two-Piece Type			
	MB98A8112-20	**Fujitsu (3622)**	
	MB98A81121-20	**Fujitsu (3622)**	5
	MB98A81121-25	**Fujitsu (3622)**	
Flash EPROM, 2Mx8/1Mx16, 68-Pin Two-Piece Type			
	MB98A8111-20	**Fujitsu (3621)**	
	MB98A81111-20	Fujitsu	
Flash EPROM, 20M, 68-Pin Two-Piece Type			
	IMC020FLSA	**Intel (3656)**	
	IMC020FLSP	**Intel (3655)**	10
Flash EPROM, 4M, 68-Pin Two-Piece Type			
	IMC004FLSA	**Intel (3656)**	
Flash EPROM, 4Mx8/2Mx16, 68-Pin Two-Piece Type			
	MB98A8122-25	**Fujitsu (3622)**	
	MB98A81221-25	**Fujitsu (3622)**	
Mask ROM, 2AMx8, 60-Pin Two-Piece Type			
	MF72M0-F1FAP	Mitsubishi	
Mask ROM, 8Mx8/8Mx16, 68-Pin Two-Piece Type			
	MF78M1-G1DAT	Mitsubishi	15
Mask ROM, 8Mx8, 50-Pin Card-Edge			
	MF78M0-F2FAC	Mitsubishi	
Mask ROM, 8Mx8, 60-Pin Two-Piece Type			
	MF78M0-F1FAP	Mitsubishi	
Mask ROM, 8Mx16, 50-Pin Card-Edge			
	MF78M1-F2FAC	Mitsubishi	
Mask ROM, 8Mx16, 60-Pin Two-Piece Type			
	MF78M1-F1FAP	Mitsubishi	
Mask ROM, 16Mx8/16Mx16, 68-Pin Two-Piece Type			
	MF716M-G1DAT	Mitsubishi	20
Mask ROM, 128Kx16, 50-Pin Card-Edge			
	MRC257HEC0	Epson	
Mask ROM, 128Kx16, 68-Pin Two-Piece Type			
	KWB257SD	Epson	
Mask ROM, 128Kx8, 40-Pin Card-Edge			
	MRC128IEC0	Epson	
Mask ROM, 256Kx16, 50-pin Card-Edge			
	MRC513HEC0	Epson	
Mask ROM, 256Kx16, 68-Pin Two-Piece Type			
	KWB513SD	Epson	25
Mask ROM, 256Kx8, 40-Pin Card-Edge			
	MRC256IEC0	Epson	
Mask ROM, 512Kx8, 50-Pin Card-Edge			
	MF7512-F2FAC	Mitsubishi	
Mask ROM, 512Kx8, 60-Pin Two-Piece Type			
	MF7512-F1FAP	Mitsubishi	
Mask ROM, 512Kx16, 50-Pin Card-Edge			
	MF7513-F2FAC	Mitsubishi	
Mask ROM, 512Kx16, 60-Pin Two-Piece Type			
	MF7513-F1FAP	Mitsubishi	30
Mask ROM, 512Kx16, 50-Pin Card-Edge			
	MRC101HEC0	Epson	
Mask ROM, 512Kx16, 68-Pin Two-Piece Type			
	KWB101SD	Epson	
Mask ROM, 512Kx8, 40-Pin Card-Edge			
	MRC512IEC0	Epson	
Mask ROM, 1Mx8/1Mx16, 68-Pin Two-Piece Type			
	MF71M1-G1DAT	Mitsubishi	
Mask ROM, 1Mx8, 50-Pin Card-Edge			
	MF71M0-F2FAC	Mitsubishi	35
Mask ROM, 1Mx8, 60-Pin Two-Piece Type			
	MF71M0-F1FAP	Mitsubishi	
Mask ROM, 1Mx16, 50-Pin Card-Edge			
	MF71M1-F2FAC	Mitsubishi	
Mask ROM, 1Mx16, 60-Pin Two-Piece Type			
	MF71M1-F1FAP	Mitsubishi	
Mask ROM, 1Mx16, 50-Pin Card-Edge			
	MRC201HEC0	Epson	
Mask ROM, 1Mx16, 68-Pin Two-Piece Type			
	KWB201SD	Epson	40
Mask ROM, 1Mx8, 40-Pin Card-Edge			
	MRC100IEC0	Epson	
Mask ROM, 2Mx8/2Mx16, 68-Pin Two-Piece Type			
	MF72M1-G1DAT	Mitsubishi	
Mask ROM, 2Mx8, 50-Pin Card-Edge			
	MF72M0-F2FAC	Mitsubishi	
Mask ROM, 2Mx16, 50-Pin Card-Edge			
	MF72M1-F2FAC	Mitsubishi	
Mask ROM, 2Mx16, 60-Pin Two-Piece Type			
	MF72M1-F1FAP	Mitsubishi	45
Mask ROM, 2Mx16, 50-Pin Card-Edge			
	MRC401HEC0	Epson	
Mask ROM, 2Mx16, 68-Pin Two-Piece Type			
	KWB401SD	Epson	
Mask ROM, 2Mx8, 40-Pin Card-Edge			
	MRC200IEC0	Epson	
Mask ROM, 4Mx8/4Mx16, 68-Pin Two-Piece Type			
	MF74M1-G1DAT	Mitsubishi	
Mask ROM, 4Mx8, 50-Pin Card-Edge			
	MF74M0-F2FAC	Mitsubishi	50
Mask ROM, 4Mx8, 60-Pin Two-Piece Type			
	MF74M0-F1FAP	Mitsubishi	
Mask ROM, 4Mx16, 50-Pin Card-Edge			
	MF74M1-F2FAC	Mitsubishi	
Mask ROM, 4Mx16, 60-Pin Two-Piece Type			
	MF74M1-F1FAP	Mitsubishi	
Mask ROM, 4Mx16, 68-Pin Two-Piece Type			
	KWB801SD	Epson	
Mask ROM, 4Mx8, 40-Pin Card-Edge			
	MRC400IEC0	Epson	55
Mixed Memory, 512K(Static)/512K(Flash EE) x 8/16, 68-Pins	MF91M1-98DAT	Mitsubishi	
	MF91M1-99DAT	Mitsubishi	
Mixed Memory, 1M(Static)/1M(Flash EE) x 8/16, 68-Pins	MF92M1-98DAT	Mitsubishi	
	MF92M1-99DAT	Mitsubishi	
	MF92N1-98DAT	Mitsubishi	60
Mixed Memory, 1M(Static)/512K(Flash EE) x 8/16, 68-Pins	MF91M5-98DAT	Mitsubishi	
	MF91M5-99DAT	Mitsubishi	
OPT ROM, 256Kx/128Kx16, 68-Pin Two-Piece Type			
	MB98A60813	Fujitsu	
OPT ROM, 256Kx8/128Kx16, 68-Pin Two-Piece Type			
	MB98A60811	Fujitsu	
	MB98A60812	Fujitsu	65
OPT ROM, 512Kx8/256Kx16, 68-Pin Two-Piece Type			
	MB98A60911	Fujitsu	
	MB98A60912	Fujitsu	
	MB98A60913	Fujitsu	
OPT ROM, 1Mx8/512Kx16, 68-Pin Two-Piece Type			
	MB98A61011	Fujitsu	
	MB98A61012	Fujitsu	70
	MB98A61013	Fujitsu	
OPT ROM, 2Mx8/1Mx16, 68-Pin Two Piece Type			
	MB98A61111	Fujitsu	
	MB98A61112	Fujitsu	
	MB98A61113	Fujitsu	
OTP ROM, Unprogrammed, 32Kx8, 34-Pin Card-Edge			
	BPC032SEC0	Epson	75
OTP ROM, Unprogrammed, 32Kx8, 40-Pin Card-Edge			
	BPC032IEC0	Epson	
OTP ROM, Unprogrammed, 64Kx16, 50-Pin Card-Edge			
	BPC129HEC0	Epson	
OTP ROM, Unprogrammed, 64Kx8, 34-Pin Card-Edge			
	BPC064SEC0	Epson	
OTP ROM, Unprogrammed, 64Kx8, 40-Pin Card-Edge			
	BPC064IEC0	Epson	
OTP ROM, Unprogrammed, 128Kx16, 50-Pin Card-Edge			
	BPC257HEC0	Epson	80
OTP ROM, Unprogrammed, 128Kx8, 34-Pin Card-Edge			
	BPC128SEC0	Epson	
OTP ROM, Unprogrammed, 128Kx8, 40-Pin Card-Edge			
	BPC128IEC0	Epson	
OTP ROM, Unprogrammed, 256Kx16, 50-Pin Card-Edge			
	BPC513HEC0	Epson	
OTP ROM, Unprogrammed, 256Kx8, 40-Pin Card-Edge			
	BPC256IEC0	Epson	
OTP ROM, Unprogrammed, 512Kx16, 50-Pin Card-Edge			
	BPC101HEC0	Epson	85
OTP ROM, Unprogrammed, 512Kx8, 40-Pin Card-Edge			
	BPC512IEC0	Epson	
OTP ROM, Unprogrammed, 1Mx8, 40-Pin Card-Edge			
	BPC100IEC0	Epson	
OTP ROM, 32Kx16, 68-Pin Two-Piece Type			
	BWB065SDX0	Epson	
	BWB065SDY0	Epson	
OTP ROM, 64Kx16, 68-Pin Two-Piece Type			
	BWB129SDX0	Epson	90
	BWB129SDY0	Epson	
OTP ROM, 128Kx8, 50-Pin Card-Edge			
	MF4128-F4EAC	Mitsubishi	
OTP ROM, 128Kx8, 60-Pin Two-Piece Type			
	MF4128-F3EAP	Mitsubishi	
OTP ROM, 128Kx16, 50-Pin Card-Edge			
	MF4129-F4EAC	Mitsubishi	
OTP ROM, 128Kx16, 60-Pin Two-Piece Type			
	MF4129-F3EAP	Mitsubishi	95
OTP ROM, 128Kx16, 68-Pin Two-Piece Type			
	BWB257SDX0	Epson	
	BWB257SDY0	Epson	
OTP ROM, 256Kx8/256Kx16, 68-Pin Two-Piece Type			
	MF4257-G1EAT	Mitsubishi	
OTP ROM, 256Kx8, 50-Pin Card-Edge			
	MF4256-F4EAC	Mitsubishi	
OTP ROM, 256Kx8, 60-Pin Two-Piece Type			
	MF4256-F3EAP	Mitsubishi	100
OTP ROM, 256Kx16, 50-Pin Card-Edge			
	MF4257-F4EAC	Mitsubishi	
OTP ROM, 256Kx16, 60-Pin Two-Piece Type			
	MF4257-F3EAP	Mitsubishi	
OTP ROM, 256Kx16, 68-Pin Two-Piece Type			
	BWB513SDX0	Epson	
	BWB513SDY0	Epson	
OTP ROM, 512Kx8/512Kx16, 68-Pin Two-Piece Type			
	MF4513-G1EAT	Mitsubishi	105
OTP ROM, 512Kx8, 50-Pin Card-Edge			
	MF4512-F4EAC	Mitsubishi	
OTP ROM, 512Kx8, 60-Pin Two-Piece Type			
	MF4512-F3EAP	Mitsubishi	
OTP ROM, 512Kx16, 50-Pin Card-Edge			
	MF4513-F4EAC	Mitsubishi	
OTP ROM, 512Kx16, 60-Pin Two-Piece Type			
	MF4513-F3EAP	Mitsubishi	
OTP ROM, 512Kx16, 68-Pin Two-Piece Type			
	BWB101SDX0	Epson	110
	BWB101SDY0	Epson	
OTP ROM, 1Mx8/1Mx16, 68-Pin Two-Piece Type			
	MF41M1-G1EAT	Mitsubishi	
OTP ROM, 1Mx8, 50-Pin Card-Edge			
	MF41M0-F2EAC	Mitsubishi	
OTP ROM, 1Mx8, 60-Pin Two-Piece Type			
	MF41M0-F1EAP	Mitsubishi	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—Plug-In Cards (Cont'd)

Function	Device	Source	Line
OTP ROM, 1Mx16, 50-Pin Card-Edge	MF41M1-F2EAC	Mitsubishi	
OTP ROM, 1Mx16, 60-Pin Two-Piece Type	MF41M1-F1EAP	Mitsubishi	
OTP ROM, 2Mx8/2Mx16, 68-Pin Two-Piece Type	MF42M1-G1EAT	Mitsubishi	
OTP ROM, 2Mx8, 50-Pin Card-Edge	MF42M0-F2EAC	Mitsubishi	
OTP ROM, 2Mx8, 60-Pin Two-Piece Type	MF42M0-F1EAP	Mitsubishi	5
OTP ROM, 2Mx16, 50-Pin Card-Edge	MF42M1-F2EAC	Mitsubishi	
OTP ROM, 2Mx16, 60-Pin Two-Piece Type	MF42M1-F1EAP	Mitsubishi	
OTP ROM, 4Mx8/4Mx16, 68-Pin Two-Piece Type	MF44M1-G1EAT	Mitsubishi	
OTP ROM, 4Mx8, 50-Pin Card-Edge	MF44M0-F2EAC	Mitsubishi	
OTP ROM, 4Mx8, 60-Pin Two-Piece Type	MF44M0-F1EAP	Mitsubishi	10
OTP ROM, 4Mx16, 50-Pin Card-Edge	MF44M1-F2EAC	Mitsubishi	
OTP ROM, 4Mx16, 60-Pin Two-Piece Type	MF44M1-F1EAP	Mitsubishi	
SRAM, 2048Kx8/16, 68-Pin with Low Power and Attribute Memory	MF32M1-L6DAT	Mitsubishi	
SRAM, 8Kx8, 34-Pin Card-Edge	RBC008SE00	Epson	
SRAM, 8Kx8, 40-Pin Card-Edge	RBC008IE00	Epson	15
SRAM, 16Kx8, 34-Pin Card-Edge	RBC016SE00	Epson	
	RBC016SE10	Epson	
SRAM, 16Kx8, 40-Pin Card-Edge	RBC016IE00	Epson	
SRAM, 32Kx8, 50-Pin Card-Edge	MF332A-MBDAC	Mitsubishi	
SRAM, 32Kx8, 60-Pin Two-Piece Type	MF332A-MADAP	Mitsubishi	20
SRAM, 32Kx16, 50-Pin Card-Edge	RBC065HE10	Epson	
SRAM, 32Kx16, 68-Pin Two-Piece Type	AWB065SD20	Epson	
	AWB065SD30	Epson	
	AWB065SD40	Epson	
	LWB065SD20	Epson	25
	LWB065SD30	Epson	
	LWB065SD40	Epson	
	WWB065SD20	Epson	
	WWB065SD40	Epson	
SRAM, 32Kx8, 34-Pin Card-Edge	RBC032SE00	Epson	30
	RBC032SE10	Epson	
SRAM, 32Kx8, 40-Pin Card-Edge	RBC032IE00	Epson	
	RBC032IE10	Epson	
SRAM, 64Kx8/16, 68-Pin, Low Power	MF365A-LCDAT	Mitsubishi	
SRAM, 64Kx8/16, 68-Pin with Low Power and Attribute Memory	MF365A-L5DAT	Mitsubishi	35
SRAM, 64Kx8/16, 68-Pin with Low Power, Attribute Memory and Auxillary Battery	MF365A-J1DAT	Mitsubishi	
SRAM, 64Kx8/64Kx16, 68-Pin Two-Piece Type	MF365A-L2DAT	Mitsubishi	
SRAM, 64Kx8, 50-Pin Card-Edge	MF364A-M7DAC	Mitsubishi	
SRAM, 64Kx8, 60-Pin Two-Piece Type	MF364A-M6DAP	Mitsubishi	
SRAM, 64Kx16, 50-Pin Card-Edge	MF365A-M7DAC	Mitsubishi	40
SRAM, 64Kx16, 60-Pin Two-Piece Type	MF365A-M6DAP	Mitsubishi	
SRAM, 64Kx16, 50-Pin Card-Edge	RBC129HE10	Epson	
SRAM, 64Kx16, 68-Pin Two-Piece Type	AWB129SD20	Epson	
	AWB129SD30	Epson	
	AWB129SD40	Epson	45
	LWB129SD20	Epson	
	LWB129SD30	Epson	
	LWB129SD40	Epson	
	WWB129SD20	Epson	
	WWB129SD40	Epson	50
SRAM, 64Kx8/32Kx16, 68-Pin Two-Piece Type	**MB98A90611-20**	**Fujitsu (3623)**	
	MB98A90612	**Fujitsu (3623)**	
	MB98A90613	**Fujitsu (3623)**	
SRAM, 64Kx8, 34-Pin Card-Edge	RBC064SE10	Epson	
SRAM, 64Kx8, 40-Pin Card-Edge	RBC064IE10	Epson	55
SRAM, 128Kx8/16, 68-Pin, Low Power	MF3129-LCDAT	Mitsubishi	
SRAM, 128Kx8/16, 68-Pin with Low Power and Attribute Memory	MF3129-L5DAT	Mitsubishi	
SRAM, 128Kx8/16, 68-Pin with Low Power, Attribute Memory and Auxillary Battery	MF3129-J1DAT	Mitsubishi	
SRAM, 128Kx8/128Kx16, 68-Pin Two-Piece Type	MF3129-L2DAT	Mitsubishi	
SRAM, 128Kx8, 50-Pin Card-Edge	MF3128-M7DAC	Mitsubishi	60
SRAM, 128Kx8, 60-Pin Two-Piece Type	MF3128-M6DAP	Mitsubishi	
SRAM, 128Kx16, 50-Pin Card-Edge	MF3129-M7DAC	Mitsubishi	
SRAM, 128Kx16, 60-Pin Two-Piece Type	MF3129-M6DAP	Mitsubishi	
SRAM, 128Kx16, 50-Pin Card-Edge	RBC257HE11	Epson	
SRAM, 128Kx16, 68-Pin Two-Piece Type	AWB257SD20	Epson	65
	AWB257SD30	Epson	
	AWB257SD40	Epson	
	LWB257SD20	Epson	
	LWB257SD30	Epson	
	LWB257SD40	Epson	70
	WWB257SD20	Epson	
	WWB257SD40	Epson	
SRAM, 128Kx8, 34-Pin Card-Edge	RBC128SE10	Epson	
SRAM, 128Kx8, 40-Pin Card-Edge	RBC128IE10	Epson	
SRAM, 128Kx8/64Kx16, 68-Pin Two-Piece Type	**MB98A90711-20**	**Fujitsu (3623)**	75
	MB98A90712	**Fujitsu (3623)**	
	MB98A90713	**Fujitsu (3623)**	
SRAM, 256Kx8/16, 68-Pin, Low Power	MF3257-LCDAT	Mitsubishi	
SRAM, 256Kx8/16, 68-Pin with Low Power and Attribute Memory	MF3257-L5DAT	Mitsubishi	
SRAM, 256Kx8/16, 68-Pin with Low Power, Attribute Memory and Auxillary Battery	MF3257-J1DAT	Mitsubishi	80
SRAM, 256Kx8/256Kx16, 68-Pin Two-Piece Type	MF3257-L2DAT	Mitsubishi	
SRAM, 256Kx8, 50-Pin Card-Edge	MF3256-M7DAC	Mitsubishi	
SRAM, 256Kx8, 60-Pin Two-Piece Type	MF3256-M6DAP	Mitsubishi	
SRAM, 256Kx16, 50-Pin Card-Edge	MF3257-M7DAC	Mitsubishi	
SRAM, 256Kx16, 60-Pin Two-Piece Type	MF3257-M6DAP	Mitsubishi	85
SRAM, 256Kx16, 50-Pin Card-Edge	RBC513HE12	Epson	
SRAM, 256Kx16, 68-Pin Two-Piece Type	AWB513SD20	Epson	
	AWB513SD30	Epson	
	AWB513SD40	Epson	
	LWB513SD20	Epson	90
	LWB513SD30	Epson	
	LWB513SD40	Epson	
	WWB513SD20	Epson	
	WWB513SD40	Epson	
SRAM, 256Kx8/128Kx16, 68-Pin Two-Piece Type	**MB98A90811-20**	**Fujitsu (3623)**	95
	MB98A90812	**Fujitsu (3623)**	
	MB98A90813	**Fujitsu (3623)**	
SRAM, 256Kx8, 40-Pin Card-Edge	RBC256IE11	Epson	
SRAM, 512Kx8/16, 68-Pin, Low Power	MF3513-LCDAT	Mitsubishi	
SRAM, 512Kx8/16, 68-Pin with Low Power, Attribute Memory and Auxillary Battery	MF3513-J1DAT	Mitsubishi	100
SRAM, 512Kx8/512Kx16, 68-Pin Two-Piece Type	MF3513-L2DAT	Mitsubishi	
SRAM, 512Kx8, 50-Pin Card-Edge	MF3512-M7DAC	Mitsubishi	
SRAM, 512Kx8, 60-Pin Two-Piece Type	MF3512-M6DAP	Mitsubishi	
SRAM, 512Kx16, 50-Pin Card-Edge	MF3513-M7DAC	Mitsubishi	
SRAM, 512Kx16, 60-Pin Two-Piece Type	MF3513-M6DAP	Mitsubishi	105
SRAM, 512Kx16, 50-Pin Card-Edge	RBC101HE10	Epson	
SRAM, 512Kx16, 68-Pin Two-Piece Type	AWB101SD20	Epson	
	AWB101SD30	Epson	
	AWB101SD40	Epson	
	LWB101SD20	Epson	110
	LWB101SD30	Epson	
	LWB101SD40	Epson	
	WWB101SD20	Epson	
	WWB101SD40	Epson	
SRAM, 512Kx8/16, 68-Pin with Low Power and Attribute Memory	MF3513-L5DAT	Mitsubishi	115
SRAM, 512Kx8/256Kx16, 68-Pin Two-Piece Type	**MB98A90911-20**	**Fujitsu (3623)**	
	MB98A90912	**Fujitsu (3623)**	
	MB98A90913	**Fujitsu (3623)**	
SRAM, 512Kx8, 40-Pin Card-Edge	RBC512IE13	Epson	
SRAM, 1Mx8/1Mx16, 68-Pin Two-Piece Type	MF31M1-L2DAT	Mitsubishi	120
SRAM, 1Mx8/16, 68-Pin, Low Power	MF31M1-LCDAT	Mitsubishi	
SRAM, 1Mx8/16, 68-Pin with Low Power and Attribute Memory	MF31M1-L5DAT	Mitsubishi	
SRAM, 1Mx8/16, 68-Pin with Low Power, Attribute Memory and Auxillary Battery	MF31M1-J1DAT	Mitsubishi	
SRAM, 1Mx8, 50-Pin Card-Edge	MF31M0-M7DAC	Mitsubishi	
SRAM, 1Mx8, 60-Pin Two-Piece Type	MF31M0-M6DAP	Mitsubishi	125

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

MEMORY—Plug-In Cards (Cont'd)

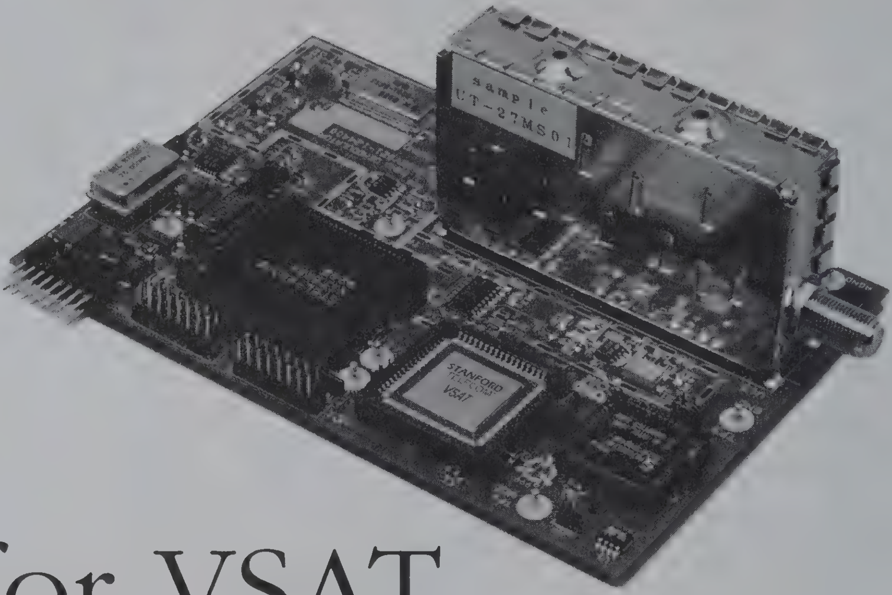
Function	Device	Source
SRAM, 1Mx16, 50-Pin Card-Edge		
	MF31M1-M7DAC	Mitsubishi
SRAM, 1Mx16, 60-Pin Two-Piece Type		
	MF31M1-M6DAP	Mitsubishi
SRAM, 1Mx16, 68-Pin Two-Piece Type		
	AWB201SD20	Epson
	AWB201SD30	Epson
	AWB201SD40	Epson
	LWB201SD20	Epson
	LWB201SD30	Epson
	LWB201SD40	Epson
	WWB201SD20	Epson
	WWB201SD40	Epson
SRAM, 1Mx8, 40-Pin Card-Edge		
	RBC100IE10	Epson
SRAM, 1Mx8/512Kx16, 68-Pin Two-Piece Type		
	MB98A91021-20	**Fujitsu (3623)**
SRAM, 2Mx8/2Mx16, 68-Pin Two-Piece Type		
	MF32M1-L2DAT	Mitsubishi
SRAM, 2Mx8/16, 68-Pin, Low Power		
	MF32M1-LCDAT	Mitsubishi
SRAM, 2Mx8, 50-Pin Card-Edge		
	MF32M0-M7DAC	Mitsubishi
SRAM, 2Mx8, 60-Pin Two-Piece Type		
	MF32M0-M6DAP	Mitsubishi
SRAM, 2Mx16, 50-Pin Card-Edge		
	MF32M1-M7DAC	Mitsubishi
SRAM, 2Mx16, 60-Pin Two-Piece Type		
	MF32M1-M6DAP	Mitsubishi
SRAM, 2Mx8/1Mx16, 68-Pin Two-Piece Type		
	MB98A91121-20	**Fujitsu (3623)**
UV EPROM, 256Kx8/128Kx16, 68-Pin Two-Piece Type		
	MB98A608A2	Fujitsu
UV EPROM, 256Kx8/128Kx26, 68-Pin Two-Piece Type		
	MB98A608A1	Fujitsu
UV EPROM, 512Kx8/256Kx16, 68-Pin Two-Piece Type		
	MB98A609A1	Fujitsu
	MB98A609A2	Fujitsu
UV EPROM, 1Mx8/512Kx16, 68-Pin Two-Piece Type		
	MB98A610A1	Fujitsu
	MB98A610A2	Fujitsu

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 1400

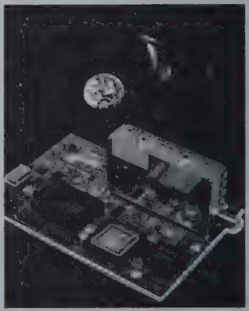
Digital PSK Demodulation...



...for VSAT

- *Performance within 1db of theoretical*
- *On-board Viterbi Forward Error Correction*
- *Programmable externally via RS-485 interface*
- *BPSK Coherent DBPSK and QPSK Demodulation*
- *Data, bit clock uncertainty and lock detect outputs available*
- *128 Kbps to 1024 Kbps (BPSK) and 2048 Kbps (QPSK) data rates*
- *950 - 1450 input carrier frequency, up to ± 1 MHz frequency range*

Stanford Telecom continues its leadership in reducing complex communication systems to silicon with the STEL-9236 Digital PSK Demodulation Board. Timing recovery, demodulation, downconversion, carrier correction and Viterbi decoding are all performed by Stanford Telecom ASICs, giving you highly stable, robust and predictable performance.



The board is designed to interface directly with a block down converter mounted on the antenna. A terminal implemented with this technology will require 8.5 db less EIRP from a satellite compared with existing technologies.

For further information about this and other Stanford Telecom ASIC communication system products, please call today.

STANFORD TELECOM®

ASIC
Custom
Products
Division

ASIC & Custom Products Division
480 Java Drive., Sunnyvale, CA 94089-1117
Tel: 408-541-9031 • Fax: 408-541-9030

INTRODUCTION TO ASIC/CUSTOM CIRCUITS

This section describes ASIC/Custom products. The first guide lists custom capabilities; the subsequent guides cover devices.

Category

Capabilities Charts................................1402
Gate Arrays..1432
Linear and Linear/Digital Arrays............1457
Standard Cells......................................1462

ASIC/CUSTOM

Manufacturer	**Advanced Hardware Architectures**	**Advanced Linear Devices**	**Advanced Micro Devices**
Customized Standard Circuits	Digital	Linear, combined linear/digital	
Gate Array			Programmable Array Logic, MACH
Chip Density Range (equiv. gates)			200 to 5000
Cell Library	CMOS Data Compression, Forward Error Correction, Tape and MO Controller/Formatters	CMOS	CMOS
Design Kit Available		Yes	Yes
Full Custom Circuits Digital	Reed-Solomon Error Correction ICs, Various Data Compression Algorithms, Tape and MO Drive Controllers		
Linear		Silicon-gate CMOS	
Combined Digital Linear		Silicon-gate CMOS	
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Complete Customer Specifications	Circuit diagram, block diagram, circuit inputs and outputs breadboard	
Design Aids	Mentor 8.2	Macrocell, circuit simulation, hardware kit part simulation, design rule checks. SPICE based ASIC verification simulation library.	PALASM software for design entry, fitting, functional simulation. Extensive third-party support.
Production	Various Outside Fab Lines	Procured and in-house	In-house (Field programmable, erasable)
Preferred Delivered Product	Packaged ICs	Packaged ceramic and plastic DIPS, leadless chip carriers, dice.	Plastic DIPs, chip carriers, SOIC, CQFP, dice; available in commercial and military
Test Program Generation	Yes	Yes	
Production Test	Fab dependent. Custom testing available through contract testing house.	Functional, parametric, burn-in, thermal shock, environmental	100% dc, ac and functional testing; burn-in, thermal shock, environmental, MIL
Electrical Test Systems Available	HP 82000 and Tektronix LV 500 available for prototype testing.	Industry standard and custom test systems	Xincom, Accutest
Comments	AHA is a fabless custom design house specializing in custom design ICs. Fab is done at various CMOS houses.	Supply voltage range: 1V to 12V Standard cells are also standard products PSPICE software simulation Kit Part hardware simulation	Commercial programmers available. Software output JEDEC PLDTF. Most complex programmable logic parts available.

Manufacturer	**Allegro Micro Systems**	**American Microsystems**	**Analog Devices**
Customized Standard Circuits		Digital, linear, combined digital/linear	Linear
Gate Array		1.25μ and 2μ silicon-gate CMOS	From customer-owned-tooling
Chip Density Range (equiv. gates)		1000 to 100K 2-input gates (gate array), to 15,000 (standard cell)	
Cell Library		Yes	Standard parts available in chip form
Design Kit Available		Yes	Kit parts
Full Custom Circuits Digital	Silicon-gate CMOS, NMOS, metal-gate CMOS	Silicon-gate CMOS with high-voltage output capability, up to 60V	TTL, LSTTL, ISL, I^2L, ECL, ISO/CMOS Si-gate, BiCMOS
Linear	Silicon-gate CMOS, NMOS	Silicon-gate CMOS, filter, amplifier to rf	20, 40, 60V supply voltage Bipolar, Complementary Bipolar, CMOS
Combined Digital Linear	Silicon-gate NMOS, CMOS	Silicon-gate NMOS, CMOS, 14-bit resolution, VHF-rf	I^2L, ECL, TTL, LSTTL, BiCMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Minimum of functional diagram, breadboard, pattern generator tape or database tape	Layout database, PG tape, validated netlist, semi-validated netlist, functionally validated netlist, unvalidated netlist, logic diagram, functional specifications, masks	Customer-owned-tooling (pattern generator tape, composite drawing), known good device schematics, performance specs
Design Aids	Logic simulator assistance, breadboard assistance, design rule checks	Expert-based design software services to optimize and speed designs, including netlist conversions	Kit parts CAD, SPICE evaluation parts
Production	In-house	In-house	In-house; 4″ lines
Preferred Delivered Product	No preference	DIP, plastic chip carriers, SOIC packages, wafers, die to commercial or military specifications	Mapped wafers, probed wafers, packaged units
Test Program Generation	Yes	Yes, Automatic Test Generation	Yes
Production Test	Full screening available including burn-in and full environmental screening	Functional, parametric, burn-in, thermal shock, environmental, MIL	Functional, parametric, burn-in, thermal shock, environmental, MIL, linear
Electrical Test Systems Available	Sentry VII, Sentinel, Teradyne	Sentry, Teradyne, Xincom, LTX, General Radio	LTX, F–5000, LTS2020
Comments	Capabilities include: design layout, CAP, mask shop, wafer fabrication assembly, and test	Complete custom capability including design, instruction, cell library licensing	Ion implantation, dual layer metalization, nitride passivation, thin film resistors, MIL 38510 qualified; laser trimming, radiation hardening

ASIC/CUSTOM (Cont'd)

Manufacturer	**Applied Micro Circuits**	**Aptek Microsystems**	**Aspec Technology**
Customized Standard Circuits		Linear, Digital, combined Digital/Linear	Digital
Gate Array	ECL and BiCMOS		
Chip Density Range (equiv. gates)	800 to 14,000		11,712 to 500,089
Cell Library	ECL, BiCMOS, mixed ECL, and TTL		Macrocell & Logic
Design Kit Available	Yes		Yes
Full Custom Circuits Digital	BiCMOS—1.0 micron bipolar—1.0 micron	Silicon- or metal-gate CMOS, NMOS, PMOS, Bipolar	Yes
Linear		CMOS, Bipolar, Switched capacitor filters	
Combined Digital Linear	Same as Digital	Yes	
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Database tape & vectors; schematics & vectors for full turnkey design.	Logic diagram, circuit diagram, functional specification, breadboard	High Level Schematic to GDSII Stream File for Mask Making
Design Aids	Design kit support on Mentor, Valid, Cadence, Lasar	Circuit simulation, logic simulation, schematic entry, test program generation, breadboard assistance complete CAD system, design rule checks, engineering assistance.	Full Design Library (operate most CAD tools), Compilers, Documentation, Foundry Access
Production	4″ wafers up to 3 levels of metal (ALCu 1%); In-house FAB	Wafer production procured from outside foundries. Testing and packaging done in-house.	Outside Foundries
Preferred Delivered Product	Packaged & tested finished parts, tested/probed wafers.	Dual-in-line package, chip carriers, hybrid package	
Test Program Generation	Yes	Yes	
Production Test	Sentry 10 & 21 120 pin testers, Trillium Delta Master 256 pins.	Functional, parametric, environmental, burn-in	Functional, parametric, burn-in, environmental - foundry dependent
Electrical Test Systems Available	IMS	HP based test system	
Comments	Contact design service through authorized third party design companies.	Independent design center, access to multiple foundries. In-house multichip hybrid capability.	Flexible design/manufacturing control

ASIC/CUSTOM (Cont'd)

Manufacturer	AT&T	ATMEL	Avasem Corp.
Customized Standard Circuits	Digital	Digital	Digital/analog
Gate Array		Polysilicon-gate CMOS	
Chip Density Range (equiv. gates)	1,000 to 15,000 2-input gates	4,000 to 300,000	
Cell Library	ECL	CMOS	Silicon-gate CMOS, digital and analog
Design Kit Available		Yes	Yes
Full Custom Circuits Digital		CMOS	Silicon-gate CMOS and NMOS, logic and memory, non-volatile memory
Linear	Complementary bipolar, CMOS, bipolar (dielectric isolation), BCDMOS	CMOS	Silicon-gate CMOS and NMOS, CCD, switched capacitor filters
Combined Digital Linear	I^2L, bipolar/MOS (dielectric isolation), CMOS	CMOS	CMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Functional diagram, schematic, specification, breadboard.	Netlist, VHDL description, FPGA/EPLD database, schematic	Logic diagram, circuit diagram, functional specification, breadboard
Design Aids	CAD assistance, linear simulation, engineering and breadboard assistance	Design manuals, functional and timing simulation, design rule checks	In house: Calma GDS II, VAX11/780 and Mentor
Production	In-house	In-House; MIL-STD–883 certified sub-contractors, off-shore sub-contractors	Procured
Preferred Delivered Product	Probed wafers or packaged dice	Packaged tested units; military or commercial specifications	As requested
Test Program Generation	Yes	Yes	Yes
Production Test	Functional, parametric, burn-in, environmental	Functional (up to 80 MHz), ac/dc parametric, burn-in, MIL-STD–883 Class B screening.	Functional, parametric
Electrical Test Systems Available	LTX, AT&T Stetzler (bipolar)	ANDO, Sentry, Trillium	
Comments	Wafer fabrication services, products include 30 and 90 volt linear arrays, microwave arrays.	1.0 V, 3.3 V, 5.0 V gate array families, FPGA conversions	Independent design center, multiple sources, design aids

ASIC/CUSTOM (Cont'd)

Manufacturer	**Cherry Semiconductor**	**California Micro Devices**	**Dionics**
Customized Standard Circuits	Digital, linear, combined digital/linear		Linear
Gate Array	I^2L, LSI^2L, ECL and other bipolar	2μ and 3μ silicon-gate CMOS	
Chip Density Range (equiv. gates)	64 to 256 gates	500 to 10,000	
Cell Library	I^2L, ECL and other bipolar	1.5μ silicon gate CMOS	No
Design Kit Available	Yes	Daisy, Mentor, Viewlogic	Yes
Full Custom Circuits Digital	I^2L, ECL and other bipolar	1.5μ to 5μ silicon gate CMOS	
Linear	Bipolar only	Silicon gate CMOS, double poly available	High and low voltage Bipolar, DMOS, Dielectric Isolation, Optoelectronic Arrays
Combined Digital Linear	I^2L, ECL and other bipolar	ADV-CMOS	
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Circuit diagram, logic diagram, breadboard, functional spec	Netlist, Calma tapes, PG tapes, masks, logic diagrams	Circuit schematic, circuit function specifications, breadboard
Design Aids	Logic simulation, breadboard assistance, design rule checks, simulation models	Design rule checks, logic simulation	
Production	In-house	In-house	In-house wafer Fab and test; in-house Hi Rel packaging - Procured masks and plastic packaging
Preferred Delivered Product	Packaged dice, flip chips	Packaged die, probed wafers, mapped wafers	Chips, plastic and side brazed dips
Test Program Generation	Yes	Yes	Yes
Production Test	All except military	Functional, parametric, burn-in optional	Functional, parametric
Electrical Test Systems Available	Teradyne J259, A311, A312, A3602, A370, A510	Sentry, LTX, Tektronix	Sentry series 81
Comments	Dice can be solder-bump flip chips with nitride passivation; packaged dice can be delivered from COT for full custom.		Hybrid circuit capability in-house

ASIC/CUSTOM (Cont'd)

Manufacturer	**ECI Semiconductor**	**Elantec**	**Exar**
Customized Standard Circuits	Linear and combined digital/linear	Linear	Digital, linear, combined digital/linear
Gate Array			
Chip Density Range (equiv. gates)			
Cell Library			I^2L, Si-gate CMOS, linear bipolar
Design Kit Available	Yes	Kits parts	Yes
Full Custom Circuits Digital			Metal-gate CMOS, I^2L, Si-gate CMOS
Linear	Bipolar and CMOS	Complementary Bipolar, DI, JI	Bipolar, CMOS
Combined Digital Linear	CMOS		I^2L, other Bipolar, CMOS
Provide Design Assistance	Yes	yes	Yes
Acceptable Customer Input (in order of preference)	PG tape, Mann 3000, pencil-connected layout, logic diagram, breadboard	Performance Spec : Schematic	Database tapes, complete layout, breadboard, circuit diagram, logic diagram, functional diagram, standard cell netlist
Design Aids	Design rule checks, design manual, ERC, LVS, SPICE simulation, breadboard parts, circuit layout on a PC.	SPICE Models Kits Parts	Logic simulation, breadboard assistance, design rule checks, cell libraries, design manual; schematic capture, simulation, layout on IBM PC/AT standard cell-mentor
Production	In-House	In-house	In-house
Preferred Delivered Product	DIP, plastic chip carriers, SOIC, wafers, die to commercial, industrial or military specs.	Probed and sorted wafers; Packaged parts	Packaged devices, dice, dice in wafer form, wafers
Test Program Generation	Yes	yes	Yes
Production Test	Functional, parametric, burn-in, thermal shock, environmental, Mil.	Functional, parametric DC and AC, Burn-in, Environmental	Functional, parametric, environmental, burn-in, 883C
Electrical Test Systems Available	Industry standard linear testers	LTX model77 AC test - 16 Mhz	Fairchild 5000, Teradyne J273, A311, A312, A360, A360D, A370, Sentry 10, 20, EPRO 140, EPRO 210 and 8832 Loadstar
Comments	Complete in-house services including wafer fabrication, assembly, test, QA.	MIL-STD–883; Rad Hard; Zener Zap	2 micron CMOS, 30 analog cells; 30 EEPROM cells; 120 digital cells

ASIC/CUSTOM (Cont'd)

Manufacturer	**Gennum**	**GigaBit Logic**	**Goal Electronics** **CHRT**
Customized Standard Circuits	Linear and combined digital/linear	GaAs, Digital, Analog, Memory	Yes
Gate Array			N/A
Chip Density Range (equiv. gates)	Linear bipolar 100–479	50 to 15,000	500 to 20,000 gates typically
Cell Library	Common circuit block and micro cells	SC5000, SC10000 (E/D)	Standard cells in 0.8, 1.5, 2, 3, and 4 micron CMOS Silicon gate
Design Kit Available	Yes	Yes	Yes
Full Custom Circuits Digital		Depletion Mode, Enhancement/ Depletion Mode (E/D), 0.8μm MESFET GaAs	Silicon or metal gate CMOS, NMOS, 3 to 25 Volts, double poly, double metal
Linear	Yes		Silicon or metal gate CMOS, NMOS, 3 to 25 Volts, switched capacitor capability
Combined Digital Linear	TL, I^2L, some linear functions	Yes	Silicon or metal gate CMOS, NMOS, 3 to 25 Volts
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	GDS II tape, Layout database, circuit diagram, PG tape, reticles	Calma GDSII tape, cell library schematic, block diagram	Block Diagram, Functional Specification, Breadboard, Schematics and vectors, FPGA, EDIF netlist, Database tape in CIF or GDS stream
Design Aids	Design verification, DRC, LVS, LPE, SPICE simulation, logic simulation, design manual, cell libraries, prot-chips, bread board devices	Comprehensive design rules and manuals; ERC, DRC, LVS, SPICE simulation, logic simulation, cell libraries, prototype tools	Cells and macrocells in chip form, Component libraries, Simulation and characterization data, Complete design assistance
Production	In-house	In-house	Multiple external wafer sources, Multiple external package sources
Preferred Delivered Product	Packaged dice, bare dice, probed wafers	Wafers, die, or packaged units	No preference: Design tape, wafers, probed wafers, packaged units, packaged and tested units
Test Program Generation	Yes	Yes	Yes
Production Test	Functional, parametric, environmental	Functional (less than 10 MHz), high speed (less than 3 GHz)	Parametric, functional, high temp
Electrical Test Systems Available	Industry standard tester, custom tester	MegaTest, IMS, custom high speed, ASIX	In-house benchtop tester, LTX
Comments	Complete in-house services; design layout, PG, masking, wafer fabrication, assembly, test, Q.A.	All customer-interface levels supported. Guaranteed high speed performance to customer specifications.	Low cost shared wafer prototyping service, 3 Volt to 25 Volt operation, Thin film trimmable and zero TC resistors, FPGA conversions to standard cell

ASIC/CUSTOM (Cont'd)

Manufacturer	**HARRIS SEMICONDUCTOR**	**HARRIS SEMICONDUCTOR**	**Hitachi**
Customized Standard Circuits	Digital, linear, combined digital/linear	GaAs Analog (MMIC)	Digital, Gate Array, Standard Cell, Customer owned tooling
Gate Array	1.2μ Silicon-Gate CMOS		1.0μ and 0.8μ CMOS
Chip Density Range (equiv. gates)	Up to 30,000 (CMOS) (Rad Hard)		CMOS up to 250k gates; BiCMOS up to 14k gates ; with TTL and/or ECL I/O
Cell Library	1.2μ silicon-gate CMOS; Silicon Complier- 1.2μ silicon-gate CMOS		HG62 G/S 0.8 μ CMOS; HG62 E/F 1.0μ CMOS
Design Kit Available	Yes	Yes	Yes
Full Custom Circuits Digital	Metal-gate and silicon-gate CMOS silicon-gate PMOS, LSTTL, ALSTTL, STTL, N^2L.		Customer owned tooling 1.0μ and 0.8μ CMOS
Linear	Bipolar (dielectric isolation); metal-gate CMOS/bipolar; silicon-gate CMOS.	Selective ion implantation into GaAs subtrates employing 0.5 and 1.0 micron gate lengths.	Limited Functions
Combined Digital Linear	Silicon-Gate CMOS; Bipolar, BiCMOS, BiMOS		Digital with limited analog macros
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Harris FASTRACK database, chip specification, GDS database	Calma GDS tape, SCD, part specification	Verified Netlist, PG Tape, Circuit Diagram and specifications
Design Aids	Harris FASTRACK design system allows complete chip design; proven cell library macros, logic simulation, layout programs and test grading, parasitic extraction, logic to layout verification	Comprehensive design rule manuals	Software for simulation, ERC, Timing Analysis, Fault Simulation, Automatic Test Pattern Generation
Production	In-house	Completely vertically integrated in-house	Japan
Preferred Delivered Product	Wafer, packaged dice, scribed dice, and packaged devices	Wafers, die, packaged units	Packaged parts
Test Program Generation	Yes, CAD Supported	Offered as option	Yes
Production Test	Up to and including equivalent class S military flow; also in-house total dose radiation testing	Up to and including equivalent class S military flow, vector and scalar on- or off-wafer up to 26.5 GHz	Functional, parametric, burn-in, thermal cycle
Electrical Test Systems Available	Sentry, IMS, Trillium, Genrad	HP8510, HP8409, cascadable microwave on-wafer probe, Keithly 5900	AdvanTest, Sentry
Comments	User-designed analog and mixed-signal ASICs with guarantee of first-pass success; offer low voltage CMOS; radiation hardening for most process technologies; also provides silicon foundry	Merchant supplier of GaAs products and services with a major strength in the military and high reliability areas. Complete custom capability as well as semicustom and foundry.	Alternate source to VLSI Technology, Inc., Standard Cell 1.0μ, 0.8μ

ASIC/CUSTOM (Cont'd)

Manufacturer	**Holt Integrated Circuits**	**Honeywell**	**Hualon Microelectronics**
Customized Standard Circuits	Linear, digital, combined linear/ digital	Digital	Linear, Digital and Combined
Gate Array	Metal-gate 5μ CMOS; 3.0μ, 2.0μ standard cell silicon gate CMOS	1.2μ, 2-level metal CMOS-III; 1.2μ, 0.8um 2-level metal BICMOS-III.	CMOS, Channelless Sea of Gates
Chip Density Range (equiv. gates)	80 to 2,000	Up to 140,000 gate array; up to 35,000 standard cell	To 40,000
Cell Library	Metal-gate CMOS; silicon-gate CMOS	1.2 and 0.8 μm silicon-gate CMOS DLM	Yes
Design Kit Available	Yes	Mentor	Viewlogic
Full Custom Circuits Digital	Single and double poly silicon-gate CMOS metal-gate CMOS	CMOS gate arrays, rad-hard arrays	CMOS
Linear	Single and double poly; silicon-gate, metal-gate CMOS		CMOS
Combined Digital Linear	Metal-gate CMOS, silicon-gate CMOS		CMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Any	Netlist,GDS2 Database RTL VHDL description	Functional specifications, block diagram, breadboard
Design Aids	Logic simulation, breadboard assistance, DRC, ERC.	VDS Tool kit, including proven macrocell library, logic simulation, static timing analyzer. Design for a test methodologies provided; ATPG available, VHDL	Schematic capture, logic simulation, timing simulation, fault simulation, test patterns
Production	In-House	In-House	In house
Preferred Delivered Product	Packaged devices	Packaged Devices	Any
Test Program Generation	Yes	Yes	In house
Production Test	Functional, parametric, burn-in, thermal shock, environmental, MIL, SEM	Functional, 100% dc, and selected ac parameters, MIL-STD-883C and Class B, and modified Class S screening	In house
Electrical Test Systems Available	Eagle LSI-4, plus IEEE-488 Analog instrumentation, IT-200, In-House Analog/Digital Tester	Sentry; ANDO	Sentry, Trillium, Teradyne, ANDO, IMS, CET
Comments		High-performance CMOS Gate Arrays; Strategic Radiation Hardened RICMOS-III process; 1149.1 built-in self-test (BIST) testability protocols	

Manufacturer	**Hughes**	**Hyundai**	**IC DESIGNS**
Customized Standard Circuits	Digital, Linear, EEPROM combinations	Yes	CMOS 1.25 and 2μm silicon-gate
Gate Array	Silicon-gate CMOS DLM 2μ and 1.5μ gate arrays	CMOS	
Chip Density Range (equiv. gates)	Up to 15,000 gates (gate array);up to 40,000 gates (standard cells)	880–85,000 usable gates	Up to 5,000 gates (2μ);up to 15,000 gates(1.25μm)
Cell Library	1.5 and 2 μ silicon-gate CMOS DLM; 3μ silicon-gate CMOS 1 level metal, Analog, EEPROM	Yes	1.25 μm and 2μm silicon-gate CMOS, 2 metal.Digital and Analog
Design Kit Available	Yes (Mentor)	Yes	Yes
Full Custom Circuits Digital	3μ, 1.5 and 2μ silicon-gate DLM		
Linear	Standard cells, Si-gate CMOS, 2μ and 3μ Low and High Voltage Double Poly SCF Process		
Combined Digital Linear	Standard cells, Si-gate CMOS, 2μ and 3μ and EEPROM		Standard cells, silicon-gate CMOS, 2μm and 1.25μm
Provide Design Assistance	Yes		Yes
Acceptable Customer Input (in order of preference)	Verified netlist, circuit diagram and specs, database tape with simulation,test vectors, and bonding diagrams, GDS-II Layout.		Verified netlist, circuit diagram, specs, and simulation vectors
Design Aids	Supports Mentor Graphics Workstations	Turn-Key Service	IC Works-proprietary desktop ASIC design system for PC-AT
Production	In-House fab and test, in-house and procured masks and packaging	In-House	Via proprietary foundry relationship
Preferred Delivered Product	Packaged units in DIPs, LCC, PGA, probed wafers or dice, flatpacks	Packaged Devices, Dice	Packaged units (DIPs, PLCC, PGA); wafers or dice
Test Program Generation	Yes	Yes	Yes
Production Test	AC and DC functional and parametric, voltage/frequency corners	Yes	AC and DC functional and parametric
Electrical Test Systems Available	LTX, Sentry Series, Sentinel, Advantest/Takeda-Riken	Sentry, Trillium	Sentry Series, Sentinel
Comments	Complete standard cell and gate array compatibility; applications support; in-house mask shop; manufacturing and assembly; second source LSI Logic for Gate Arrays		Cell library, design tools and foundry services all available from single supplier.

ASIC/CUSTOM (Cont'd)

Manufacturer	Ideal Semiconductor	ILC Data Device	Integrated Circuit Systems
Customized Standard Circuits	Linear, Digital, ECL, DTL, RTL	Digital, linear, power	Digital, linear, combined digital/linear
Gate Array			CMOS
Chip Density Range (equiv. gates)			65,000
Cell Library	Linear, Digital		Metal-gate CMOS, Silicon-gate CMOS
Design Kit Available	No		No
Full Custom Circuits Digital	Silicon-gate CMOS, NMOS, Metal-gate CMOS, BiCMOS, TTL, ECL, Bipolar	Bipolar, CMOS	Metal-gate or silicon-gate CMOS, double level metal or poly, EE, high voltage, low voltage
Linear	Bipolar, complementary bipolar, CMOS	Bipolar	CMOS
Combined Digital Linear	Silicon-gate, CMOS, NMOS, TTL, BiCMOS, ECL, bipolar	Bipolar, CMOS	CMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Database tape, known good device, schematic, performance specs, vectors	Logic diagram, circuit diagram, test vectors, functional specifications	No minimum required. Full turn-key service available
Design Aids	Logic simulator assistance, Breadboard assistance, design rule checks		Full design capability including schematic capture, analog and digital simulation,layout tools, data base verification, and test program generation.
Production	4' wafers, specific process locations	In-house	Yes
Preferred Delivered Product	Customer preference	Packaged units	Packaged parts, dice or chips on board available
Test Program Generation	Yes	Yes	Yes
Production Test		Functional, parametric, burn-in, thermal shock, environmental, MIL	Yes
Electrical Test Systems Available	Sentry, Impact, LTS2020, Terdyne	Custom equipment	Megatest, Sentry
Comments	Specializing in older technologies, hard-to-find microcircuits, second sources, small-quantity runs accepted.	New packaging technology and materials enable DDC to develop power hybrids with typical power dissipation of 100 watts, and are capable of handling typical currents of 50 amperes with low junction-to-case thermal resistance.	Since ICS purchases wafers from several foundries, it has the flexibility to choose the optimum process for an application. Second sourcing is straight-forward.

Manufacturer	**Integrated Logic Systems**	**International Microcircuits**	**International Microelectronics** Products
Customized Standard Circuits		Digital	Digital/Analog
Gate Array	CMOS 1.0 μm double-level metal	Silicon- or metal-gate CMOS	Yes
Chip Density Range (equiv. gates)	1,000 to 100,000	75 to 16,000	2,000 to 65,000
Cell Library	Full 7400 series, user-definable ROM, RAM, PLA in standard cell density	Yes	Yes
Design Kit Available	Yes	Yes	Yes
Full Custom Circuits Digital	Yes		Silicon-gate NMOS and CMOS
Linear			Si-Gate CMOS, BiCMOS
Combined Digital Linear			Silicon-gate NMOS and CMOS, BiCMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Simulated schematic or functional description	Functional spec, logic diagram, circuit diagram, test vectors, PG tape and netlist	Test vectors, customer-owned-tooling (pattern-generator tape, composite drawing), net list, schematic
Design Aids	Schematic capture, logic simulation, automated R-C extraction, timing verification, design rule checking, electrical rule checking, auto place and route, customer training, design center	Logic simulation, design rule check; Mentor CAE capabilities + PC Based	Schematic capture, digital/analog simulation, place and route, DRC, ERC, LVS.
Production	Procured wafer production	In-house and procured	In-house
Preferred Delivered Product	Packaged dice available in commercial and military	Scribed dice, packaged dice wafers + special pkgs.	Mapped wafers, probed wafers, scribed dice, packaged dice, or special packages.
Test Program Generation	Automated test program generation	Yes	Yes
Production Test	ATG 95% fault coverage typical, 100% scan and functional testing; burn-in, military, environmental	Functional, parametric, burn-in, thermal shock, environmental, MIL	Functional, parametric, burn-in
Electrical Test Systems Available	Sentry, IMS	Sentry	Sentry, Trillium, LTX, Keithley, MLT
Comments	Gate array architecture offering complex functions with standard cell density; full scan path test program generation and fault grading; available in commercial and military, PLD/FPGA replacement	100% burn-in, Mil spec manufacturing in line	

ASIC/CUSTOM (Cont'd)

Manufacturer	**IXYS**	**Lansdale Semiconductor**	**Lattice**
Customized Standard Circuits		Digital, Bipolar, Memories	
Gate Array			E^2CMOS Generic Array Logic
Chip Density Range (equiv. gates)			300 to 8000 gates
Cell Library			Electrically Erasable CMOS
Design Kit Available			Yes
Full Custom Circuits Digital	Power control, Motion control, Industrial control and Telecommunications related circuits	ECL, LS, TTL, DTL, RTL, Bipolar, SUHL	Electrically Erasable CMOS
Linear	Power control, Motion control, Industrial control and Telecommunications related circuits	Yes	
Combined Digital Linear	Power control, Motion control, Industrial control and Telecommunications related circuits		
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Specifications, circuit diagrams, netlist	PG tape, mask, functional specs, schematic capture, circuit diagram	Device Master, JEDEC Fuse Map, logic equations, state machine, truth tables, schematic entry, waveform
Design Aids		Design rule checks	PLD development software
Production	Included	In-house wafer fabrication	Procured
Preferred Delivered Product	Packaging ICs in standard plastic, ceramic or SMD	Packaged tested dice, wafers	Plastic and ceramic DIP, PLCC, LCC, PQFP, TQFP
Test Program Generation	Included	Yes	Yes
Production Test	Included	Functional, parametric	Programmability, Functional, Parametric, AC, Mil, Industrial
Electrical Test Systems Available			Sentry, Impact
Comments			Third-party programmer support available

ASIC/CUSTOM (Cont'd)

Manufacturer	**Linfinity Microelectronics**	**Logical Solutions**	**LSI Computer Systems**
Customized Standard Circuits		Digital	
Gate Array		1.5μ and 2μ silicon-gate CMOS	
Chip Density Range (equiv. gates)		1,000 to 50,000	
Cell Library		Yes	
Design Kit Available			
Full Custom Circuits Digital	CMOS, BiCMOS		Metal-gate PMOS, CMOS, silicon-gate NMOS, silicon-gate CMOS
Linear	Yes, Bipolar		Metal-gate PMOS, CMOS, silicon-gate CMOS
Combined Digital Linear	Yes		Metal-gate PMOS, CMOS, Silicon-gate CMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Yes	Logic diagram	Logic diagram, customer-owned tooling (pattern-generation tape, composite drawing), circuit diagram, breadboard, functional specification
Design Aids	On Site		Design-rule checks, computer-aided transient analysis, Applicon 760, Sun 4, VAX, 386 PC
Production	In-house	Subcontracted	Procurred
Preferred Delivered Product	Fully Packaged, Dice	DIP, PCC, SOIC, wafers, ceramic leaded and leadless packages, die to commercial and military specifications	Packaged dice, dice
Test Program Generation	Yes	Yes	Yes
Production Test	Yes	Functional, parametric, burn-in, thermal shock, environmental, military	Functional, parametric, burn-in, thermal shock, environmental, MIL
Electrical Test Systems Available	Yes	Sentry (subcontracted)	Macrodata107 and customized equipment
Comments		Will license patented testability circuit architecture for inclusion in customer devices	Multiple-sourced production

ASIC/CUSTOM (Cont'd)

Manufacturer	Marconi Circuit Technology	Micrel	Micro Linear
Customized Standard Circuits		Combined CMOS/DMOS linear/digital	Analog and analog/digital semicustom with some arrays.
Gate Array	Silicon on sapphire		Bipolar tile array
Chip Density Range (equiv. gates)	700 to 20,000		500 to 3,000 analog components
Cell Library	Silicon on Sapphire	Yes	Macrocells available
Design Kit Available	Yes		No
Full Custom Circuits Digital	Silicon on sapphire	PMOS, CMOS, DMOS, NMOS silicon or metal-gate, isopolar type processing	
Linear	Silicon on sapphire	Bipolar, CMOS, DMOS	Yes
Combined Digital Linear	Yes	Up to 200 volts	Yes
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Netlist and simulation vectors, post layout, full turnkey	Customer owned tooling, PG tape, database tape; circuit logic, functional specifications	Schematic diagram, CAD schematic with simulations, GDSII tape
Design Aids	Mentor, Dazix, Intergraph Design Systems	Design rule checks. Calma CAD, breadboard, logic simulation, circuit simulation	Engineering support, Viewlogic workstation
Production	In-house	In-house wafer fabrication; 4-inch lines. Procured assembly	In-house and procured
Preferred Delivered Product	Packaged Devices, Dice	Packaged tested die, probed wafers, mapped wafers	Dice or packaged units
Test Program Generation	Yes	Yes	Yes
Production Test	Up to Mil-STD–883C Level 'S'	Functional, parametric, burn-in, MIL STD 883. Rad hard Class B,S	Functional, parametric, burn-in, full MIL-STD–883C
Electrical Test Systems Available	Sentry	Sentry VII, Series 20	Sentry, Teradyne
Comments	Full Radiation-Hardened Product Range;Second Source;Secure Design Centre	Bipolar-linear, CMOS, DMOS power devices combined; 60V, 100V, 200V; 3μ CMOS Si-gate dual poly; 1 GHz DMOS power FET	12 volt/40 volt mixed signal tile arrays and semi-standard

ASIC/CUSTOM (Cont'd)

Manufacturer	**Micro Networks**	**Micro Power Systems**	**Micro-Rel**
Customized Standard Circuits	Linear, Mixed Signal	2,000 digital, linear and digital/linear cells	
Gate Array			
Chip Density Range (equiv. gates)		Up to 10,000 gates	500–10,000 gates (2-input NAND)
Cell Library		CMOS, bipolar, with BiMOS with thin film resistors	Silicon-gate CMOS
Design Kit Available		Yes	Yes
Full Custom Circuits Digital		Moly gate CMOS, bipolar, BiMOS, all compatible with thin film resistors	Silicon-gate CMOS
Linear	Bipolar, CMOS, Mixed	High gain/low current analog bipolar, CMOS, BiMOS with thin film resistor; (10 ohms to megohms)	Silicon-gate CMOS, bipolar, BiMOS
Combined Digital Linear		CMOS digital/linear bipolar digital/linear BiMOS digital/linear all compatible with thin film resistors	Silicon-gate CMOS, BiMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Circuit diagram, functional specifications	Circuit logic diagrams, functional specifications, customer owned tooling, PG tapes, database tapes, breadboards	Logic or circuit diagram, functional specification, breadboard, database tape
Design Aids		Cooperative design, logic/circuit diagrams, Calma CAD, workstation based, and design tools	Logic and circuit simulation, kit parts available for linear bipolar design, schematic entry, DRC, ERC, LVS, LPE
Production	In house	In-house wafer fabrication, two second sources	In-house
Preferred Delivered Product	Packaged device, DIPs, LCC, Flatpack	Customer specified: wafers, die, final test, custom and standard packages available	Packaged devices, hybrid modules
Test Program Generation	Yes	Yes	Yes
Production Test	Parametric, burn-in, full Mil	Functional, parametric, burn-in, environmental, linear, full MIL STD 883, rad hard	MIL STD, DESC 1772 certified
Electrical Test Systems Available		Custom testers, BTS, Datatron, Fairchild, LTS, Macrodata	Sentry 7, Series 80
Comments	Certified to ISO–9001, qualified and certified to Mil-Std–1772	Combination COMOS and bipolar, 1 to 5V CMOS, 1 to 200 + V bipolar, 2-micron 250 MHz CMOS (FlashMOS); bipolar linear combined with digital CMOS and thin film resistors (HallMOS)	Radiation-hardened bipolar circuits available

ASIC/CUSTOM (Cont'd)

Manufacturer	**Mitel Corp.**	**Mitsubishi Electronics**	**Motorola**
Customized Standard Circuits	Yes	Digital	Digital
Gate Array		1.0μ, 1.3μ, 2.0μ silicon-gate CMOS	HCMOS, ECL, TTL-LS
Chip Density Range (equiv. gates)		200 to 50,000 2-input NAND	Up to 6,000 gates (gate arrays); up to 10,000 gates (standard cells)
Cell Library	Yes	CMOS	Extensive digital, analog, functional block, μP core
Design Kit Available	Yes	Yes	Training course, manuals
Full Custom Circuits			
Digital	1.5 to 5μ double-layer poly, two-layer metal p-well CMOS, CCD		NMOS, CMOS, ECL, TTL-LS, FAST
Linear	2.0μ double-layer poly, two-layer metal p-well CMOS		Standard cells- HCMOS functional blocks
Combined Digital Linear	2.0μ double-layer poly, two-layer metal p-well CMOS		Standard cells- HCMOS functional blocks
Provide Design Assistance	Yes		21 Design Support Centers
Acceptable Customer Input (in order of preference)	Functional specification, logic diagram, circuit schematics, or CAD interface	Netlist and test vectors, schematic using macrocell and test vectors, schematic and test vector or timing diagram.	CAD interface, verified netlist, circuit documentation.
Design Aids	Logic simulation, design verification, SPICE, post layout checks	Circuit simulation, logic simulation, schematic entry, test program generation, design rule checks, fault simulation	Training course and manuals, software for simulation, timing analysis and test programs; popular engineering workstations
Production	In-house	In-house	High volume production; in-house fab, assembly and test
Preferred Delivered Product	Wafers, probed wafers, scribed wafers, packaged/tested devices	Packaged	Choice of packages- DIPs, PLCC, PGA, LCC for surface mount or thru board mount
Test Program Generation	Yes	Automatic	Yes, evaluation and production
Production Test	Functional parametric, burn-in, thermal shock, environmental, MIL linear	Functional, parametric, burn-in standard	100% ac and dc parametric and functional
Electrical Test Systems Available	LTX DX89, DX90	Mitsubishi in-house tester, Ando.	Sentry Series, Sentinel, Trillium up to 256 I/O
Comments	Complete standard cell and macrocell array family available, specializing in linear and telecommunication circuits, second source: IMP	Gate isolation; compatible with standard cell macrolibrary	Complete standard cell and macrocell array families with mapability of designs; second source: NCR

ASIC/CUSTOM (Cont'd)

Manufacturer	**MSI/Scorpion Semiconductor**	**National Semiconductor**	**NCM Corporation**
Customized Standard Circuits	Digital. linear combined digital/linear	Digital	Linear, digital, combination
Gate Array	Yes	ECL, 2μ silicon-gate CMOS	CMOS (si-gate, metal-gate), bipolar
Chip Density Range (equiv. gates)	1000 to 100K 2-input gates (gate array), to 15,000 (standard cell)	ECL: 500 to 2,000 3-input NAND; CMOS: 500 to 6,000 2-input NAND	What ever is feasible
Cell Library	Yes	Yes	Yes
Design Kit Available	Yes	Yes	No
Full Custom Circuits Digital		Implemented in gate array format ECL or 2μ CMOS	CMOS (Si-gate, metal-gate), bipolar, PMOS (si-gate, metal-gate)
Linear			CMOS (si-gate, metal-gate), bipolar
Combined Digital Linear			CMOS (si-gate, metal-gate), bipolar
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Layout database, PG tape, validated netlist, semi-validated netlist, functionally validated netlist, unvalidated netlist, logic diagram, functional specifications, masks	Logic diagram to PG tape - depending on customer interface required	Functional specs, logic diagram, circuit diagram, breadboard, test vectors, customer-owned-tooling, known good devices
Design Aids	Expert-based design software services to optimize and speed designs, including netlist conversions	Logic simulation, breadboard assistance, design rule checks. FairCAD design system provides full design capability.	Logic simulation, breadboarding, design rule check, cell library
Production	In-house	In-house	Procured
Preferred Delivered Product	DIP, plastic chip carriers, SOIC packages, wafers, die to commercial or military specifications	Packaged die preferred	Packaged units, dice, probed wafers, pc assemblies
Test Program Generation	Yes	Yes	Yes
Production Test	Functional, parametric, burn-in, thermal shock, environmental, MIL	Functional parametric to MIL 883B	Functional, parametric, burn-in, thermal cycle
Electrical Test Systems Available	YES	In-house	In-house built, microcomputer-controlled test systems
Comments	Complete custom capability including design, instruction, cell library licensing	High performance ECL and 2μ silicon-gate CMOS gate arrays in volume production	Chips as large as 522x1068 mils have been successfully manufactured

ASIC/CUSTOM (Cont'd)

Manufacturer	**NCR Microelectronic**	**NEC Electronics**	**OnChip Systems**
Customized Standard Circuits	Digital, linear mixed-signal, μC, memory, combinations	Digital, μP, Memory, Combined Digital/Linear	Linear, linear/digital
Gate Array	Si-gate- CMOS DLM, 0.7μ L-effective, 0.95μ drawn. Si-gate CMOS DLM.	CMOS, ECL, BiCMOS	Bipolar, Analog CMOS
Chip Density Range (equiv. gates)	Up to 283,000 gates (gate array); up to 100,000 gates(standard cell)	CMOS: to 627,000 gates, BiPolar to 35,656 gates	Bipolar; to 800 components, Analog CMOS: to 1000 Gates.
Cell Library	Compilers, supercells, analog, 74xx, 82xx, 53C9X, 85C30, 8077A, 16C450/550.	Extensive digital, analog, RAM, ROM, 74LS, 82XX, many mega macros	Yes
Design Kit Available	Training course, manuals, license	Yes, training manuals	No
Full Custom Circuits Digital	Same as gate array and cell library sections above	0.65 μm CMOS, 1.0μm CMOS, 1.5μm CMOS, ECL	CMOS Si gate and Metal Gate GaAs.
Linear	Same as above	BiPolar	Analog CMOS, Bipolar, CMOS Si gate and Metal Gate High Speed Bipolar and GaAs
Combined Digital Linear	Same as above	Si-gate CMOS standard cells	Analog CMOC, CMOS Si gate and Metal Gate, GaAs
Provide Design Assistance	10 Design Centers worldwide	7 U.S. Design Centers	Yes
Acceptable Customer Input (in order of preference)	Verified netlist, circuit diagram and specs, database tape	Logic data and test vectors; verifued netlists	Schematic w/functional specs;Block Diagram;Concept
Design Aids	Training course and manuals, software for simulation, timing analysis and test programs, popular engineering workstations	Design kits for most EWS; training courses, detailed manuals,local engineering support	Internal Design manual & design rules ISS system layout, DRC, LVS, digitizing Simulation (SPICE) Breadboard
Production	In-house fab and test, in-house packaging	In-House: U.S. and Japan	Procured, multiple sources for each process.
Preferred Delivered Product	Packaged units in PDIP, PQFP QFP (metric) PLCC (J-lead), LCC (J-lead), LCC (leadless) SOIC, PPGA, CPGA, Cerquad FP, SMT, TAB.	Packaged dice, DIP, PGA, FPGA, QFP, SOP, LCC in most popular sizes	Packaged - DIP,SOIC,SMT; Die - Wafers, Waffle packs
Test Program Generation	Yes	Yes	Part of development
Production Test	AC and DC functional and parametric, voltage/frequency corners	Functional, AC, DC, 100% burn-in	Functional, parametric, mil screening available Temperature testing available
Electrical Test Systems Available	Sentry Series, Trillium	Ando	Pragmatic test heads. Custom built systems.
Comments	Complete standard cell and gate array compatibility; applications support;Design Centers; in-house; manufacturing and assembly; full line of tools for industry standard workstations. Tools assist board-level as well as ASIC-level simulation.	Broad line of processes, products and packages. Offer one-stop shopping as an ASIC vendor.	Prefer turnkey designs with active involvement at the system level.

ASIC/CUSTOM (Cont'd)

Manufacturer	**Qualcomm**	**Raytheon Semiconductor**	**Ricoh**
Customized Standard Circuits	Linear, Digital, Combined	Linear, digital	Digital, Linear, combined digital/linear
Gate Array		Bipolar digital, ECL	1.5, 1.2, 0.8μm CMOS
Chip Density Range (equiv. gates)	10,000–40,000	800 to 20,440	Up to 200K gates (Sea-of gates)
Cell Library		TTL	Yes
Design Kit Available	NO	Yes	Yes
Full Custom Circuits Digital	CMOS, ECL, TTL	Consult factory (bipolar)	Yes
Linear		Bipolar	Yes
Combined Digital Linear	BiCMOS	Consult factory (bipolar)	Yes
Provide Design Assistance		Yes	Yes
Acceptable Customer Input (in order of preference)		TEGAS netlist, circuit schematics, physical database program	Mask, Layout database, validated netlist, cell library schematics
Design Aids		Evaluation devices, design source manual, factory tutorial, Schematic Entry, circuit simulation, design rule checks	Expert based design and software services R-CAD, KBSC
Production	Wafer production procured from outside foundaries	Yes	In-house
Preferred Delivered Product	Packaged devices, die	Packaged units, dice	Wafers, die, or packaged units
Test Program Generation	Yes	Yes	Yes
Production Test	Functional and Parametric; MIL screening available	Functional, parametric, burn-in, thermal shock, environmental, MIL	Functional, parametric, burn-in, thermal shock, environmental
Electrical Test Systems Available		Sentry 7, Sentry Series 21	ANDO, LTX, TI
Comments	In-house VLSI design capability for forward error correction and frequency synthesis ASICs.	Radiation tolerance test data available	Complete custom design capability and in-house services

ASIC/CUSTOM (Cont'd)

Manufacturer	**S-MOS Systems**	**Sanyo**	**Seattle Silicon**
Customized Standard Circuits	Digital	Digital and Analog	
Gate Array	Silicon-gate CMOS	Silicon-Gate CMOS, Sea of Gate	
Chip Density Range (equiv. gates)	400 to 10,000	2000 to approx. 240,000	
Cell Library	Basic cells and MSI Macros	Basic Cells, MSI and MegaCell	
Design Kit Available	Yes	Yes	
Full Custom Circuits Digital	Si-gate CMOS	Silicon-Gate CMOS ROM, RAM, 82XX Series, microprocessors	Cell-based silicon-gate CMOS
Linear		Silicon-Gate CMOS; ADCs, DACs and Op Amps	Silicon-gate CMOS
Combined Digital Linear		Silicon-Gate CMOS	Silicon-gate CMOS
Provide Design Assistance		Yes	Yes
Acceptable Customer Input (in order of preference)	Netlist, P.G. tape, schematic	Net list, circuit schematic, DSII data base tape, PG tape	Workstation logic diagram
Design Aids	Schematic entry, circuit simulation, logic simulation, design and electrical rule checks	Logic Simulation, fault simulation, design rule checks, LVS test, schematic entry. CAD tools include Cadence, Mentor and ViewLogic.	Library of parts, place and route, back annotate simulation models for Mentor and Valid; logic synthesis and timing analysis
Production	In-house	In-house	Procured
Preferred Delivered Product	Any	Packaged units, die, wafer	Packaged units
Test Program Generation	Yes		Yes
Production Test	Functional, parametric	DC, functional, parametric, burn-in	Functional, parametric, burn-in
Electrical Test Systems Available	Takeda-Riken	Ando	Sentry
Comments		Delay: 0.27 ns (0.8μm), F/O ± 2. I/O: 1 to 48 mA sink, 2000 I/O cells, 3.3/5 V.	Automated design system for multiple processes using custom cell-generators, full CAD and simulation support

ASIC/CUSTOM (Cont'd)

Manufacturer	**SemTech**	**SGS-THOMSON**
Customized Standard Circuits	Linear, Combined digital/linear	Digital/linear
Gate Array		Silicon-gate analog/digital, silicon-gate high voltage
Chip Density Range (equiv. gates)		
Cell Library	Yes	100 to 1,200 gates
Design Kit Available	No	Yes
Full Custom Circuits Digital		Silicon-gate CMOS/DMOS, 500V dielectric isolation
Linear	Bipolar	Same as above
Combined Digital Linear	Bipolar	Same as above
Provide Design Assistance	Yes	Same as above
Acceptable Customer Input (in order of preference)	Functional specs, circuit diagram, breadboard, samples	Schematic I/O requirements, functional specs, breadboard, test vectors, customer-owned-tooling, known good device
Design Aids	SPICE, breadboarding, design rule check	Daisy/VAX, Spice 2G. transient analysis, Daisy Logician logic simulation, Daisy Gatemaster place and route
Production	In-house fab and test	In-house wafer fab
Preferred Delivered Product	Packaged units, dice, assemblies	Wafer, dual-in-line packages, chip carriers
Test Program Generation	Yes	Yes
Production Test	Functional, parametric, burn-in, thermal cycle	Functional, parametric burn-in, thermal shock, environmental
Electrical Test Systems Available	Teradyne test systems	Custom high voltage test system, LTX
Comments		Dielectric isolation allows simultaneous integration of HV p- and n-channel transistors, IGTs, bipolar devices, and standard CMOS; design centers available

ASIC/CUSTOM (Cont'd)

Manufacturer	**Silicon Systems**	**Sipex**	**Solitron Devices**
Customized Standard Circuits	Analog/digital	Analog, combined digital/linear	Bipolar linear, power linear, smart power
Gate Array		2–5μ silicon-gate CMOS, Bi-CMOS (bipolar and CMOS), and Bipolar DI	
Chip Density Range (equiv. gates)		100 to 10,000 2-input gates	
Cell Library	Analog/digital standard cells and compiled macros	CMOS, BiCMOS, Bipolar DI	Yes
Design Kit Available	No	Yes	Yes
Full Custom Circuits Digital	Silicon gate CMOS, bipolar, BiCMOS TTL, STL, SRTL, LSTTL, ECL, I^2L	Silicon-gate CMOS, HCMOS, HMOS, BiCMOS, Bipolar DI	
Linear	Silicon gate CMOS, bipolar, BiCMOS	Silicon-gate CMOS, HCMOS, BiCMOS, Bipolar DI	Bipolar small signal and high power up to 80V and up to 20A
Combined Digital Linear	Silicon gate CMOS, bipolar, TTL, SRTL, I^2L, STL	Silicon-gate CMOS, HCMOS, BiCMOS	
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Functional specification, logic diagram, circuit diagram, breadboard, test vectors	Logic diagram, circuit diagram, breadboard, functional specification, test vectors, COT, known good device	Calma GDS II tape, schematics, layout and block diagram
Design Aids	Breadboards, logic and circuit simulation, design rule checks, test-program development, auto place, auto route	Circuit simulation, logic simulation, schematic entry, test program generation, design rule checks, breadboard assistance	CAD assistance, model parameters
Production	In-house	In-house, procurred	In-house
Preferred Delivered Product	Packaged units and tested dice	Packaged devices, others available	Wafers, die or packaged units
Test Program Generation	Yes	Yes	Yes
Production Test	Automatic testers for analog and digital devices, functional and parametric	Functional, parametric, burn-in, thermal shock, environmental, MIL	Functional, parametric, burn-in, all environmental, all military and classes testing
Electrical Test Systems Available	LTX, Teradyne Trillium	Sentry, Teradyne	LTX
Comments		Technology licensing. Standard cell library available.	Complete custom capability, including design, modeling and layout

ASIC/CUSTOM (Cont'd)

Manufacturer	**Standard Microsystems Corp.**	**STC Components**	**Sunshine Semiconductor**
Customized Standard Circuits	Digital, combined digital/linear, memory, microprocessor	Digital, combined digital/linear, linear, memory	Digital, combined linear/digital
Gate Array		Bipolar	
Chip Density Range (equiv. gates)	50 to 30,000	10 to 15,000	
Cell Library	Silicon-gate CMOS	CMOS, Bipolar, merged CMOS/ bipolar	Si-gate CMOS
Design Kit Available	Yes	Yes	
Full Custom Circuits Digital	Silicon-gate CMOS	CMOS, Bipolar, merged CMOS/ Bipolar, TTL, ECL	Silicon-gate CMOS, metal-gate CMOS, nonvolatile CMOS
Linear	Silicon-gate CMOS	CMOS, merged CMOS/Bipolar, UHF Bipolar	
Combined Digital Linear	Silicon-gate CMOS	CMOS, merged CMOS/Bipolar, UHF Bipolar	Metal Gate CMOS, Si-gate CMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Functional specification, logic diagram, Calma database tape, netlist	Functional spec and block diagram, customer-owned tooling, Calma database tape	Product description, block diagram with specifications, logic diagram
Design Aids	Logic simulation, design rule checks, electrical rule checks, transient analysis, automatic breadboard wiring, logic simulation with extracted delays, training course, software	Alphanumeric netlist or schematic entry, circuit simulation, logic simulation, design and electrical rule checking	Breadboard, circuit and logic simulation, DRC, graphics, LVS
Production	In-house	In-house	Procured
Preferred Delivered Product	Packaged devices preferred; all others available	Fully tested assembled packages, wafers and all others available	Packaged dice, bare dice, design and layout
Test Program Generation	Yes	Yes	Yes
Production Test	Full testing and screening including burn-in	Full testing and screening; burn-in if required	Procured
Electrical Test Systems Available	Fairchild Sentry 20, 21, Sentinel, Genrad GR–16	Fairchild Sentry Series 10, 15 and 81; Xincom, H.P. and other dedicated systems	
Comments	Specialize in networking and mass storage, MOS/LSI and VLSI. Will also customize by modifying MOS/LSI standard parts.	Total capability offered, including analog and digital bipolar circuits up to GHz range	Services include product and specification finalization, logic and circuit design, layout, test definition

ASIC/CUSTOM (Cont'd)

Manufacturer	**Synergy Semiconductor**	**Tektronix**	**Teledyne Components**
Customized Standard Circuits	Digital and Analog	Linear, mixed linear/digital, bipolar	
Gate Array	ECL		
Chip Density Range (equiv. gates)	1665 to 63,090 equivalent gates or 111 to 4206 D-type flip-flops	Up to 800 equivalent gates (digital)	3,000
Cell Library	Basic cells, compiled/embedded RAM, comparators, DAC, ADC, PLL	Digital and analog	
Design Kit Available	Cadence/Verilog	Yes	
Full Custom Circuits Digital	Macrocell customization is available	Yes	
Linear	Macrocell customization is available	Bipolar receivers, amplifiers, mixers and filters to UHF.	Metal-gate CMOS, silicon-gate CMOS, BiCMOS
Combined Digital Linear	Macrocell customization is available	Bipolar	Metal-gate CMOS, silicon-gate CMOS, BiCMOS
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Verified netlist and test vectors, schematics and truth tables	QuicKic Database, Calma GDS II, Outform 3, stream database	Customer-owned tooling (pattern generator tape, composite drawing), known good device, schematics, performance specs
Design Aids	Training course, design manuals. CAD tools: Cadence, Verilog, Veritime, HSPICE, Synergy, ORCA and PEP/P	Training, QuicKic interactive schematic capture/layout editor, design consultation, manuals, full SPICE models, electrical rules checking, worst-case analysis	Spice
Production	In-House	In-house	In house, 5' lines
Preferred Delivered Product	Packaged units	Tested/untested wafers, die, plastic DIP, ceramic DIP, 28,44,68 pin plastic/ceramic J-leaded quad packages, SOIC	Unprobed wafers, probed wafers, packaged units, tested and untested
Test Program Generation	Yes with TSSI software tools	Yes	Yes
Production Test	Functional, ac testing preferred, temperature, speed. MIL-spec available	Analog, parametric (dc), limited functional ATE-based, burn-in and thermal shock	Functional parametric, burn-in, thermal shock, environmental, linear
Electrical Test Systems Available	Credence, HP and Advantest	Sentry, Series 80, Tektronix, ESI	In-house manufactured analog testers
Comments	High-speed, high-density, power-optimized ECL	Complete high-speed analog capability on high-speed bipolar processes; SPICE library, proprietary DRC and worst-case analysis capability. Laser wafer trim. In-house design center, module assembly and testing	Nitride passivastion, thin-film resistors, in-circuit Zener capability, ESD protection, BiCMOS process

ASIC/CUSTOM (Cont'd)

Manufacturer	**Toshiba America Electronic** Components	**TriQuint Semiconductor**	**TRW**
Customized Standard Circuits	Digital	Digital/Mixed Signal	Digital, data conversion, mixed signal
Gate Array	HC^{2}MOS Si-gate double- and triple-layer metal	SCFL Standard Cells	
Chip Density Range (equiv. gates)	Over 500,000 usable gates	Up to 15K Gates	Up to 200 K
Cell Library	Digital and Analog	Yes	Standard logic elements, high-level signal-processing functions, high-speed data-conversion cells.
Design Kit Available	Yes	Yes	No
Full Custom Circuits Digital	Yes 4-, 8-, and 16-bit microprocessor cores	GaAs IC designs by customer or TriQuint	Yes
Linear	1.5μ CMOS, A/D, op amps, etc.	Including MMICs to 26 GHz	Yes
Combined Digital Linear	Yes	Yes	Yes
Provide Design Assistance	Yes	Yes	Yes
Acceptable Customer Input (in order of preference)	Workstation interface (tape or floppy), logic diagram with netlist and test vectors, circuit diagram/schematic	CALMA GDSII for customer designs, Schematics for TriQuint designs, Workstation Netlist For Semicustom	Behavioral logic model, logic diagram, functional description
Design Aids	Circuit simulation, logic simulation, test program generation; turn-key implementation for Mega-cell based custom circuits. Most commercial EWS are supported.	Detailed manuals, device models, logic models, Mentor workstations	Complete simulation and verification suite
Production	In-house	In-house	In-House
Preferred Delivered Product	Packaged units (DIP, PLCC, PFP, CFP, PGA, AIN, HQFP)	Wafers, die, packaged parts	Packaged Units, Dice
Test Program Generation	Yes	Yes	Yes
Production Test	Functional, parametric	Yes	Functional, parametric, 883 Class B screening
Electrical Test Systems Available	Advantest and others	Tektronix 32XX Series, Tek LT 1001	Trillium Arraymaster, HP9480
Comments	Toshiba offers gate array, standard cell and custom (super-integration); Technology Resource Centers in Boston, Dallas, and Sunnyvale CA.	Custom foundry, semicustom arrays, custom design. STD cell library includes ROM, DDS macros, Linear Functions	Specialize in application-specific customization of high-speed signal-processing functions.

ASIC/CUSTOM (Cont'd)

Manufacturer	**United Technologies**	**Unitrode Integrated Circuits**
Customized Standard Circuits	Digital	
Gate Array	1.5μ silicon-gate CMOS; 1.2μ silicon-gate CMOS	
Chip Density Range (equiv. gates)	3,400–100,000	
Cell Library	7400/4000 CMOS, 2900 series, 8X305, multipliers, adders, DSP cells, etc.	
Design Kit Available	Yes, 1 week class	
Full Custom Circuits Digital	1.5μ silicon-gate CMOS 1.2μ silicon-gate CMOS	
Linear		Bipolar, BiCMOS
Combined Digital Linear		Bipolar, BiCMOS
Provide Design Assistance	Yes	Yes
Acceptable Customer Input (in order of preference)	Simulated netlist, logic diagram, customer owned tooling, PG tape, functional specs.	Pattern generator tape, device schematics and performance specs, functional diagram
Design Aids	Schematic entry, design rule checks, logic simulation, testability analysis, layout, test program generation, workstation tools for Mentor and Valid.	Predesigned circuit blocks, design engineering assistance, bread board and application assistance, design rule checks
Production	In-house	In-house
Preferred Delivered Product	Packaged dice, dice, probed wafers	Packaged and tested finished goods; Tested / probed wafers or dice
Test Program Generation	Yes, automatic	Yes
Production Test	MIL-STD–883 level B or S; MIL-M–38510/6XX (JAN); in-house total dose and transient upset testing	Ambient electrical only thru full military class-s screening
Electrical Test Systems Available	Trillium Micromaster, Genrad GR16	LTX, Credence
Comments	Radiation hardened versions available; Silicon foundry also available	Minimum life of product quantity ± 500 Ku; Capabilities include: Double level metal, thin-film resistors, nitride passivation, laser trimming, MIL-M–38510 qualified, multiple package types, both bipolar and BiCMOS processes

Manufacturer	**Vitesse Semiconductor**	**VLSI Technology**	**VTC**
Customized Standard Circuits	Digital, Memory, Combination		Linear, digital, combined linear/digital
Gate Array	0.8μ metal-gate GaAs E/D MESFET;0.6μ metal-gate GaAs E/D MESFET ECL, TTL, CMOS, GaAs I/O	Digital	2.0μ silicon-gate CMOS
Chip Density Range (equiv. gates)	1,500–350,000 2-Input NOR gates (gate arrays), 150–200,000 2-Input NOR gates (standard cell)	Up to 75,000 usable	Up to 6,000 gates
Cell Library	SSI, MSI, RAM, ROM, ALU, Megacells, Custom/Compiled cells; over 300 cells (standard cells), over 150 cells (gate arrays)	1.5μ, 1.0μ, 0.8μ CMOS compilation and logic synthesis	Linear/digital, digital
Design Kit Available	Yes, on-site design course		Yes
Full Custom Circuits Digital	0.8μ metal-gate GaAs E/D MESFET 0.6μ metal-gate GaAs E/D MESFET I/O: ECL, TTl, CMOS,. Four-level aluminum interconnect	HMOS, CMOS	ECL, TTL, aimed standard cell, CMOS standard cell, VL2000 bipolar digital standard cell, VL5000 CMOS digital standard cell
Linear	Same as Digital		Bipolar cell library and full custom
Combined Digital Linear	Same as Digital		VL1000 bipolar linear/digital cell library
Provide Design Assistance	Yes, On-site Design Course	Yes	Yes
Acceptable Customer Input (in order of preference)	PG Tape (GDSII Format), circuit Schematics and timing requirements, functional and timing specifications.	Functional specification, logic diagram, net list, data tape, PG tape, mask	Circuit diagram with test conditions and PG tape; circuit diagram with test conditions and simulated netlist; functional specification
Design Aids	Logic & timing simulation placement & routing, design rule checks, electrical rule checks, behavioral modeling & simulation, layout, design compiler,cell compiler, workstation tools for Cadence, Mentor, Valid, Synopsys, Verilog, Sun, Apollo and DEC.	Compass design system, including high-level design language, circuit extraction, logic and circuit simulation, design rule checks, plotting, third party support Mentor, Daisy, Valid	Logic and circuit simulation, predesigned linear and digital cells, schematic entry, regional design centers
Production	Design Fabrication, Assembly, Test in-house (devices) design, Assembly, Test In-house(packages)	In-house	Complete mask, wafer fab, packaging test facility
Preferred Delivered Product	Packaged/tested parts, dice, probed wafers	Packaged devices	Packaged devices or die
Test Program Generation	Yes	Yes	Yes
Production Test	AC/DC functional and parametric, burn-in, thermal cycle, environmental MIL-STD–883 screening, level B	Functional, parametric, burn-in, thermal shock, environmental, MIL	Functional, parametric, burn-in, thermal shock, environmental, MIL
Electrical Test Systems Available	Teradyne J953 VLSI Tester, Teradyne J386 Memory Tester, Custom Systems.	Sentry 20/120 (256 pins), Textronics 1101 (512 pins)	LTX with ESILaser, Sentry 8, Sentry 80, MCT–2
Comments	Complete gate array and custom capability; commercial, industrial, or military applications; very high speed, low power performance, applications support; design centers; complete in-house fab, assembly, and test capability; second-source.	Multiple sourcing compatibility, foundry services, training services, training and CAD aids to support user designed VLSI	All libraries and gate arrays have full CAD support.

ASIC/CUSTOM (Cont'd)

Manufacturer	Western Design Center	Western Digital	Xilinx
Customized Standard Circuits	Digital	Digital	
Gate Array		Silicon-gate NMOS	CMOS 0.8/0.7μ
Chip Density Range (equiv. gates)	Over 1,000	Up to 1,000 gates	1,000 to 13,000
Cell Library	CMOS	Yes	SSI, MSI, Macros
Design Kit Available	Yes		Yes
Full Custom Circuits Digital	0.8 to 3μ CMOS		
Linear	Limited CMOS		
Combined Digital Linear	Limited CMOS		
Provide Design Assistance	Yes	Yes	
Acceptable Customer Input (in order of preference)	'Idea' or market requirement, functional specification, logic diagram, logic capture file	Functional specification, logic system	
Design Aids	Logic simulation, test program generation, design rule checks, full custom graphics support	Logic simulation, design rule checks, test program development	Simulation, timing analysis, in-circuit debugger, PC or workstation based
Production	Procurred	In-house	No masking—user programmable
Preferred Delivered Product	Packaged devices, dice, wafer	Packaged units and test dice	Packaged units
Test Program Generation	Yes	Yes	Not required—standard product
Production Test	Functional, parametric, burn-in, device qualification, package qualification, and for licensing purposes, full mil and life support.	Functional, burn-in	100% tested by Xilinx, burn-in available
Electrical Test Systems Available	Sentry		
Comments	Full custom, microprocessor-core-based technology, technology licensing, W65C02, W65C816 core microprocessor with support cores available.	Uncommitted logic arrays, 20 pin DIP, 130 prefabricated logic elements or 28/40 pin DIP, 400 prefabricated logic elements	User-programmable gate array, 64–192 I/O, reconfigurable in-system.

Manufacturer	ZyMOS		
Customized Standard Circuits	Digital		
Gate Array	2.0, 1.5 and 1.2μ CMOS standard cells		
Chip Density Range (equiv. gates)	Up to 25,000 gates		
Cell Library	300 + cells; supercells such as 82C37, 54, 59		
Design Kit Available	Yes		
Full Custom Circuits Digital	2.0, 1.5 and 1.2μ CMOS		
Linear			
Combined Digital Linear			
Provide Design Assistance	Yes		
Acceptable Customer Input (in order of preference)	Logic input through ZyP-AT CAD system, logic diagram, functional spec.		
Design Aids	Standard cell and supercell libraries, schematic capture, logic simulation, test program generation, DRCs, place and route, layout verification		
Production	Procured		
Preferred Delivered Product	Packaged die: PLCC, PDIP, SOIC, LCC, QFP. Die or wafers.		
Test Program Generation	Yes		
Production Test	Functional, parametric		
Electrical Test Systems Available	Sentry 20		
Comments	ZyP-AT CAD system available at customer site.		

ASIC/CUSTOM—Gate Arrays

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source
Actel																	
1200		48	CMOS	1.0	2				57	x				x	Field Programmable	**A1010B**	**Actel (3500)**
		57	CMOS	1.0	2				57	x				x	Field Programmable	**A1010B-1**	**Actel (3500)**
		65	CMOS	1.0	2				57	x				x	Field Programmable	**A1010B-2**	**Actel (3500)**
1500		125	CMOS	0.8	2				80	x				x	Field Programmable	**A1415A**	**Actel (3500)**
		150	CMOS	0.8	2				80	x				x	Field Programmable	**A1415A-1**	**Actel (3500)**
2000		48	CMOS	1.0	2				69	x				x	Field Programmable	**A1020B**	**Actel (3500)**
		57	CMOS	1.0	2				69	x				x	Field Programmable	**A1020B-1**	**Actel (3500)**
		65	CMOS	1.0	2				69	x				x	Field Programmable	**A1020B-2**	**Actel (3500)**
2500		110	CMOS	1.0	2				83	x				x	Field Programmable	**A1225A**	**Actel (3500)**
		120	CMOS	1.0	2				83	x				x	Field Programmable	**A1225A-1**	**Actel (3500)**
		130	CMOS	1.0	2				83	x				x	Field Programmable	**A1225A-2**	**Actel (3500)**
	8	125	CMOS	0.8	2				100	x	x	x		x	Field Programmable	**A1425A**	**Actel (3500)**
		150	CMOS	0.8	2				100	x	x	x		x	Field Programmable	A1425-1	† **Actel (3500)**
			CMOS	0.8	2				100	x	x	x		x	Field Programmable	**A1425A-1**	**Actel (3500)**
	10	125	CMOS	0.8	2	2			100	x		x		x	Field Programmable	A1425	† **Actel (3500)**
4000		90	CMOS	1.0	2				104	x				x	Field Programmable	**A1240A**	**Actel (3500)**
		110	CMOS	1.0	2				104	x				x	Field Programmable	**A1240A-1**	**Actel (3500)**
		125	CMOS	1.0	2				104	x				x	Field Programmable	**A1240A-2**	**Actel (3500)**
	8	125	CMOS	0.8	2				140	x	x	x		x	Field Programmable	**A1440A**	**Actel (3500)**
		150	CMOS	0.8	2				140	x	x	x		x	Field Programmable	**A1440A-1**	**Actel (3500)**
6000	8	100	CMOS	0.8	2				168	x	x	x		x	Field Programmable	**A1460A**	**Actel (3500)**
		120	CMOS	0.8	2				168	x	x	x		x	Field Programmable	**A1460A-1**	**Actel (3500)**
8000		75	CMOS	1.0	2				140	x				x	Field Programmable	**A1280A**	**Actel (3500)**
		90	CMOS	1.0	2				140	x				x	Field Programmable	**A1280A-1**	**Actel (3500)**
		105	CMOS	1.0	2				140	x				x	Field Programmable	**A1280A-2**	**Actel (3500)**
10000	8	100	CMOS	0.8	2				228	x	x	x		x	Field Programmable	**A14100A**	**Actel (3500)**
		120	CMOS	0.8	2				228	x	x	x		x	Field Programmable	**A14100A-1**	**Actel (3500)**
American Microsystems																	
1600	0.38	160	CMOS	1.0	2/3	1			140	x		x		x		GD16K	† American Micro
2630	0.2	260 *	CMOS	0.8	2				52	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G5**	**American Micro (3502)**
3000	0.50	120	CMOS	1.25	2	1			72	x		x		x		GC3K	† American Micro
3670	0.2	260 *	CMOS	0.8	3				52	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G5**	**American Micro (3502)**
4450	0.2	260 *	CMOS	0.8	2				68	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G9**	**American Micro (3502)**
5000	0.38	160	CMOS	1.0	2/3	1			76	x		x		x		GD5K	† American Micro
	0.50	120	CMOS	1.25	2	1			98	x		x		x		GC5K	† American Micro
7000	0.38	160	CMOS	1.0	2/3	1			92	x		x		x		GD7K	† American Micro
	0.50	120	CMOS	1.25	2	1			116	x		x		x		GC7K	† American Micro
7480	0.2	260 *	CMOS	0.8	2				84	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G9**	**American Micro (3502)**
9000	0.38	160	CMOS	1.0	2/3	1			100	x		x		x		GD9K	† American Micro
10000	0.50	120	CMOS	1.25	2	1			136	x		x		x		GC10K	† American Micro
10400	0.2	260 *	CMOS	0.8	2				100	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G21**	**American Micro (3502)**
10470	0.2	260 *	CMOS	0.8	3				84	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G15**	**American Micro (3502)**

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (μm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Un-committed	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source
American Microsystems																	
12000	0.38	160	CMOS	1.0	2/3	1			120	x		x		x		GD12K	† American Micro
14550	0.2	260 *	CMOS	0.8	3				100	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G21**	**American Micro (3502)**
15000	0.50	120	CMOS	1.25	2	1			168	x		x		x		GC15K	† American Micro
16900	0.2	260 *	CMOS	0.8	2				128	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G34**	**American Micro (3502)**
17000	0.38	160	CMOS	1.0	2/3	1				x		x		x		GD170K	American Micro
20000	0.38	160	CMOS	1.0	2/3	1			156	x		x		x		GD20K	† American Micro
	0.50	120	CMOS	1.25	2	1			196	x		x		x		GC20K	† American Micro
22200	0.2	260 *	CMOS	0.8	2				144	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G44**	**American Micro (3502)**
23700	0.2	260 *	CMOS	0.8	3				128	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G34**	**American Micro (3502)**
25000	0.38	160	CMOS	1.0	2/3	1			180	x		x		x		GD25K	† American Micro
	0.50	120	CMOS	1.25	2	1			220	x		x		x		GC25K	† American Micro
27400	0.2	260 *	CMOS	0.8	2				160	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G55**	**American Micro (3502)**
30000	0.50	120	CMOS	1.25	2	1			246	x		x		x		GC30K	† American Micro
31100	0.2	260 *	CMOS	0.8	3				144	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G44**	**American Micro (3502)**
32700	0.2	260 *	CMOS	0.8	2				178	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G85**	**American Micro (3502)**
35000	0.38	160	CMOS	1.0	2/3	1			208	x		x		x		GD35K	† American Micro
38300	0.2	260 *	CMOS	0.8	3				160	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G55**	**American Micro (3502)**
40000	0.50	120	CMOS	1.25					260	x		x		x		GC40K	American Micro
45800	0.2	260 *	CMOS	0.8	3				178	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G85**	**American Micro (3502)**
46400	0.2	260 *	CMOS	0.8	2				208	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G93**	**American Micro (3502)**
50000	0.38	160	CMOS	1.0	2/3	1			256	x		x		x		GD50K	† American Micro
	0.50	120	CMOS	1.25					312	x		x		x		GC50K	American Micro

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Un-committed	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source
American Microsystems																	
64900	0.2	260 *	CMOS	0.8	3				208	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G93**	**American Micro (3502)**
70800	0.2	260 *	CMOS	0.8	2				256	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G142**	**American Micro (3502)**
85000	0.38	160	CMOS	1.0	2/3	1				x		x		x		GD85K	American Micro
99100	0.2	260 *	CMOS	0.8	3				256	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G142**	**American Micro (3502)**
100000	0.50	120	CMOS	1.25					436	x		x		x		GC100K	American Micro
100400	0.2	260 *	CMOS	0.8	2				304	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G201**	**American Micro (3502)**
115000	0.38	160	CMOS	1.0	2/3	1				x		x		x		GD115K	American Micro
123400	0.2	260 *	CMOS	0.8	2				336	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G247**	**American Micro (3502)**
140500	0.2	260 *	CMOS	0.8	3				304	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G201**	**American Micro (3502)**
172750	0.2	260 *	CMOS	0.8	3				336	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G247**	**American Micro (3502)**
196100	0.2	260 *	CMOS	0.8	2				424	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G392**	**American Micro (3502)**
200000	0.38	160	CMOS	1.0	2/3	1			492	x		x		x		GD200K	American Micro
274500	0.2	260 *	CMOS	0.8	3				424	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G392**	**American Micro (3502)**
331700	0.2	260 *	CMOS	0.8	2				528	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G663**	**American Micro (3502)**
464350	0.2	260 *	CMOS	0.8	3				528	x	x	x	x		3V,5V Operation, 3/5 or 5/3 Conversion	**AMI8G663**	**American Micro (3502)**
Applied Micro Circuits																	
720	0.5	280	BiCMOS	1	3	1			36	x	x	x	x	x	Includes Phase-Locked Loop	Q24P008	† AMCC
760	0.5	280	BiCMOS	1	3	1			44	x	x	x	x	x	Mixed CMOS/Bipolar Technology	Q24008	† AMCC
900	0.10	1250	BIP	1	3	2			44	x	x	x	x	x	Includes high speed phase-lock loop	Q20P010	‡ AMCC
1000	0.1	1200	Bipolar	1	3	2			66		x	x	x	x		Q20010	† AMCC
2160	0.4	280	BiCMOS	1	2	1			80	x	x	x	x	x	Mixed CMOS/Biploar Technology	Q24021	† AMCC
2500	0.10	1250	BIP	1	3	2			58	x	x	x	x	x	Includes high speed phase lock loop	Q20P025	° AMCC
3500	0.1	1500	BIP	1	3	2			110	x	x	x	x	x		Q20025	† AMCC
5760	0.4	280	BiCMOS	1	3	1			132	x	x	x	x	x	Mixed CMOS/Bipolar Technology	Q24060	† AMCC
5800	0.25 *	1.2 GHz	ECL/TTL	1.5	2	1			120		x	x	x	x		Q20045	† AMCC
8000	0.1	1200	Bipolar	1	3	2			162		x	x	x	x		Q20080	† AMCC

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Applied Micro Circuits																	(Cont'd)	
9072	0.4	280	BiCMOS	1	2	1			160	x	x	x	x	x	Mixed CMOS/Bipolar Technology	Q24091	† AMCC	
10000	0.1	1250	Bipolar	1	3	2			103	x	x	x	x	x	ECL Gate Array with 4K bits of Self Timed, 4 ns RAM	Q20M100	°† AMCC	
13440	0.4	280	BiCMOS	1	3	1			226	x	x	x	x	x	Mixed CMOS/Bipolar Technology	Q24140	† AMCC	
18000	0.1	1500	BIP	1	3	2			212	x	x	x	x	x		Q20120	† AMCC	
27520	0.53 *	280	BiCMOS	1.5	2	1			256	x	x	x	x	x		Q24280	† AMCC	5
Aspec Technology																		
11712	0.325 *		HCMOS	0.8	3				68	x	x	x			High Density Array	HD6123	Aspec Technlg	
14770	0.325 *		HCMOS	0.8	3				76	x	x	x			High Density Array	HD6153	Aspec Technlg	
17862	0.325 *		HCMOS	0.8	3				84	x	x	x			High Density Array	HD6183	Aspec Technlg	
20817	0.325 *		HCMOS	0.8	3				90	x	x	x			High Density Array	HD6213	Aspec Technlg	
25668	0.325 *		HCMOS	0.8	3				100	x	x	x			High Density Array	HD6263	Aspec Technlg	10
30674	0.325 *		HCMOS	0.8	3				110	x	x	x			High Density Array	HD6313	Aspec Technlg	
41584	0.325 *		HCMOS	0.8	3				128	x	x	x			High Density Array	HD6423	Aspec Technlg	
47916	0.325 *		HCMOS	0.8	3				136	x	x	x			High Density Array	HD6483	Aspec Technlg	
57156	0.325 *		HCMOS	0.8	3				148	x	x	x			High Density Array	HD6573	Aspec Technlg	
65001	0.325 *		HCMOS	0.8	3				160	x	x	x			High Density Array	HD6653	Aspec Technlg	15
87740	0.325 *		HCMOS	0.8	3				184	x	x	x			High Density Array	HD6883	Aspec Technlg	
110400	0.325 *		HCMOS	0.8	3				208	x	x	x			High Density Array	HD6114	Aspec Technlg	
142747	0.325 *		HCMOS	0.8	3				236	x	x	x			High Density Array	HD6144	Aspec Technlg	
182688	0.325 *		HCMOS	0.8	3				268	x	x	x			High Density Array	HD6184	Aspec Technlg	
221000	0.325 *		HCMOS	0.8	3				292	x	x	x			High Density Array	HD6224	Aspec Technlg	20
261492	0.325 *		HCMOS	0.8	3				320	x	x	x			High Density Array	HD6264	Aspec Technlg	
315976	0.325 *		HCMOS	0.8	3				352	x	x	x			High Density Array	HD6324	Aspec Technlg	
395676	0.325 *		HCMOS	0.8	3				392	x	x	x			High Density Array	HD6404	Aspec Technlg	
500089	0.325 *		HCMOS	0.8	3				440	x	x	x			High Density Array	HD6504	Aspec Technlg	
AT&T																		
1000	0.9	800	ECL	1.5	3				36		x	x	x	x	ECL 10K, 10KH, Schottky TTL Compatible I/O	ATE1000	AT&T	25
1048	0.4	3000	ECL	1.5	3	2					x	x	x	x	ECL 10K, 10KH, Schottky TTL Compatible I/O	BE1000	AT&T	
2000			CMOS	0.9	2				64	x	x	x		x		ATT3020	AT&T	
	0.9	200	Bipolar					84			x	x	x			LS2000	AT&T	
		800	ECL	1.5	3				72		x	x	x	x	ECL 10K, 10KH, Schottky TTL Compatible I/O	ATE2000	AT&T	
	70		CMOS	0.9					64	x	x					ATT3020-70	AT&T	30
	100		CMOS	0.9					64	x	x					ATT3020-100	AT&T	
	125		CMOS	0.9					64	x	x					ATT3020-125	AT&T	
3000			CMOS	0.9	2				80	x	x	x		x		ATT3030	AT&T	
	70		CMOS	0.9					80	x	x					ATT3030-70	AT&T	
	100		CMOS	0.9					80	x	x					ATT3030-100	AT&T	35
	125		CMOS	0.9					80	x	x					ATT3030-125	AT&T	
3500	10	120	CMOS						160	x	x	x			SRAM-based FPGA	ATT1C03-1	AT&T	
			CMOS						160	x	x	x			SRAM-based FPGA	ATT1C03-1I	AT&T	
			CMOS						160	x	x	x			SRAM-based FPGA	ATT1C03-1M †	AT&T	
4196		2200	ECL	1.5	2				108				x			BE4000	AT&T	40
4200			CMOS	0.9	2				96	x	x	x		x		ATT3042	AT&T	
	70		CMOS	0.9					96	x	x					ATT3042-70	AT&T	
	100		CMOS	0.9					96	x	x					ATT3042-100	AT&T	
	125		CMOS	0.9					96	x	x					ATT3042-125	AT&T	
5000	10	120	CMOS						192	x	x	x			SRAM-based FPGA	ATT1C05-1	AT&T	45
			CMOS						192	x	x	x			SRAM-based FPGA	ATT1C05-1I	AT&T	
			CMOS						192	x	x	x			SRAM-based FPGA	ATT1C05-1M †	AT&T	
6000	0.9	800	ECL	1.5	3				120		x	x	x	x	ECL 10K, 10KH, Schottky TTL Compatible I/O	ATE6000	AT&T	
6400			CMOS	0.9	2				120	x	x	x		x		ATT3064	AT&T	
	70		CMOS	0.9					120	x	x					ATT3064-70	AT&T	50
	100		CMOS	0.9					120	x	x					ATT3064-100	AT&T	
	125		CMOS	0.9					120	x	x					ATT3064-125	AT&T	
7000	10	120	CMOS						224	x	x	x			SRAM-based FPGA	ATT1C07-1	AT&T	
			CMOS						224	x	x	x			SRAM-based FPGA	ATT1C07-1I	AT&T	
			CMOS						224	x	x	x			SRAM-based FPGA	ATT1C07-1M †	AT&T	55
9000			CMOS	0.9	2				144	x	x	x		x		ATT3090	AT&T	
	70		CMOS	0.9					144	x	x					ATT3090-70	AT&T	
	100		CMOS	0.9					144	x	x					ATT3090-100	AT&T	
	125		CMOS	0.9					144	x	x					ATT3090-125	AT&T	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

							Input/Output Cells			Input/Output Compatibility								
Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (μm)	Metal	Poly	Input Only	Out-put Only	Un-com-mitted	C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
AT&T																	(Cont'd)	
9432		2200	ECL	1.5	2				164				x			BE9000	AT&T	
12000	10	120	CMOS						216	x	x	x			SRAM-based FPGA	ATT1C12-1	AT&T	
			CMOS						216	x	x	x			SRAM-based FPGA	ATT1C12-1I	AT&T	
			CMOS						216	x	x	x			SRAM-based FPGA	ATT1C12-1M †	AT&T	
15000	10	120	CMOS						240	x	x	x			SRAM-based FPGA	ATT1C15-1	AT&T	5
			CMOS						240	x	x	x			SRAM-based FPGA	ATT1C15-1I	AT&T	
			CMOS						240	x	x	x			SRAM-based FPGA	ATT1C15-1M †	AT&T	
22000	10	120	CMOS						288	x	x	x			SRAM-based FPGA	ATT1C22-1	AT&T	
			CMOS						288	x	x	x			SRAM-based FPGA	ATT1C22-1I	AT&T	
			CMOS						288	x	x	x			SRAM-based FPGA	ATT1C22-1M †	AT&T	10
ATMEL																		
4100	0.375		CMOS	1	x				60	x		x				ATL4	ATMEL	
7000	0.375		CMOS	1	x				92	x		x			Fine Pad Pitch	ATL7C	ATMEL	
10000	0.375		CMOS	1	x				116	x		x				ATL10	ATMEL	
			CMOS	1	x				112	x		x			Fine Pad Pitch	ATL10C	ATMEL	
15000	0.375		CMOS	1	x				136	x		x			Fine Pad Pitch	ATL15C	ATMEL	15
17000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/15	ATMEL	
22000	0.375		CMOS	1	x				136	x		x				ATL20	ATMEL	
			CMOS	1	x				152	x		x			Fine Pad Pitch	ATL20C	ATMEL	
26000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/25	ℓ ATMEL	
35000	0.375		CMOS	1	x				192	x		x			Fine Pad Pitch	ATL35C	ATMEL	20
39000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/40	ATMEL	
40000	0.375		CMOS	1	x				168	x		x				ATL40	ATMEL	
50000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/50	ATMEL	
55000	0.375		CMOS	1	x				236	x		x			Fine Pad Pitch	ATL55C	ATMEL	
57000	0.375		CMOS	1	x				208	x		x				ATL60	ATMEL	25
72000	0.375		CMOS	1	x				236	x		x				ATL75	ATMEL	
75000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/75	ATMEL	
	0.375		CMOS	1	x				280	x		x			Fine Pad Pitch	ATL75C	ATMEL	
94000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/95	ATMEL	
95000	0.375		CMOS	1	x				262	x		x				ATL100	ATMEL	30
131000	0.375		CMOS	1	x				308	x		x				ATL130	ATMEL	
150000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/150	ATMEL	
157000	0.375		CMOS	1	x				320	x		x				ATL160	ATMEL	
220000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/220	ATMEL	
280000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/280	ATMEL	35
350000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/350	ATMEL	
450000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/450	ATMEL	
600000	0.2		CMOS	0.8	x					x		x			3.3V and 5V Operation	ATL80/600	ATMEL	
Crosspoint Solutions, Inc.																		
2245	1.3	52	CMOS	0.8	2				91	x	x	x		x		CP20220	Crosspoint	
4245	1.3	52	CMOS	0.8	2				130	x	x	x		x		CP20420	Crosspoint	40
8421	1.3	52	CMOS	0.8	2				180	x	x	x		x		CP20840	Crosspoint	
12125	1.3	52	CMOS	0.8	2				219	x	x	x		x		CP21200	Crosspoint	
16171	1.3	52	CMOS	0.8	2				250	x	x	x		x		CP21600	Crosspoint	
20260	1.3	52	CMOS	0.8	2				270	x	x	x		x		CP22000	Crosspoint	
EM Microelectronic																		
15		12	CMOS						14	x	x	x				M8003	ℓ EM Micro	45
40	1.6		CMOS	2	x				16	x						V8204	ℓ EM Micro	
50		12	CMOS						22	x	x	x				M8010	ℓ EM Micro	
90		12	CMOS						28	x	x	x				M8018	ℓ EM Micro	
100	1.6		CMOS	2	x				16	x						V8104	ℓ EM Micro	
			CMOS	2	x				24	x						V8206	ℓ EM Micro	50
160		12	CMOS						36	x	x	x				M8032	ℓ EM Micro	
200	1.6		CMOS	2	x				24	x						V8106	ℓ EM Micro	
			CMOS	2	x				36	x						V8209	ℓ EM Micro	
250		12	CMOS						44	x	x	x				M8050	ℓ EM Micro	
420		12	CMOS						56	x	x	x				M8084	ℓ EM Micro	
500	1.6		CMOS	2	x				36	x						V8109	ℓ EM Micro	55
			CMOS	2	x				48	x						V8212	ℓ EM Micro	
665		12	CMOS						70	x	x	x				M8133	ℓ EM Micro	
1000	1.6		CMOS	2	x				48	x						V8112	ℓ EM Micro	
			CMOS	2	x				64	x						V8216	ℓ EM Micro	60
2000	1.6		CMOS	2	x				64	x						V8116	ℓ EM Micro	
			CMOS	2	x				80	x						V8220	ℓ EM Micro	
3000	1.6		CMOS	2	x				80	x						V8120	ℓ EM Micro	
			CMOS	2	x				92	x						V8223	ℓ EM Micro	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
EM Microelectronic																	(Cont'd)	
4000	1.6		CMOS	2	x				92	x						V8123	ℓ EM Micro	
Exar																		
140	8	8	CMOS	8	1				29	x	x	x		x	32 dedicated flip-flops	XRCMA	† Exar	
156	3	35	CMOS	3	2	1			22	x	x	x		x	Silicon gate	30015	Exar	
192	50	1	I^{2}L		1				24	x	x	x		x	Programmable speed/power	XR200	† Exar	
200	8	8	CMOS	8	1				34	x	x	x		x	32 dedicated flip-flops	XRCMB	Exar	5
270	8	8	CMOS	8	1				40	x	x	x		x	32 dedicated flip-flops	XRCMC	† Exar	
288	3	35	CMOS	3	2	1			30	x	x	x		x	Silicon gate	30030	Exar	
	50	1	I^{2}L		1				28	x	x	x		x	Programmable speed/power	XR300	† Exar	
440	8.0	8	CMOS	8	1				46	x	x	x		x	32 dedicated flip-flops	XRCMD	† Exar	
460	3	35	CMOS	3	2	1			38	x	x	x		x	Silicon gate	30045	Exar	10
520	50	1	I^{2}L		1				40	x	x	x		x	Programmable speed/power	XR500	† Exar	
793	3	35	CMOS	3	2	1			50	x	x	x		x	Silicon gate	30080	Exar	
1548	3	35	CMOS	3	2	1			70	x	x	x		x	Silicon gate	30155	Exar	
3025	3	35	CMOS	3	2	1			98	x	x	x		x	Silicon gate	30300	Exar	
EXEL Microelectronics																		
800	35	50	CMOS	1.5	2	2	22	10	10	x	x	x		x	E^2 Programmable	XL78C800	† EXEL	15
Fujitsu																		
10000	0.65	200	CMOS	0.8	2	1			108	x	x	x		x		CG21103	Fujitsu	
15000	0.65	200	CMOS	0.8	2	1			142	x	x	x		x		CG21153	Fujitsu	
20000	0.65	200	CMOS	0.8	2	1			155	x	x	x		x		CG21203	Fujitsu	
31000	0.65	200	CMOS	0.8	3	1			178	x	x	x		x		CG21303	Fujitsu	
41000	0.65	200	CMOS	0.8	3	1			220	x	x	x		x		CG21403	Fujitsu	20
52000	0.65	200	CMOS	0.8	3	1			257	x	x	x		x		CG21503	Fujitsu	
75000	0.65	200	CMOS	0.8	3	1			284	x	x	x		x		CG21753	Fujitsu	
102000	0.65	200	CMOS	0.8	3	1			332	x	x	x		x		CG21104	Fujitsu	
129540	0.37		CMOS	0.8	3				300	x		x		x		**CG31134**	**Fujitsu (3628)**	
160930	0.37		CMOS	0.8	3				332	x		x		x		**CG31164**	**Fujitsu (3628)**	25
210188	0.37		CMOS	0.8	3				332	x		x		x		**CG31204**	**Fujitsu (3628)**	
GEC Plessey Semiconductors																		
70	6	40	Si-Gate	4	1	1			18	x	x	x	x	x	Supply voltage 3 to 15 V.	MHA	GEC Plessey	
130	2.5	80	CML	3	1				20	x	x	x	x	x	300 µW/gate, autoroutable	ULA1RA	GEC Plessey	
	7.5	20	CML	3	1				20	x	x	x	x	x	100 µW/gate, channel-less	ULA1RB	GEC Plessey	
	15	10	CML	3	1				20	x	x	x	x	x	30 µW/gate, channel-less	ULA1RC	GEC Plessey	30
	50	10	CML	3	1				20	x	x	x	x	x	5 µW/gate, channel-less	ULA1RD	GEC Plessey	
140	6	40	Si-Gate	4	1	1			24	x	x	x	x	x	Supply voltage 3 to 15 V.	MHB	GEC Plessey	
	17	9	CMOS	7	1				29	x	x	x				MCA	† GEC Plessey	
200	6	40	Si-Gate	4	1	1			30	x	x	x	x	x	Supply voltage 3 to 15 V.	MHC	GEC Plessey	
	17	9	CMOS	7	1				34	x	x	x				MCB	† GEC Plessey	35
270	17	9	CMOS	7	1				40	x	x	x				MCC	† GEC Plessey	
300	2.5	80	CML	3	1				30	x	x	x	x	x	300 µW/gate, Channel-less	ULA3RA	GEC Plessey	
	7.5	20	CML	3	1				30	x	x	x	x	x	100 µW/gate, channel-less	ULA3RB	GEC Plessey	
	15	10	CML	3	1				30	x	x	x	x	x	30 µW/gate, channel-less	ULA3RC	GEC Plessey	
	50	10	CML	3	1				30	x	x	x	x	x	5 µW/gate, channel-less	ULA3RD	GEC Plessey	40
330	6	40	Si-Gate	4	1	1			40	x	x	x	x	x	Supply voltage 3 to 15 V.	MHD	GEC Plessey	
340	17	9	CMOS	7	1				40	x	x	x			28 dedicated flip-flops	MCE	† GEC Plessey	
392	3	35	CMOS	3	1	1			26	x	x	x		x		MA8305	GEC Plessey	
440	17	9	CMOS	7	1				46	x	x	x			32 dedicated flip-flops	MCD	† GEC Plessey	
500	2.5	80	CML	3	1				38	x	x	x	x	x	300 µW/gate, Channel-less	ULA5RA	GEC Plessey	45
	7.5	20	CML	3	1				38	x	x	x	x	x	100 µW/gate, channel-less	ULA5RB	GEC Plessey	
	15	10	CML	3	1				38	x	x	x	x	x	30 µW/gate, channel-less	ULA5RC	GEC Plessey	
	50	10	CML	3	1				38	x	x	x	x	x	5 µW/gate, channel-less	ULA5RD	GEC Plessey	
550	6	40	Si-Gate	4	1	1			48	x	x	x	x	x	Supply voltage 3 to 15 V.	MHE	GEC Plessey	
630	1.0	250	BIP	1.5	2				32	x	x	x	x	x		ULA6DSA	GEC Plessey	50
	1.6	150	BIP	1.5	2				32	x	x	x	x	x		ULA6DSB	GEC Plessey	
	4.0	75	BIP	1.5	2				32	x	x	x	x	x		ULA6DSC	GEC Plessey	
	17	9	CMOS	7	1				50	x	x	x				MCF	† GEC Plessey	
640	1.2	100	CMOS	2	2	1			36	x	x	x		x		CLA5100	GEC Plessey	
660	6	40	Si-Gate	4	1	1			56	x	x	x	x	x	Supply voltage 3 to 15 V.	MHF	GEC Plessey	55
Marconi Circuit Technology																		
750	1.5	50	CMOS/SOS	2.5	2	2.5			46	x	x	x		x	Radiation Hardened	MAS9007	GEC Plessey	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Uncommitted	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source
GEC Plessey Semiconductors																	
840	2.1	50	CMOS	3	2				40	x	x	x		x		CLA3100	GEC Plessey
880	17	9	CMOS	7	1				58	x	x	x				MCG	† GEC Plessey
900	2.5	80	CML	3	1				48	x	x	x	x	x	300 µW/gate, Channel-less	ULA9RA	GEC Plessey
	7.5	20	CML	3	1				48	x	x	x	x	x	100 µW/gate, channel-less	ULA9RB	GEC Plessey
	15	10	CML	3	1				48	x	x	x	x	x	30 µW/gate, channel-less	ULA9RC	GEC Plessey
	50	10	CML	3	1				48	x	x	x	x	x	8 µW/gate, channel-less	ULA9RD	GEC Plessey
1000	6	40	Si-Gate	4	1	1			68	x	x	x	x	x	Supply voltage 3 to 15 V.	MHG	GEC Plessey
1120	4*	25	CMOS	4	2				48	x	x	x		x		MA2010	GEC Plessey
1200	2.5	80	CML	3	1				52	x	x	x	x	x	300 µW/gate, Channel-less	ULA12RA	GEC Plessey
	7.5	20	CML	3	1				52	x	x	x	x	x	100 µW/gate, channel-less	ULA12RB	GEC Plessey
	15	10	CML	3	1				52	x	x	x	x	x	30 µW/gate, channel-less	ULA12RC	GEC Plessey
	50	10	CML	3	1				52	x	x	x	x	x	5 µW/gate, channel-less	ULA12RD	GEC Plessey
1210	1	250	BIP	1.5	2				44	x	x	x	x	x		ULA12DSA	GEC Plessey
	1.6	150	BIP	1.5	2				44	x	x	x	x	x		ULA12DSB	GEC Plessey
	4	75	BIP	1.5	2				44	x	x	x	x	x		ULA12DSC	GEC Plessey
1232	1.2	100	CMOS	2	2	1			48	x	x	x		x		CLA5200	GEC Plessey
1440	2.1	50	CMOS	3	2				52	x	x	x		x		CLA3300	GEC Plessey
1600	2.5	80	CML	3	1				62	x	x	x	x	x	300 µW/gate, Channel-less	ULA16RA	GEC Plessey
	6	40	Si-Gate	4	1	1			84	x	x	x	x	x	Supply voltage 3 to 15 V.	MHH	GEC Plessey
	7.5	20	CML	3	1				62	x	x	x	x	x	100 µW/gate, channel-less	ULA16RB	GEC Plessey
	15	10	CML	3	1				62	x	x	x	x	x	30 µW/gate, channel-less	ULA16RC	GEC Plessey
	50	5	CML	3	1				62	x	x	x	x	x	5 µW/gate, channel-less	ULA16RD	GEC Plessey
1632	4*	25	CMOS	4	2		16	16	32	x	x	x		x		MA2016	GEC Plessey
1870	1	250	BIP	1.5	2				64	x	x	x	x	x		ULA19DSA	GEC Plessey
	1.6	150	BIP	1.5	2				64	x	x	x	x	x		ULA19DSB	GEC Plessey
	4	75	BIP	1.5	2				64	x	x	x	x	x		ULA19DSC	GEC Plessey
1920	0.9	100	CMOS	2.5	2	2			59	x		x		x		MA6000	GEC Plessey
2000	2.5	80	CML	3	1				72	x	x	x	x	x	300 µW/gate, Channel-less	ULA20RA	GEC Plessey
	7.5	20	CML	3	1				72	x	x	x	x		100 µW/gate, channel-less	ULA20RB	GEC Plessey
	15	10	CML	3	1				72	x	x	x	x	x	30 µW/gate, channel-less	ULA20RC	GEC Plessey
	50	5	CML	3	1				72	x	x	x	x	x	5 µW/gate, channel-less	ULA20RD	GEC Plessey
2016	1.2	100	CMOS	2	2	1			64	x	x	x		x		CLA5300	GEC Plessey
2400	2.1	50	CMOS	3	2				64	x	x	x		x		CLA3500	GEC Plessey
	2.9	40	CMOS	2	2				64	x	x	x		x		CLA4500	GEC Plessey
2436	4*	25	CMOS	4	2		16	16	48	x	x	x		x		MA2024	GEC Plessey
2464	2*	40	CMOS/SOS	3	2				80	x	x	x		x	Radiation Hardened	MA9024	GEC Plessey
2550	1.0	250	BIP	1.5	2				74	x	x	x	x	x		ULA25DSA	GEC Plessey
3060	1.2	100	CMOS	2	2	1			80	x	x	x		x		CLA5400	GEC Plessey
3876	4	25	CMOS	4	2				96	x	x	x		x		MA2038	GEC Plessey
3904	0.9*	100	CMOS	2	2				96	x	x	x		x		MA4039	GEC Plessey
4048	1.7	50	SOS	3	2	1			98	x		x		x		MAS9040	GEC Plessey
4200	2.1	50	CMOS	3	2				84	x	x	x		x		CLA3700	GEC Plessey
	2.9	40	CMOS	2	2				80	x	x	x		x		CLA4700	GEC Plessey
4404	1.2	100	CMOS	2	2	1			96	x	x	x		x		CLA5500	GEC Plessey
5510	0.9*	100	CMOS	2	2				112	x	x	x		x		MA4055	GEC Plessey
5984	1.2	100	CMOS	2	2	1			112	x	x	x		x		CLA5600	GEC Plessey
6000	2.1	50	CMOS	3	2	1			108	x	x	x		x		CLA3900	GEC Plessey
	3.0	100	CMOS	2					120	x	x	x				CLA4000	GEC Plessey
7104	1.2	100	CMOS	2	2	1			128	x	x	x		x		CLA5700	GEC Plessey
7544	0.9*	100	CMOS	2	2				136	x	x	x		x		MA4075	GEC Plessey
7920	1.6	150	BIP	1.5	2				138	x	x	x	x	x		ULA80DSB	GEC Plessey
8856	1.2	100	CMOS	2	2	1			144	x	x	x		x		CLA5800	GEC Plessey
10044	0.9*	100	CMOS	2	2				160	x	x	x		x		MA4100	GEC Plessey
10440	1.2	100	CMOS	2	2	1			160	x	x	x		x		CLA5900	GEC Plessey
25000	0.6	140	SOS	1.5	2	1				x		x		x		MAS25K	GEC Plessey
GoldStar Technology																	
472	0.9	35	CMOS	2	2	1			46	x	x	x	x	x		GCL6009S	GoldStar
812	5	25	CMOS	3.5	1	1			60	x	x	x		x		GCL3080	GoldStar
902	0.9	35	CMOS	2.0	2	1			62	x	x	x		x		GCL6017S	GoldStar
1470	0.9	35	CMOS	2	2	1			78	x	x	x		x		GCL6028S	GoldStar
2448	0.9	35	CMOS	2	2	1			100	x	x	x		x		GCL6047S	GoldStar
3520	0.9	35	CMOS	2	2	1			118	x	x	x		x		GCL6068S	GoldStar
4440	0.9	35	CMOS	2	2	1			134	x	x	x	x	x		GCL6087S	GoldStar
6076	0.9	35	CMOS	2	2	1			158	x	x	x		x		GCL6119S	GoldStar
8448	0.9	35	CMOS	2	2	1			184	x	x	x		x		GCL6166S	GoldStar
10619	0.9	35	CMOS	2	2	1			206	x	x	x		x		GCL6209S	GoldStar
13524	0.9	35	CMOS	2	2	1			232	x	x	x		x		GCL6267S	GoldStar

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Un-committed	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Harris Semiconductor																		
1700	0.68		CMOS	1.2	2				60	x	x	x		x		AGC40170	† Harris	
	0.82		CMOS	1.2	2				60	x	x	x		x		TAGC40170	† Harris	
2000	1.8	125	CMOS	1.25	2	1			64	x		x		x	User Programmable	HSXC3020MS	‡ Harris	
6200	0.68		CMOS	1.2	2				104	x	x	x		x		AGC40620	† Harris	
	0.82		CMOS	1.2	2				104	x	x	x		x		TAGC40620	† Harris	5
10000	0.67		CMOS/SOS	1.2	2				164	x	x	x		x		AVA10000	‡ Harris	
13500	0.68		CMOS	1.2	2				172	x	x	x		x		AGC41350	† Harris	
	0.82		CMOS	1.2	2				172	x	x	x		x		TAGC41350	† Harris	
20000	0.67		CMOS/SOS	1.2	2				234	x	x	x		x		AVA20000	‡ Harris	
Hitachi																		
770	0.7	200	CMOS	1	2				68	x	x	x		x		HG62E08	Hitachi	10
1162	0.7	200	CMOS	1	2				80	x	x	x		x		HG62E11	Hitachi	
2178	0.7	200	CMOS	1	2				100	x	x	x		x		HG62E22	Hitachi	
			CMOS	1	2				132	x	x	x		x		HG62F22	Hitachi	
3210	0.45	160	BiCMOS	1.3	2				102	x	x	x		x		HG29A32	Hitachi	
3297	0.7	200	CMOS	1	2				120	x	x	x		x		HG62E33	Hitachi	15
			CMOS	1	2				132	x	x	x		x		HG62F33	Hitachi	
4309	0.7	200	CMOS	1	2				100	x	x	x		x		HG62E43	Hitachi	
			CMOS	1	2				160	x	x	x		x		HG62F43	Hitachi	
5821	0.7	200	CMOS	1	2				118	x	x	x		x		HG62E58	Hitachi	
			CMOS	1	2				160	x	x	x		x		HG62F58	Hitachi	20
7488	0.7	200	CMOS	1	2				138	x	x	x		x		HG62E75	Hitachi	
			CMOS	1	2				192	x	x	x		x		HG62F75	Hitachi	
10076	0.7	200	CMOS	1	2				162	x	x	x		x		HG62E101	Hitachi	
			CMOS	1	2				192	x	x	x		x		HG62F101	Hitachi	
13015	0.7	200	CMOS	1	2				190	x	x	x		x		HG62E130	Hitachi	25
18176	0.7	200	CMOS	1	2				230	x	x	x		x		HG62E182	Hitachi	
24020	0.7	200	CMOS	1	2				272	x	x	x		x		HG62E240	Hitachi	
Honeywell	0.8		Bipolar	4	2				24		x	x	x		Replicates Obsolete Analog SSI Functions.	HP BIPOLAR DEVICE ARRAY	† Honeywell	
150	0.8	500	Bipolar	4	2				16		x	x	x	x	Replicates Obsolete DTL and RTL SSI Functions.	BIPOLAR DEVICE ARRAY	† Honeywell	
1500	0.8	500	Bipolar	4	2				24		x	x		x	Replicates Obsolete TTL, SSI Functions.	TTL GATE ARRAY	† Honeywell	30
24000	1	180	RICMOS	1.2	2	1			218	x	x	x		x	Radiation Hardened (1M Rad)	HR1060	‡ Honeywell	
		200	RICMOS	1.2	2	1			218	x	x	x		x	Radiation Hardened (1M Rad)	HX1060	Honeywell	
90000	0.6	410	RICMOS	0.8	3	1			316	x	x	x		x	Radiation Hardened (1M Rad)	HR2210	‡ Honeywell	
Integrated Logic Systems																		
1960	1.3	150	CMOS	1.5	2	1			48	x	x	x		x	RAM, ROM, PLA and Testability	CA1502	† ILSI	
5376	1.3	150	CMOS	1.5	2	1			74	x	x	x		x	RAM, ROM, PLA and Testability	CA1505	† ILSI	35
10608	1.3	150	CMOS	1.5	2	1			102	x	x	x		x	RAM, ROM, PLA and Testability	CA1511	† ILSI	
20928	1.3	150	CMOS	1.5	2	1			140	x	x	x		x	RAM, ROM, PLA and Testability	CA1521	† ILSI	
30400	1.3	150	CMOS	1.5	2	1			168	x	x	x		x	RAM, ROM, PLA, and Testability	CA1530	† ILSI	
			CMOS	1.5	2	1			146	x	x	x		x	RAM, ROM, PLA and Testability	15GH-0304	† ILSI	
41568	1.3	150	CMOS	1.5	2	1			194	x	x	x		x	RAM, ROM, PLA and Testability	CA1542	† ILSI	40
			CMOS	1.5	2	1			170	x	x	x		x	RAM, ROM, PLA and Testability	15GH-0416	† ILSI	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM–Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (μm)	Metal	Poly	Input/Output Cells			Input/Output Compatibility					Comments	Device	Source	Line
							Input Only	Output Only	Uncommitted	C-MOS	TTL-LS	TTL	ECL	Three State				
Integrated Logic Systems																	(Cont'd)	
60368	1.3	150	CMOS	1.5	2	1			204	x	x	x		x	RAM, ROM, PLA and Testability	15GH-0604	† ILSI	
82560	1.3	150	CMOS	1.5	2	1			236	x	x	x		x	RAM, ROM, PLA and Testability	15GH-0826	† ILSI	
100512	1.3	150	CMOS	1.5	2	1			260	x	x	x		x	RAM, ROM, PLA and Testability	15GH-1005	† ILSI	
Intel																		
2630	1.3	139	CMOS	1.5	2				64	x		x		x		D15A026	† Intel	
5200	1.3	139	CMOS	1.5	2				90	x		x		x		D15A052	† Intel	5
6320	1.3	139	CMOS	1.5	2				118	x		x		x		D15R063	† Intel	
8540	1.3	139	CMOS	1.5	2				118	x		x		x		D15A085	† Intel	
12750	1.3	139	CMOS	1.5	2				144	x		x		x		D15A127	† Intel	
			CMOS	1.5	2				174	x		x		x		D15A130	† Intel	
International Microcircuits																		
38K	1	140	Si	1	2				224	x	x	x	x	x		IMIK000	‡ IMI	10
800	1.54	100	CMOS	1.5		1		38		x	x	x			1.5 micron CMOS, up to 800 usable gates, dual-level metallization, fully autoroutable.	IMI7080	† IMI	
825	0.75	100	CMOS	1.5	2				84	x				x		IMI708B	IMI	
1500	0.75	100	CMOS	1.5	2				100	x				x		IMI715B	IMI	
1632	1.54	100	CMOS	1.5	2				78	x		x				IMI7160	IMI	
2232	1.54	100	CMOS	1.5	2				78	x		x				IMI7220	IMI	15
3432	1.54	100	CMOS	1.5	2				112	x		x				IMI7340	IMI	
4900	1.54	100	CMOS	1.5	2				136	x		x				IMI7490	IMI	
6210	1.54	100	CMOS	1.5	2				158	x		x				IMI7620	IMI	
8000	1.54	100	CMOS	1.5	2				178	x		x				IMI7800	IMI	
12000	0.75	100	CMOS	1.5	2				190	x				x		IMI712K	IMI	20
12K	1.5	100	Si	1.5	2				190	x	x	x	x	x		IMI7000	‡ IMI	
International Microelectronics Products																		
2880	0.3 *	250	CMOS	1	2				68	x	x	x	x			IMP67000	IMP	
			CMOS	1	2				74	x	x	x	x		64K ROM, Class 3 ESD	IR0000	IMP	
4875	0.3 *	250	CMOS	1	2				84	x	x	x	x			IMP67100	IMP	
			CMOS	1	2				102	x	x	x	x		256K ROM, Class 3 ESD	IR1100	IMP	25
7440	0.3 *	250	CMOS	1	2				100	x	x	x	x			IMP67200	IMP	
13728	0.3 *	250	CMOS	1	2				128	x	x	x	x			IMP67300	IMP	
17425	0.3 *	250	CMOS	1	2				144	x	x	x	x			IMP67400	IMP	
22680	0.3 *	250	CMOS	1	2				160	x	x	x	x			IMP67500	IMP	
30987	0.3 *	250	CMOS	1	2				184	x	x	x	x			IMP67600	IMP	30
41040	0.3 *	250	CMOS	1	2				208	x	x	x	x			IMP67700	IMP	
51765	0.3 *	250	CMOS	1	2				232	x	x	x	x			IMP67800	IMP	
64268	0.3 *	250	CMOS	1	2				256	x	x	x	x			IMP67900	IMP	
Mitsubishi Electronics																		
224	0.9	175	CMOS	1.3	2	1	0	0	22	x	x	x		x	Gate Isolation Process	M60020	Mitsubishi	
500	1.4	100	CMOS	2	2	1	0	0	64	x	x	x		x	Gate Isolation Process	M60011	Mitsubishi	35
507	0.9	175	CMOS	1.3	2	1	0	0	32	x	x	x		x	Gate Isolation Process	M60021	Mitsubishi	
800	0.9	175	CMOS	1.3	2	1	0	0	42	x	x	x		x	Gate Isolation Process	M60022	Mitsubishi	
810	1.4	100	CMOS	2	2	1	0	0	82	x	x	x		x	Gate Isolation Process	M60012	Mitsubishi	
1100	1.4	100	CMOS	2	2	1	0	0	96	x	x	x		x	Gate Isolation Process	M60013	Mitsubishi	
1104	0.9	175	CMOS	1.3	2	1	0	0	45	x	x	x		x	Gate Isolation Process	M60023	Mitsubishi	40
1680	1.4	100	CMOS	2	2	1	0	0	116	x	x	x		x	Gate Isolation Process	M60014	Mitsubishi	
1773	0.9	175	CMOS	1.3	2	1	0	0	62	x	x	x		x	Gate Isolation Process	M60024	Mitsubishi	
2000	0.9	175	CMOS	1.3	2	1			112	x	x	x		x	Gate Isolation Process	M60043	Mitsubishi	
2400	0.9	175	CMOS	1.3	2	1	0	0	72	x	x	x		x	Gate Isolation Process	M60025	Mitsubishi	
2666	1.4	100	CMOS	2	2	1	0	0	132	x	x	x		x	Gate Isolation Process	M60015	Mitsubishi	45
3000	0.37	329	CMOS		2	1			124	x	x	x		x	Gate Isolation	M60062	Mitsubishi	
3200	0.9	175	CMOS	1.3	2	1			138	x	x	x		x	Gate Isolation Process	M60044	Mitsubishi	
			CMOS	1.3	2	2	1	0	88	x	x	x		x	Gate Isolation Process	M60030	Mitsubishi	
3608	1.4	100	CMOS	2	2	1	0	0	148	x	x	x		x	Gate Isolation Process	M60016	Mitsubishi	
4000	0.37	320	CMOS		2	1			144	x	x	x		x	Gate Isolation	M60063	Mitsubishi	50
4100	0.9	175	CMOS	1.3	2	1			164	x	x	x		x	Gate Isolation Process	M60045	Mitsubishi	
			CMOS	1.3	2	2	1	0	110	x	x	x		x	Gate Isolation Process	M60031	Mitsubishi	
4814	1.4	100	CMOS	2	2	1	0	0	176	x	x	x		x	Gate Isolation Process	M60017	Mitsubishi	
5000	0.37	320	CMOS		2	1			112	x	x	x		x	Gate Isolation	M60050	Mitsubishi	
			CMOS		2	1			144	x	x	x		x	Gate Isolation	M60064	Mitsubishi	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Uncommitted	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Mitsubishi Electronics																	(Cont'd)	
6000			CMOS	0.8												M60071	Mitsubishi	
	0.37	320	CMOS		2	1			128	x	x	x		x	Gate Isolation	M60052	Mitsubishi	
			CMOS		2	1			144	x	x	x		x	Gate Isolation	M60065	Mitsubishi	
	0.370	320	CMOS	1.0	2	1			120	x	x	x		x		M60051	Mitsubishi	
6233	1.4	100	CMOS	2	2	1	0	0	178	x	x	x		x	Gate Isolation Process	M60018	Mitsubishi	5
6300	0.9	175	CMOS		2	1			180	x	x	x		x	Gate Isolation	M60047	Mitsubishi	
			CMOS	1.3	2	2	1	0	132	x	x	x		x	Gate Isolation Process	M60032	Mitsubishi	
8000			CMOS	0.8												M60072	Mitsubishi	
	0.37	320	CMOS		2	1			144	x	x	x		x	Gate Isolation	M60066	Mitsubishi	
8096	1.4	100	CMOS	2	2	1	0	0	190	x	x	x		x	Gate Isolation Process	M60019	Mitsubishi	10
8400	0.9	175	CMOS		2	1			184	x	x	x		x	Gate Isolation	M60049	Mitsubishi	
			CMOS	1.3	2	2	1	0	180	x	x	x		x	Gate Isolation Process	M60034	Mitsubishi	
10000			CMOS	0.8												M60073	Mitsubishi	
	0.37	320	CMOS		2	1			150	x	x	x		x	Gate Isolation	M60053	Mitsubishi	
			CMOS		2	1			192	x	x	x		x	Gate Isolation	M60067	Mitsubishi	15
11000	0.9	175	CMOS	1.3	2	2	1	0	196	x	x	x		x	Gate Isolation Process	M60035	Mitsubishi	
12000			CMOS	0.8												M60074	Mitsubishi	
	0.37	320	CMOS	1.0	2	1			166	x	x	x		x		M60054	Mitsubishi	
15000			CMOS	0.8												M60075	Mitsubishi	
	0.5	320	CMOS	1	2	1			154	x	x	x		x	Gate Isolation Process	M60055	Mitsubishi	20
20000			CMOS	0.8												M60076	Mitsubishi	
	0.9	175	CMOS	1.3	2	2	1	0	256	x	x	x		x	Gate Isolation Process	M60037	Mitsubishi	
25000			CMOS	0.8												M60080L	Mitsubishi	
	0.5	320	CMOS	1	2	1			212	X	X	X		X	Gate Isolation Process	M60056	Mitsubishi	
30000			CMOS	0.8												M60081L	Mitsubishi	25
35000			CMOS	0.8												M60082L	Mitsubishi	
	0.5	320	CMOS	1	2	1			256	x	x	x		x	Gate Isolation Process	M60057	Mitsubishi	
40000			CMOS	0.8												M60083L	Mitsubishi	
50000			CMOS	0.8												M60084L	Mitsubishi	
60000			CMOS	0.8												M60084H	Mitsubishi	30
70000			CMOS	0.8												M60085H	Mitsubishi	
80000			CMOS	0.8												M60086H	Mitsubishi	
100000			CMOS	0.8												M60087H	Mitsubishi	
120000			CMOS	0.8												M60088H	Mitsubishi	
150000			CMOS	0.8												M60089H	Mitsubishi	35
Motorola																		
848	0.15	1000	ECL	1.5	3				42		x	x	x	x	mixed ECL/TTL interface	MCA750ETL	Motorola	
902	0.5	770	ECL	2	2		28	-	18				x			MCA800ECL	Motorola	
957	1.1	85	CMOS	2	2					x	x	x				HCA62A10	Motorola	
1638	1.1	85	CMOS	2	2					x	x	x				HCA62A17	Motorola	
1708	0.5	770	ECL	3	3				120				x		Macrocell array	MCA1500M	Motorola	40
2200	0.12 *	800	MOSAIC II	1	1								x			MCA2200ECL	Motorola	
2448	1.1	85	CMOS	2	2					x	x	x				HCA62A25	Motorola	
3036	0.25 *	500	CMOS	1	3				88	x	x	x		x		HDC003	Motorola	
3570	0.015	1000	ECL	1.5	3				120		x	x	x	x	Pseudo ECL option	MCA3200ETL	Motorola	
3600	1.1	85	CMOS	2	2					x	x	x				HCA62A36	Motorola	45
4968	1.1	85	CMOS	2	2					x	x	x				HCA62A50	Motorola	
5670	0.25	500	CMOS	1	3				120	x	x	x		x		HDC006	Motorola	
6708	1.1	85	CMOS	2	2				146	x	x	x		x	Macrocell Array	HCA62A67	Motorola	
6915	0.15	1000	ECL	1.5	3				168		x	x	x	x	mixed ECL/TTL interface	MCA6200ETL	Motorola	
8208	0.25 *		CMOS	1	3				108	x		x		x		HDC008	Motorola	50
8568	2.8		HCMOS	2	2		168			x	x	x				HCA62A85	Motorola	
10332	0.175	1200	ECL	2	2		224	200					x		Macrocell Array	MCA10000ECL	Motorola	
11208	0.25	250	CMOS	1.0	3				160	x	x	x		x	triple layer routing	HDC027 †	Motorola	
		500	CMOS	1	3				168	x	x	x		x		HDC011	Motorola	
16416	0.25 *		CMOS	1	3				136	x		x		x		HDC016	Motorola	55
27048	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C027	Motorola	
31290	0.25 *		CMOS	1	3				180	x		x		x		HDC031	Motorola	
35392	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C035	Motorola	
49368	0.25	250	CMOS	1.0	3				208	x	x	x		x	triple layer routing	HDC049 †	Motorola	
57368	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C057	Motorola	60
63900	0.25	500	CMOS	1	3				400	x	x	x		x		HDC064	Motorola	
85956	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C086	Motorola	
104832	0.25	500	CMOS	1	3				512	x	x	x		x		HDC105	Motorola	
123136	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C123	Motorola	
161364	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C161	Motorola	65
195452	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C195	Motorola	
317968	2.94	60	CMOS	0.7	3		50	21		x	x	x				H4C318	Motorola	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source
National Semiconductor																	
399	0.65	900	CMOS	1.5	1				28	x		x		x		SCX6B04	National
540	1.1	50	CMOS	2	2	1	0		40	x	x	x		x	All CMOS 2-Micron Silicon Gate	FGC0500	National
600	2.1	110	CMOS	2	2		8		40	x	x	x		x		SCX6206	National
864	1.1	50	CMOS	2	2		23		38	x	x	x		x		FGC0900	National
1020	0.65	900	CMOS	1.5	1				48	x		x		x		SCX6B10	National
1188	1.1	50	CMOS	2	2	1	27		46	x	x	x		x	On-Chip Test Capability	FGC1200	National
1260	2.1	110	CMOS	2	2		17		42	x	x	x		x		SCX6212	National
	3.5	66	CMOS	3	2	1	17		42	x	x	x		x		SCX6312	National
1806	2.1	110	CMOS	2	2		3		70	x	x	x		x		SCX6218	National
1932	1.1	50	CMOS	2	2		32		57	x	x	x		x		FGC1900	National
2058	0.65	900	CMOS	1.5	1				68	x		x		x		SCX6B21	National
2385	2.1	110	CMOS	2	2		55		56	x	x	x		x		SCX6224	National
	3.5	66	CMOS	3	2	1	55		56	x	x	x		x		SCX6324	National
2430	2.1	110	CMOS	2	2		12		76	x	x	x		x		SCX6225	National
2500	0.75	600	ECL	1.5	2		60		60			x	x			FGE2000	National
2625	1.1	50	CMOS	2	2	1	39		70	x	x	x		x		FGC2400	† National
3111	0.65	900	CMOS	1.5	1				84	x		x		x		SCX6B31	National
3180	2.1	110	CMOS	2	2		3		101	x	x	x		x		SCX6232	National
4380	2.1	110	CMOS	2	2		3		110	x	x	x		x		SCX6244	National
4788	0.65	900	CMOS	1.5	1				104	x		x		x		SCX6B48	National
6260	2.1	110	CMOS	2	2		66		88	x	x	x		x		SCX6260	National
6336	0.65	900	CMOS	1.5	1				120	x		x		x		SCX6B64	National
8586	0.65	900	CMOS	1.5	1				144	x		x		x		SCX6B86	National
10240	0.57	2000	ECL	0.8	4				72		x	x	x	x	100K, 10K, OR TTL	NGA005T	National
11904	0.65	900	CMOS	1.5	1				176	x		x		x		SCX6B120	National
21000	0.5	75	CMOS	0.8	2	1			84	x	x	x		x	FLEXCELL Gate Arrays	FLX1021	National
26500	0.57	2000	ECL	0.8	4				128		x	x	x	x	100K, 10K, OR TTL	NGA010T	National
38000	0.5	75	CMOS	0.8	2	1			124	x	x	x		x	FLEXCELL Gate Arrays	FLX1038	National
56000	0.5	75	CMOS	0.8	2	1			152	x	x	x		x	FLEXCELL Gate Arrays	FLX1056	National
80000	0.5	75	CMOS	0.8	2	1			188	x	x	x		x	FLEXCELL Gate Arrays	FLX1080	National
80080	0.57	2000	ECL	0.8	4				256				x	x	100K or 10K	NGA095T	National
122000	0.5	75	CMOS	0.8	2	1			232	x	x	x		x	FLEXCELL Gate Arrays	FLX1120	National
160000	0.5	75	CMOS	0.8	2	1			268	x	x	x		x	FLEXCELL Gate Arrays	FLX1160	National
207000	0.5	75	CMOS	0.8	2	1			308	x	x	x		x	FLEXCELL Gate Arrays	FLX1200	National
252000	0.5	75	CMOS	0.8	2	1			340	x	x	x		x	FLEXCELL Gate Arrays	FLX1250	National
NCM Corporation																	
3003	10	5	CMOS	7.5	1M				35	x	x	x		x	40 pads	NCM300XZ	NCM
70015	3	12	CMOS	5	1M	1P			58	x	x	x		x	62 pads	NCM7001XZ	NCM
NCR Microelectronic																	
4312	0.9	50	CMOS	0.75	2		-	-	44	x	x	x	-	x	JTAG/TAP Controller	VGX500.004	NCR
			CMOS	0.75	3		-	-	44	x	x	x	-	x	JTAG/TAP Controller	VGX500.004	NCR
11742	0.9	50	CMOS	0.75	2		-	-	68	x	x	x	-	x	JTAG/TAP Controller	VGX500.011	NCR
			CMOS	0.75	3		-	-	68	x	x	x	-	x	JTAG/TAP Controller	VGX500.011	NCR
18720	0.9	50	CMOS	0.75	2		-	-	84	x	x	x	-	x	JTAG/TAP Controller	VGX500.018	NCR
			CMOS	0.75	3		-	-	84	x	x	x	-	x	JTAG/TAP Controller	VGX500.018	NCR
27789	0.9	50	CMOS	0.75	2		-	-	100	x	x	x	-	x	JTAG/TAP Controller	VGX500.027	NCR
			CMOS	0.75	3		-	-	100	x	x	x	-	x	JTAG/TAP Controller	VGX500.027	NCR
40612	0.9	50	CMOS	0.75	2		-	-	120	x	x	x	-	x	JTAG/TAP Controller	VGX500.040	NCR
			CMOS	0.75	3		-	-	120	x	x	x	-	x	JTAG/TAP Controller	VGX500.040	NCR
60334	0.9	50	CMOS	0.75	2		-	-	144	x	x	x	-	x	JTAG/TAP Controller	VGX500.060	NCR
			CMOS	0.75	3		-	-	144	x	x	x	-	x	JTAG/TAP Controller	VGX500.060	NCR
75126	0.9	50	CMOS	0.75	2		-	-	160	x	x	x	-	x	JTAG/TAP Controller	VGX500.075	NCR
			CMOS	0.75	3		-	-	160	x	x	x	-	x	JTAG/TAP Controller	VGX500.075	NCR
101248	0.9	50	CMOS	0.75	2		-	-	184	x	x	x	-	x	JTAG/TAP Controller	VGX500.101	NCR
			CMOS	0.75	3		-	-	184	x	x	x	-	x	JTAG/TAP Controller	VGX500.101	NCR
130240	0.9	50	CMOS	0.75	2		-	-	208	x	x	x	-	x	JTAG/TAP Controller	VGX500.130	NCR
			CMOS	0.75	3		-	-	208	x	x	x	-	x	JTAG/TAP Controller	VGX500.130	NCR
175745	0.9	50	CMOS	0.75	2		-	-	240	x	x	x	-	x	JTAG/TAP Controller	VGX500.175	NCR
			CMOS	0.75	3		-	-	240	x	x	x	-	x	JTAG/TAP Controller	VGX500.175	NCR
200419	0.9	50	CMOS	0.75	2		-	-	256	x	x	x	-	x	JTAG/TAP Controller	VGX500.200	NCR
			CMOS	0.75	3		-	-	256	x	x	x	-	x	JTAG/TAP Controller	VGX500.200	NCR
226713	0.9	50	CMOS	0.75	2		-	-	272	x	x	x	-	x	JTAG/TAP Controller	VGX500.226	NCR
			CMOS	0.75	3		-	-	272	x	x	x	-	x	JTAG/TAP Controller	VGX500.226	NCR
285665	0.9	50	CMOS	0.75	2		-	-	304	x	x	x	-	x	JTAG/TAP Controller	VGX500.285	NCR
			CMOS	0.75	3		-	-	304	x	x	x	-	x	JTAG/TAP Controller	VGX500.285	NCR

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Uncommitted	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
NEC Electronics																		
600	0.14	1600	ECL	1.2	3		88	48	88				x			µPB6303	NEC	
1152	0.37	100	CMOS	1.2	2	1			94	x	x	x		x	Channelless type	µPD65015	† NEC	
1200	0.14	1600	ECL	1.2	3		108	48	108				x			µPB6312	NEC	
1680	0.37	100	CMOS	1.2	2	1			108	x	x	x		x	Channelless type	µPD65016	NEC	
2016	0.37	100	CMOS	1.2	2	1			79	x	x	x		x	Channelless type	µPD65025	NEC	5
2208	0.3	7000	BiCMOS	1.2	3	1			80	x		x	x	x		µPB67021	ℓ† NEC	
2244	0.26	120	CMOS	1	2	1			64	x	x	x		x	Channelless Type	µPD65612	† NEC	
2340	0.37	100	CMOS	1.2	2	1			120	x	x	x		x	Channelless type	µPD65027	NEC	
			CMOS	1.2	2	1			120	x	x	x		x	Channelless type	µPD65029	NEC	
2400	0.15	1400	ECL	1.2	3		102	62	102		x	x	x			µPB63020	NEC	10
3240	0.3	7000	BiCMOS	1.2	3	1			96	x		x	x	x		µPB67031	ℓ† NEC	
3366	0.37	100	CMOS	1.2	2	1			96	x	x	x		x	Channelless type	µPD65032	NEC	
			CMOS	1.2	2	1			120	x	x	x		x	Channelless Type	µPD65034	† NEC	
4000	0.15	1400	ECL	1.2	3		140	84	152		x	x	x			µPB63040	NEC	
4260	0.26	120	CMOS	1	2	1			84	x	x	x		x	Channelless Type	µPD65622	† NEC	15
4440	0.37	100	CMOS	1.2	2	1			108	x	x	x		x	Channelless type	µPD65044	NEC	
			CMOS	1.2	2	1			142	x	x	x		x	Channelless type	µPD65046	NEC	
5292	0.37	100	CMOS	1.2	2	1			120	x	x	x		x	Channelless type	µPD65051	NEC	
			CMOS	1.2	2	1			142	x	x	x		x	Channelless type	µPD65053	NEC	
5320	0.3	7000	BiCMOS	1.2	3	1			124	x		x	x	x		µPB67050	ℓ† NEC	20
5376	0.26	120	CMOS	1	2	1			84	x	x	x		x	Channelless type	µPD65630	NEC	
5544	0.26	120	CMOS	1	2	1			140	x	x	x		x	Channelless type	µPD65631	NEC	
5760	0.26	120	CMOS	1	2	1			104	x	x	x		x	Channelless Type	µPD65626	† NEC	
6000	0.15	1400	ECL	1.2	3		174	90	174		x	x	x			µPB63060	NEC	
6348	0.37	100	CMOS	1.2	2	1			124	x	x	x		x	Channelless type	µPD65061	NEC	25
			CMOS	1.2	2	1			142	x	x	x		x	Channelless type	µPD65062	NEC	
7216	0.3	7000	BiCMOS	1.2	3	1			148	x		x	x	x		µPB67070	ℓ† NEC	
7500	0.37	100	CMOS	1.2	2	1			140	x	x	x		x	Channelless type	µPD65071	NEC	
			CMOS	1.2	2	1			142	x	x	x		x	Channelless type	µPD65072	NEC	
8000	0.15	1400	ECL	1.2	3		200	103	204		x	x	x			µPB63080	NEC	30
	0.26	120	CMOS	1	2	1			100	x	x	x		x	Channelless type	µPD65636	NEC	
8148	0.26	120	CMOS	1	2	1			104	x	x	x		x	Channelless Type	µPD65632	NEC	
8748	0.37	100	CMOS	1.2	2	1			148	x	x	x		x	Channelless type	µPD65082	NEC	
10152	0.3	7000	BiCMOS	1.2	3	1			176	x		x	x	x		µPB67101	ℓ† NEC	
10800	0.37	100	CMOS	1.2	2	1			160	x	x	x		x	Channelless type	µPD65103	NEC	35
10912	0.131	175	CMOS	0.5	3	1			164	x	x	x		x		µPD65860	ℓ† NEC	
	0.2	175	CMOS	0.5	2	1			164	x	x	x		x	True 3V process	µPD65840	ℓ† NEC	
11520	0.26	120	CMOS	1	2	1			120	x	x	x		x	Channelless type	µPD65640	NEC	
			CMOS	1	2	1			160	x	x	x		x	Channelless type	µPD65641	NEC	
11712	0.2	175	CMOS	0.65	2	1			172	x	x	x		x	Channelless Type	µPD65800	† NEC	40
12103	0.22	2400	Bipolar		3	2			215			x	x	x		µPB63030	† NEC	
14040	0.26	120	CMOS	1	2	1			160	x	x	x		x	Channelless type	µPD65644	NEC	
14256	0.37	100	CMOS	1.2	2	1			188	x	x	x		x	Channelless type	µPD65140	NEC	
16240	0.26	120	CMOS	1	2	1			140	x	x	x		x	Channelless type	µPD65646	NEC	
			CMOS	1	2	1			160	x	x	x		x	Channelless type	µPD65647	† NEC	45
18144	0.37	100	CMOS	1.2	2	1			214	x	x	x		x	Channelless type	µPD65180	NEC	
18600	0.26	120	CMOS	1	2	1			160	x	x	x		x	Channelless type	µPD65648	† NEC	
20832	0.131	175	CMOS	0.5	3	1			204	x	x	x		x		µPD65861	ℓ† NEC	
	0.2	175	CMOS	0.5	2	1			204	x	x	x		x	True 3V process	µPD65841	ℓ† NEC	
21120	0.26	120	CMOS	1	2	1			160	x	x	x		x	Channelless type	µPD65650	NEC	50
			CMOS	1	2	1			220	x	x	x		x	Channelless type	µPD65651	† NEC	
21504	0.2	175	CMOS	0.65	2	1			228	x	x	x		x	Channelless Type	µPD65801	† NEC	
24000	0.37	100	CMOS	1.2	2	1			246	x	x	x		x	Channelless type	µPD65240	NEC	
24528	0.3	7000	BiCMOS	1.2	3	1			272	x		x	x	x		µPB67240	ℓ† NEC	
26640	0.26	120	CMOS	1	2	1			220	x	x	x		x	Channelless type	µPD65652	† NEC	55
30192	0.131	175	CMOS	0.5	3	1			212	x	x	x		x		µPD65862	ℓ† NEC	
	0.2	175	CMOS	0.5	2	1			212	x	x	x		x	True 3V process	µPD65842	ℓ† NEC	
30720	0.26	120	CMOS	1	2	1			192	x	x	x		x	Channelless type	µPD65654	NEC	
			CMOS	1	2	1			220	x	x	x		x	Channelless type	µPD65655	† NEC	
32000	0.2	175	CMOS	0.65	2	1			268	x	x	x		x	Channelless Type	µPD65802	† NEC	60
35636	0.27	2300	ECL	0.9	3				236			x	x			µPD63100	NEC	
35656	0.22	2400	Bipolar		3	1			356			x	x	x		µPB63100	† NEC	
39856	0.2	175	CMOS	0.5	3	1			284	x	x	x		x	True 3V process	µPD65823	ℓ† NEC	
40592	0.131	175	CMOS	0.5	3	1			244	x	x	x		x		µPD65863	ℓ† NEC	
	0.2	175	CMOS	0.5	2	1			244	x	x	x		x	True 3V process	µPD65843	ℓ† NEC	65
42240	0.26	120	CMOS	1	3	1			220	x	x	x		x	Channelless type	µPD65658	† NEC	
42688	0.2	175	CMOS	0.65	2	1			308	x	x	x		x	Channelless Type	µPD65803	† NEC	
			CMOS	0.65	3	1			308	x	x	x		x	Channelless Type	µPD65804	† NEC	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM–Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Out-put Only	Un-com-mitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source
NEC Electronics																	(Cont'd)
50880	0.2	175	CMOS	0.5	3	1			316	x	x	x		x	True 3V process	µPD65825	ℓ† NEC
52528	0.2	175	CMOS	0.5	2	1			276	x	x	x		x	True 3V process	µPD65845	NEC
			CMOS	0.5	3	1			276	x	x	x		x	True 3V process	µPD65865	ℓ† NEC
58752	0.2	175	CMOS	0.65	3	1			356	x	x	x		x	Channelless Type	µPD65806	† NEC
60320	0.2	175	CMOS	0.5	3	1			340	x	x	x		x	True 3V process	µPD65826	ℓ† NEC
60500	0.3	150	CMOS	0.8	3	1			220	x	x	x		x	Channelless type	µPD65762	† NEC
61904	0.2	175	CMOS	0.5	2	1			300	x	x	x		x	True 3V process	µPD65846	ℓ† NEC
			CMOS	0.5	3	1			300	x	x	x		x	True 3V process	µPD65866	ℓ† NEC
72576	0.26	120	CMOS	1	3	1			288	x	x	x		x	Channelless type	µPD65664	† NEC
80400	0.2	175	CMOS	0.5	3	1			388	x	x	x		x	True 3V process	µPD65828	ℓ† NEC
81984	0.131	175	CMOS	0.5	2	1			340	x	x	x		x		µPD65848	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			340	x	x	x		x	True 3V process	µPD65868	ℓ† NEC
82432	0.2	175	CMOS	0.65	3	1			420	x	x	x		x	Channelless Type	µPD65808	† NEC
102272	0.131	175	CMOS	0.5	2	1			380	x	x	x		x		µPD65849	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			380	x	x	x		x	True 3V process	µPD65869	ℓ† NEC
103360	0.2	175	CMOS	0.5	3	1			436	x	x	x		x	True 3V process	µPD65830	ℓ† NEC
103680	0.2	175	CMOS	0.65	3	1			468	x	x	x		x	Channelless Type	µPD65810	† NEC
	0.3	150	CMOS	0.8	3	1			288	x	x	x		x	Channelless type	µPD65770	† NEC
119232	0.26	120	CMOS	1	3	1			368	x	x	x		x	Channelless type	µPD65672	† NEC
120768	0.131	175	CMOS	0.5	2	1			412	x	x	x		x		µPD65850	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			412	x	x	x		x	True 3V process	µPD65870	ℓ† NEC
138776	0.169	175	CMOS	0.65	3	1			524	x	x	x		x	Channelless Type	µPD65811	† NEC
148256	0.131	175	CMOS	0.5	2	1			452	x	x	x		x		µPD65851	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			452	x	x	x		x	True 3V process	µPD65871	ℓ† NEC
153264	0.2	175	CMOS	0.5	3	1			524	x	x	x		x	True 3V process	µPD65831	ℓ† NEC
169280	0.3	150	CMOS	0.8	3	1			368	x	x	x		x	Channelless type	µPD65776	† NEC
172960	0.169	175	CMOS	0.65	3	1			588	x	x	x		x	Channelless Type	µPD65812	† NEC
177408	0.26	120	CMOS	1	3	1			448	x	x	x		x	Channelless type	µPD65676	† NEC
200128	0.2	175	CMOS	0.5	3	1			596	x	x	x		x	True 3V process	µPD65832	ℓ† NEC
202752	0.131	175	CMOS	0.5	2	1			524	x	x	x		x		µPD65852	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			524	x	x	x		x	True 3V process	µPD65872	ℓ† NEC
233280	0.169	175	CMOS	0.65	3	1			676	x	x	x		x	Channelless Type	µPD65813	† NEC
250880	0.3	150	CMOS	0.8	3	1			448	x	x	x		x	Channelless type	µPD65782	† NEC
255360	0.2	175	CMOS	0.5	3	1			668	x	x	x		x	True 3V process	µPD65833	ℓ† NEC
255744	0.131	175	CMOS	0.5	2	1			586	x	x	x		x		µPD65853	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			586	x	x	x		x	True 3V process	µPD65873	ℓ† NEC
342000	0.131	175	CMOS	0.5	2	1			676	x	x	x		x		µPD65855	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			676	x	x	x		x	True 3V process	µPD65875	ℓ† NEC
347200	0.2	175	CMOS	0.5	3	1			772	x	x	x		x	True 3V process	µPD65835	ℓ† NEC
486048	0.2	175	CMOS	0.5	3	1			908	x	x	x		x	True 3V process	µPD65838	ℓ† NEC
488720	0.131	175	CMOS	0.5	2	1			804	x	x	x		x		µPD65858	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			804	x	x	x		x	True 3V process	µPD65878	ℓ† NEC
627328	0.131	175	CMOS	0.5	2	1			908	x	x	x		x		µPD65859	ℓ† NEC
	0.2	175	CMOS	0.5	3	1			908	x	x	x		x	True 3V process	µPD65879	ℓ† NEC
OKI Semiconductor																	
301	2.2	65	CMOS	2	2	1			32	x	x	x		x	Hi Density/Low I/O Option	7H003	OKI
522	2.2	65	CMOS	2	2	1			40	x	x	x		x	Hi Density/Low I/O Option	7H005	OKI
700	1.4	120	CMOS	1.5	2	1			74	x	x	x		x	Channelled Gate Array	70V000	OKI
	2.2	65	CMOS	2	2	1			70	x	x	x		x	16/48mA Outputs	70HB000	OKI
			CMOS	2	2	1			74	x	x	x		x	Channelled Gate Array	70H000	OKI
748	2.2	65	CMOS	2	2	1			48	x	x	x		x	Hi Density/Low I/O Option	7H007	OKI
1000	1.4	120	CMOS	1.5	2	1			74	x	x	x		x	Channelled Gate Array	71V000	OKI
	2.2	65	CMOS	2	2	1			70	x	x	x		x	16/48mA Outputs	71HB000	OKI
			CMOS	2	2	1			x	x	x	x		x	Channelled Gate Array	71H000	OKI
1001	2.2	65	CMOS	2	2	1			56	x	x	x		x	Hi Density/Low I/O Option	7H010	OKI
1440				3	2											MSM73000	OKI
1568	1.4	120	CMOS	1.5	2	1			74	x	x	x		x	Channelled Gate Array	72V000	OKI
	2.2	65	CMOS	2	2	1			70	x	x	x		x	16/48mA Outputs	72HB000	OKI
			CMOS	2	2	1			x	x	x	x		x	Channelled Gate Array	72H000	OKI
1632	0.51	400	CMOS	1.2	2	1			60	x	x	x		x		7U016	OKI
2000				3	2											MSM74000	OKI
	1.4	120	CMOS	1.5	2	1			88	x	x	x		x	Channelled Gate Array	73V000	OKI
	2.2	65	CMOS	2	2	1			84	x	x	x		x	16/48mA Outputs	73HB000	OKI
			CMOS	2	2	1			x	x	x	x		x	Channelled Gate Array	73H000	OKI
2400	1.4	120	CMOS	1.5	2	1			88	x	x	x		x	Channelled Gate Array	74V000	OKI
	2.2	65	CMOS	2	2	1			84	x	x	x		x	16/48mA Outputs	74HB000	OKI
			CMOS	2	2	1			88	x	x	x		x	Channelled Gate Array	74H000	OKI

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells			Input/Output Compatibility					Comments	Device	Source	Line
							Input Only	Out-put Only	Un-com-mitted	C-MOS	TTL-LS	TTL	ECL	Three State				
OKI Semiconductor																	(Cont'd)	
2440	0.51	400	CMOS	1.2	2	1			72	x	x	x		x		7U024	OKI	
3000				2	2											MSM79H000	OKI	
3289	1.4	120	CMOS	1.5	2	1			94	x	x	x		x	Channelled Gate Array	79V000	OKI	
	2.2	65	CMOS	2	2	1			98	x	x	x		x	16/48mA Outputs	79HB000	OKI	
			CMOS	2	2	1			94	x	x	x		x	Channelled Gate Array	79H000	OKI	5
3312	0.51	400	CMOS	1.2	2	1			84	x	x	x		x		7U033	OKI	
4000				2	2											MSM75H000	OKI	
				3	2											MSM7500	OKI	
4256	0.51	400	CMOS	1.2	2	1			96	x	x	x		x		7U042	OKI	
4290	1.4	120	CMOS	1.5	2	1			112	x	x	x		x	Channelled Gate Array	75V000	OKI	10
	2.2	65	CMOS	2	2	1			114	x	x	x		x	16/48mA Outputs	75HB000	OKI	
			CMOS	2	2	1			112	x	x	x		x	Channelled Gate Array	75H000	OKI	
5500	0.43	500	CMOS	1.2	2	1			68	x	x	x		x	Sea-of-Gate Gate Array	10U0055	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	68	x	x	x	-	x	Sea-of-Gate Gate Array	10V0055	OKI	
5544	0.34	300	CMOS	1	2	1			68	x		x		x		MSM10T0055	OKI	15
6000				2	2											MSM76H000	OKI	
	1.4	120	CMOS	1.5	2	1			138	x	x	x		x	Channelled Gate Array	76V000	OKI	
	2.2	65	CMOS	2	2	1			138	x	x	x		x	Channelled Gate Array	76H000	OKI	
	2.5	100	CMOS	2	2				x	x		x		x	5.5K GATES + 2 (32x8) RAMS	92H600	OKI	
6080	0.51	400	CMOS	1.2	2	1			114	x	x	x		x		7U060	OKI	20
8000				2	2											MSM77H000	OKI	
8118	1.4	120	CMOS	1.5	2	1			178	x	x	x		x	Channelled Gate Array	77V000	OKI	
	2.2	65	CMOS	2	2	1			178	x	x	x		x	Channelled Gate Array	77H000	OKI	
8132	0.51	400	CMOS	1.2	2	1			130	x	x	x		x		7U081	OKI	
10000				2	2											MSM78H000	OKI	25
10008	1.4	120	CMOS	1.5	2	1			188	x	x	x		x	Channelled Gate Array	78V000	OKI	
	2.2	65	CMOS	2	2	1			188	x	x	x		x	Channelled Gate Array	78H000	OKI	
	2.5	100	CMOS	2	2				x	x		x		x	8.9 K gates plus five (32x8) RAM	92H800	OKI	
10332	0.51	400	CMOS	1.2	2	1			148	x	x	x		x		7U100	OKI	
10600	0.43	500	CMOS	1.2	2	1			90	x	x	x		x	Sea-of-Gate Gate Array	10U0106	OKI	30
	0.64	265	CMOS	1.5	2	1	-	-	90	x	x	x	-	x	Sea-of-Gate Gate Array	10V0106	OKI	
10608	0.34	300	CMOS	1	2	1			90	x		x		x		MSM10T0106	OKI	
10800	0.31	500	CMOS	0.8	2	1			200	x		x		x		MSM10S0110	OKI	
13152	0.34	300	CMOS	1	2	1			98	x		x		x		MSM10T0132	OKI	
13200	0.43	500	CMOS	1.2	2	1			98	x	x	x		x	Sea-of-Gate Gate Array	10U0132	OKI	35
	0.64	265	CMOS	1.5	2	1	-	-	98	x	x	x	-	x	Sea-of-Gate Gate Array	10V0132	OKI	
15402	0.51	400	CMOS	1.2	2	1			188	x	x	x		x		7U150	OKI	
17500	0.43	500	CMOS	1.2	2	1			112	x	x	x		x	Sea-of-Gate Gate Array	10U0175	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	112	x	x	x	-	x	Sea-of-Gate Gate Array	10V0175	OKI	
17536	0.34	300	CMOS	1	2	1			112	x		x		x		MSM10T0175	OKI	40
20300	0.51	400	CMOS	1.2	2	1			206	x	x	x		x		7U200	OKI	
20900	0.43	500	CMOS	1.2	2	1			122	x	x	x		x	Sea-of-Gate Gate Array	10U0209	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	122	x	x	x	-	x	Sea-of-Gate Gate Array	10V0209	OKI	
20928	0.34	300	CMOS	1	2	1			122	x		x		x		MSM10T0209	OKI	
26160	0.34	300	CMOS	1	2	1			136	x		x		x		MSM10T0262	OKI	45
26200	0.43	500	CMOS	1.2	2	1			136	x	x	x		x	Sea-of-Gate Gate Array	10U0262	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	136	x	x	x	-	x	Sea-of-Gate Gate Array	10V0262	OKI	
30300	0.31	500	CMOS	0.8	2	1			320	x		x		x		MSM10S0300	OKI	
30384	0.51	400	CMOS	1.2	2	1			252	x	x	x		x		7U300	OKI	
30400	0.34	300	CMOS	1	2	1			146	x		x		x		MSM10T0304	OKI	50
	0.43	500	CMOS	1.2	2	1			146	x	x	x		x	Sea-of-Gate Gate Array	10U0304	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	146	x	x	x	-	x	Sea-of-Gate Gate Array	10V0304	OKI	
41568	0.34	300	CMOS	1	2	1			170	x		x		x		MSM10T0416	OKI	
41600	0.43	500	CMOS	1.2	2	1			170	x	x	x		x	Sea-of-Gate Gate Array	10U0416	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	170	x	x	x	-	x	Sea-of-Gate Gate Array	10V0416	OKI	55
53750	0.31	500	CMOS	0.8	2	1			420	x		x		x		MSM10S0540	OKI	
60368	0.34	300	CMOS	1	2	1			204	x		x		x		MSM10T0604	OKI	
60400	0.43	500	CMOS	1.2	2	1			204	x	x	x		x	Sea-of-Gate Gate Array	10U0604	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	204	x	x	x	-	x	Sea-of-Gate Gate Array	10V0604	OKI	
82560	0.34	300	CMOS	1	2	1			236	x		x		x		MSM10T0826	OKI	60
82600	0.43	500	CMOS	1.2	2	1			236	x	x	x		x	Sea-of-Gate Gate Array	10U0826	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	236	x	x	x	-	x	Sea-of-Gate Gate Array	10V0826	OKI	
88980	0.31	500	CMOS	0.8	2	1			544	x		x		x		MSM10S0890	OKI	
100500	0.43	500	CMOS	1.2	2	1			260	x	x	x		x	Sea-of-Gate Gate Array	10U1005	OKI	
	0.64	265	CMOS	1.5	2	1	-	-	260	x	x	x	-	x	Sea-of-Gate Gate Array	10V1005	OKI	65

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Uncommitted	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
OKI Semiconductor																	(Cont'd)	
100512	0.34	300	CMOS	1	2	1			260	x		x		x		MSM10T1005	OKI	
117660	0.31	500	CMOS	0.8	2	1			612	x		x		x		MSM10S1180	OKI	
183414	0.31	500	CMOS	0.8	2	1			760	x		x		x		MSM10S1830	OKI	
231920	0.31	500	CMOS	0.8	2	1			852	x		x		x		MSM10S2320	OKI	
Panasonic																		
300	1.4	50	CMOS	1.5	2	1	42	42	2	x	x	x		x	High Drive = 12 mA	MN53003	° Panasonic	5
500	1.4	50	CMOS	1.5	2	1	50	50	2	x	x	x		x	High Drive = 12 mA	MN53005	° Panasonic	
700	1.4	50	CMOS	1.5	2	1	58	58	2	x	x	x		x	High Drive = 12 mA	MN53007	° Panasonic	
1000	1.4	50	CMOS	1.5	2	1	64	64	4	x	x	x		x	High Drive = 12 mA	MN53010	° Panasonic	
1500	1.4	50	CMOS	1.5	2	1	78	78	6	x	x	x		x	High Drive = 12 mA	MN53015	° Panasonic	
2000	0.6	80	CMOS	1.2	2	1	92	92	8	x	x	x		x		MN56020	Panasonic	10
			CMOS	1.2	2	1	107	107	8	x	x	x		x		MN59020	Panasonic	
	1.4	50	CMOS	1.5	2	1	90	90	4	x	x	x		x	High Drive = 12 mA	MN53020	° Panasonic	
2040	1.4	50	CMOS	1.5	2	1	108	108	8	x	x	x		x		MN55020	Panasonic	
3000	0.6	80	CMOS	1.2	2	1	90	90	10	x	x	x		x	Sea of Gate, High Drive	MN56E03	Panasonic	
			CMOS	1.2	2	1	112	112	8	x	x	x		x		MN56030	Panasonic	15
	1.4	50	CMOS	1.5	2	1	108	108	8	x	x	x		x	High Drive = 12 mA	MN53030	° Panasonic	
4000	0.6	80	CMOS	1.2	2	1	148	148	8	x	x	x		x		MN59040	Panasonic	
	1.4	50	CMOS	1.5	2	1	124	124	8	x	x	x		x	High Drive = 12 mA	MN53040	° Panasonic	
4435	0.6	80	CMOS	1.2	2	1	92	92	8	x	x	x		x		MN56A04	Panasonic	
5000	0.6	80	CMOS	1.2	2	1	134	134	10	x	x	x		x		MN56050	Panasonic	20
5352	1.4	50	CMOS	1.5	2	1	180	180	16	x	x	x		x		MN55040	Panasonic	
6000	0.6	80	CMOS	1.2	2	1	118	118	10	x	x	x		x	Sea of Gate, High Drive	MN56E06	Panasonic	
	1.4	50	CMOS	1.5	2	1	152	152	16	x	x	x		x	High Drive = 12 mA	MN53060	° Panasonic	
7000	0.6	80	CMOS	1.2	2	1	158	158	10	x	x	x		x		MN56070	Panasonic	
7257	0.6	80	CMOS	1.2	2	1	112	112	8	x	x	x		x		MN56A07	Panasonic	25
8000	0.6	80	CMOS	1.2	2	1	208	208	10	x	x			x		MN59080	Panasonic	
	1.4	50	CMOS	1.5	2	1	180	180	16	x	x	x		x	High Drive = 12 mA	MN53080	° Panasonic	
10000	0.6	80	CMOS	1.2	2	1	148	148	12	x	x	x		x	Sea of Gate, High Drive	MN56E10	Panasonic	
			CMOS	1.2	2	1	186	186	10	x	x	x		x		MN56100	Panasonic	
			CMOS	1.2	2	1	232	232	10	x	x			x		MN59100	Panasonic	30
	1.4	50	CMOS	1.5	2	1	198	198	16	x	x	x		x	High Drive = 12 mA	MN53100	° Panasonic	
11923	0.6	80	CMOS	1.2	2	1	134	134	10	x	x	x		x		MN56A12	Panasonic	
15000	0.6	80	CMOS	1.2	2	1	210	210	10	x	x	x		x		MN56150	Panasonic	
			CMOS	1.2	2	1	256	256	10	x	x			x		MN59150	Panasonic	
	1.4	50	CMOS	1.5	2	1	238	238	20	x	x	x		x	High Drive = 12 mA	MN53150	° Panasonic	35
17740	0.6	80	CMOS	1.2	2	1	158	158	10	x	x	x		x		MN56A18	Panasonic	
20000	0.6	80	CMOS	1.2	2	1	238	238	10	x	x	x		x		MN56200	Panasonic	
	1.4	50	CMOS	1.5	2	1	256	256	24	x	x	x		x	High Drive = 12 mA	MN53200	° Panasonic	
25000	0.6	80	CMOS	1.2	2	1	256	256	10	x	x	x		x		MN56250	Panasonic	
25596	0.6	80	CMOS	1.2	2	1	186	186	10	x	x	x		x		MN56A25	Panasonic	40
30000	0.6	80	CMOS	1.2	2	1	256	256	10	x	x	x		x		MN56300	Panasonic	
33852	0.6	80	CMOS	1.2	2	1	210	210	10	x	x	x		x		MN56A34	Panasonic	
44856	0.6	80	CMOS	1.2	2	1	238	238	10	x	x	x		x		MN56A45	Panasonic	
57208	0.6	80	CMOS	1.2	2	1	256	256	10	x	x	x		x		MN56A57	Panasonic	
69264	0.6	80	CMOS	1.2	2	1	256	256	10	x	x	x		x		MN56A69	Panasonic	45
Performance Semiconductor Corp.																		
11000	0.5	250	CMOS	0.8	2	1	x	x	x	x		x		x	CMOS I/O Now TTL I/O Later	P9CG11000	Performance	
Ricoh																		
560	1.5		Si-Gate CMOS	2	2				40	x	x	x		x		RP5GH05	Ricoh	
1000	1.5		Si-Gate CMOS	2	2				60	x	x	x		x		RP5GH10	Ricoh	
1600	1.5		Si-Gate CMOS	2	2				72	x	x	x		x		RP5GH16	Ricoh	
2100	1.0		CMOS	1.5	2	1	84	84		x	x	x		x		5GF21	† Ricoh	50
2300	1.5		Si-Gate CMOS	2	2				88	x	x	x		x		RP5GH23	Ricoh	
2600	1.0		CMOS	1.5	2	1	94	94		x	x	x		x		5GF26	† Ricoh	
2900	1.5		Si-Gate CMOS	2	2				98	x	x	x		x		RP5GH29	Ricoh	
3200	1.0		CMOS	1.5	2	1	102	102		x	x	x		x		5GF32	† Ricoh	
3800	1.5		Si-Gate CMOS	2	2				108	x	x	x		x		RP5GH38	Ricoh	55
4180	0.8		CMOS	1.2	2	1	106	106		x	x	x		x		5GV041	† Ricoh	
4500	1.0		CMOS	1.5	2	1	120	120		x	x	x		x		5GF45	† Ricoh	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells			Input/Output Compatibility					Comments	Device	Source	Line
							Input Only	Output Only	Uncommitted	C-MOS	TTL-LS	TTL	ECL	Three State				
Ricoh																	(Cont'd)	
5330	0.8		CMOS	1.2	2	1	118	118		x	x	x		x		5GV053	† Ricoh	
5500	1.5		Si-Gate CMOS	2	2				120	x	x	x		x		RP5GH55	Ricoh	
5800	1.0		CMOS	1.5	2	1	138	138		x	x	x		x		5GF58	† Ricoh	
7370	0.8		CMOS	1.2	2	1	136	136		x	x	x		x		5GV073	† Ricoh	
8200	1.0		CMOS	1.5	2	1	168	168		x	x	x		x		5GF82	† Ricoh	5
9450	0.8		CMOS	1.2	2	1	154	154		x	x	x		x		5GV094	† Ricoh	
12490	0.8		CMOS	1.2	2	1	178	178		x	x	x		x		5GV124	† Ricoh	
16140	0.8		CMOS	1.2	2	1	204	204		x	x	x		x		5GV161	† Ricoh	
S-MOS Systems																		
820	2	60	CMOS	3	2	1	6		54	x	x	x		x	Silicon gate	SLA6080	S-MOS	
1394	2	60	CMOS	3	2	1	6		68	x	x	x		x	Silicon gate	SLA6140	S-MOS	10
1530	3		CMOS	2	2				70	x				x		SLA115X	S-MOS	
1632	3		CMOS	2	2				70	x				x		SLA116L	S-MOS	
1746	2	60	CMOS	3	2	1	6		76	x	x	x		x	Silicon gate	SLA6170	S-MOS	
2108	3		CMOS	2	2				82	x				x		SLA121X	S-MOS	
2232	3		CMOS	2	2				82	x				x		SLA122L	S-MOS	15
2667	2	60	CMOS	3	2	1	6		94	x	x	x		x	Silicon gate	SLA6270	S-MOS	
3276	3		CMOS	2	2				104	x				x		SLA132X	S-MOS	
			CMOS	2	2				128	x				x		SLA147X	S-MOS	
3312	2	60	CMOS	3	2	1	6		104	x	x	x		x	Silicon gate	SLA6330	S-MOS	
3432	3		CMOS	2	2				104	x				x		SLA134L	S-MOS	20
4342	2	60	CMOS	3	2	1	6		120	x	x	x		x	Silicon gate	SLA6430	S-MOS	
4395	0.65		CMOS	1	2					x	x	x				SLA9045	S-MOS	
4900	3		CMOS	2	2				128	x				x		SLA149L	S-MOS	
4935	0.65		CMOS	1	2					x	x	x				SLA904S	S-MOS	
5304	0.5		CMOS	1.2	2				78	x		x		x		SLA827S	S-MOS	25
5980	3		CMOS	2	2				150	x				x		SLA159X	S-MOS	
5990	0.65		CMOS	1	2					x	x	x				SLA906S	S-MOS	
6204	2	60	CMOS	2	2	1	6		148	x	x	x		x		SLA6620	S-MOS	
6210	3		CMOS	2	2				150	x				x		SLA162L	S-MOS	
7580	0.65		CMOS	1	2					x	x	x				SLA908S	S-MOS	30
7750	3		CMOS	2	2				170	x				x		SLA177X	S-MOS	
8000	3		CMOS	2	2				170	x				x		SLA180L	S-MOS	
9358	0.65		CMOS	1	2					x	x	x				SLA909S	S-MOS	
9416	0.5		CMOS	1.2	2				104	x		x		x		SLA847S	S-MOS	
11978	0.65		CMOS	1	2					x	x	x				SLA912S	S-MOS	35
14336	0.5		CMOS	1.2	2				132	x		x		x		SLA872S	S-MOS	
14823	0.65		CMOS	1	2					x	x	x				SLA915S	S-MOS	
18802	0.65		CMOS	1	2					x	x	x				SLA919S	S-MOS	
20216	0.3		CMOS	0.8	2					x	x	x				SLA1020	S-MOS	
21956	0.65		CMOS	1	2					x	x	x				SLA922S	S-MOS	40
22680	0.5		CMOS	1.2	2				164	x		x		x		SLA8B3S	S-MOS	
24424	0.3		CMOS	0.8	2					x	x	x				SLA1024	S-MOS	
25669	0.65		CMOS	1	2					x	x	x				SLA926S	S-MOS	
29120	0.3		CMOS	0.8	2					x	x	x				SLA1029	S-MOS	
29162	0.65		CMOS	1	2					x	x	x				SLA929S	S-MOS	45
30000	0.5		CMOS	1.2	2				190	x		x		x		SLA8F0S	S-MOS	
32645	0.65		CMOS	1	2					x	x	x				SLA933S	S-MOS	
34138	0.3		CMOS	0.8	2					x	x	x				SLA1034	S-MOS	
38550	0.5		CMOS	1.2	2				218	x		x		x		SLA8J3S	S-MOS	
39644	0.3		CMOS	0.8	2					x	x	x				SLA1039	S-MOS	50
49489	0.3		CMOS	0.8	2					x	x	x				SLA1049	S-MOS	
60653	0.3		CMOS	0.8	2					x	x	x				SLA1060	S-MOS	
73353	0.3		CMOS	0.8	2					x	x	x				SLA1073	S-MOS	
81320	0.3		CMOS	0.8	2					x	x	x				SLA1081	S-MOS	
152256	0.3		CMOS	0.8	2					x	x	x				SLA1152	S-MOS	55
254743	0.3		CMOS	0.8	2					x	x	x				SLA1255	S-MOS	
Samsung Semiconductor																		
210	4.2	40	CMOS	3	1					x	x	x			Silicon Gate	KG10200	Samsung	
400	1	70	CMOS	2	2				28	x	x	x		x		KG30400	Samsung	
	4.2	40	CMOS	3	1					x	x	x			Silicon Gate	KG10400	Samsung	
600	1	70	CMOS	2	2				38	x	x	x		x		KG30600	Samsung	60
	4.2	40	CMOS	3	1					x	x	x				KG10600	Samsung	
800	1	70	CMOS	2	2				42	x	x	x		x		KG30800	Samsung	
840	4.2	40	CMOS	3	1					x	x	x				KG10800	Samsung	
1190	4.2	40	CMOS	3	1					x	x	x				KG11200	Samsung	
1200	1	70	CMOS	2	2				50	x	x	x		x		KG31200	Samsung	65
1600	4.2	40	CMOS	3	1					x	x	x				KG11600	Samsung	
1980	4.2	40	CMOS	3	1					x	x	x				KG12000	Samsung	
2000	1	70	CMOS	2	2				76	x	x	x		x		KG32000	Samsung	
3200	1	70	CMOS	2	2				88	x	x	x		x		KG33200	Samsung	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (μm)	Metal	Poly	Input/Output Cells			Input/Output Compatibility					Comments	Device	Source	Line
							Input Only	Output Only	Uncommitted	C-MOS	TTL-LS	TTL	ECL	Three State				
Samsung Semiconductor																	(Cont'd)	
4000	1	70	CMOS	2	2				110	x	x	x		x		KG34000	Samsung	
6000	1	70	CMOS	2	2				132	x	x	x		x		KG36000	Samsung	
8000	1	70	CMOS	2	2				160	x	x	x		x		KG38000	Samsung	
Sanyo																		
340	1.7		CMOS	1.5	2	1			32	x	x	x		x	3.0 - 5.5 V	LC9103B	Sanyo	
588	1.7		CMOS	1.5	2	1			44	x	x	x		x	3.0 - 5.5 V	LC9105B	Sanyo	5
708	1.2		CMOS	1.5	2	1			62	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92007B	Sanyo	
858	1.7		CMOS	1.5	2	1			52	x	x	x		x	3.0 - 5.5 V	LC9108B	Sanyo	
1110	1.2		CMOS	1.5	2	1			82	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92011B	Sanyo	
1881	1.2		CMOS	1.5	2	1			108	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92018B	Sanyo	
1900	0.9		CMOS	1.2	2	1			56	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93019A	Sanyo	10
3216	1.2		CMOS	1.5	2	1			96	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92032A	Sanyo	
4185	1.2		CMOS	1.5	2	1			108	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92041A	Sanyo	
4300	0.9		CMOS	1.2	2	1			68	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93028A	Sanyo	
5000	0.9		CMOS	1.2	2	1			86	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93043A	Sanyo	
5700	0.9		CMOS	1.2	2	1			100	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93057A	Sanyo	15
6016	1.2		CMOS	1.5	2	1			130	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92060A	Sanyo	
8000	0.9		CMOS	1.2	2	1			100	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93080A	Sanyo	
8028	1.2		CMOS	1.5	2	1			152	x	x	x		x	Power 3 V - 5.5 V Sea of Gate	LC92080A	Sanyo	
10023	1.2		CMOS	1.5	2	1			176	x	x	x		x	3 V - 5.5 V Sea of Gate	LC92100A	Sanyo	
11000	0.9		CMOS	1.2	2	1			166	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93110A	Sanyo	20
15000	0.9		CMOS	1.2	2	1			168	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93150A	Sanyo	
22000	0.9		CMOS	1.2	2	1			208	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93220A	Sanyo	
26000	0.9		CMOS	1.2	2	1			228	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93260A	Sanyo	
30000	0.9		CMOS	1.2	2	1			252	x	x	x		x	3 V - 5.5 V Sea of Gate	LC93300A	Sanyo	
SGS-THOMSON																		
306	1		HCMOS	1.5	2	1			28	x		x		x		ISB9003	† SGS-Thomson	25
858	1		HCMOS	1.5	2	1			46	x		x		x		ISB9008	† SGS-Thomson	
1120	1.0	65	HCMOS	1.2	2				56	x	x	x		x		TSGC01000	SGS-Thomson	
	1.5	40	HCMOS	2	2				56	x	x	x		x		TSGB01000	SGS-Thomson	
		125	CMOS	2	2				56	x	x	x		x		GB1000D	† SGS-Thomson	
	1.5 *	125	CMOS	2	2				56	x	x	x		x		MKGB1000D	† SGS-Thomson	30
1152	2.5 *	40	CMOS	2	2				64	x	x	x		x		MKGA1000D	SGS-Thomson	
1554	1		HCMOS	1.5	2	1			62	x		x		x		ISB9015	† SGS-Thomson	
2016	2.5 *	40	CMOS	2	2				84	x	x	x		x		MKGA2000D	SGS-Thomson	
2128	1	65	HCMOS	1.2	2				76	x	x	x		x		TSGC02000	SGS-Thomson	
	1.5	40	HCMOS	2	2				76	x	x	x		x		TSGB02000	SGS-Thomson	35
		125	CMOS	2	2				76	x	x	x		x		GB2000D	† SGS-Thomson	
	1.5 *	125	CMOS	2	2				76	x	x	x		x		MKGB2000D	† SGS-Thomson	
2346	1		HCMOS	1.5	2	1			76	x		x		x		ISB9023	† SGS-Thomson	
2880	0.4	100	HCMOS	1.2	2	1			48	x		x		x		ISB12003	† SGS-Thomson	
3016	2.5 *	40	CMOS	2	2				104	x	x	x		x		MKGA3000D	SGS-Thomson	40
3264	1	65	HCMOS	1.2	2				96	x	x	x		x		TSGC03000	SGS-Thomson	
	1.5	40	HCMOS	2	2				96	x	x	x		x		TSGB03000	SGS-Thomson	
		125	CMOS	2	2				96	x	x	x		x		GB3000D	† SGS-Thomson	
	1.5 *	125	CMOS	2	2				96	x	x	x		x		MKGB3000D	† SGS-Thomson	
3795	1		HCMOS	1.5	2	1			96	x		x		x		ISB9038	† SGS-Thomson	45
4080	2.5 *	40	CMOS	2	2				120	x	x	x		x		MKGA4000D	SGS-Thomson	
4256	1	65	HCMOS	1.2	2				108	x	x	x		x		TSGC04000	SGS-Thomson	
	1.5	40	HCMOS	2	2				108	x	x	x		x		TSGB04000	SGS-Thomson	
		125	CMOS	2	2				108	x	x	x		x		GB4000D	† SGS-Thomson	
	1.5 *	125	CMOS	2	2				108	x	x	x		x		MKGB4000D	† SGS-Thomson	50
5120	0.4	100	HCMOS	1.2	2	1			64	x		x		x		ISB12005	† SGS-Thomson	
5544	1		HCMOS	1.5	2	1			116	x		x		x		ISB9055	† SGS-Thomson	
5880	1	65	HCMOS	1.2	2				132	x	x	x		x		TSGC06000	SGS-Thomson	
	1.5	40	HCMOS	2	2				132	x	x	x		x		TSGB06000	SGS-Thomson	
		125	CMOS	2	2				132	x	x	x		x		GB6000D	† SGS-Thomson	55
	1.5 *	125	CMOS	2	2				132	x	x	x		x		MKGB6000D	† SGS-Thomson	
6277	1		HCMOS	1.5	2	1			130	x		x		x		ISB9069	† SGS-Thomson	
6480	0.25	100	HCMOS	0.8	2	1			72	x		x		x		ISB18006	SGS-Thomson	
7872	1	65	HCMOS	1.2	2				168	x	x	x		x		TSGC08000	SGS-Thomson	
	1.5	40	HCMOS	2	2				168	x	x	x		x		TSGB08000	SGS-Thomson	60
		125	CMOS	2	2				168	x	x	x		x		GB8000D	† SGS-Thomson	
	1.5 *	125	CMOS	2	2				168	x	x	x		x		MKGB8000D	† SGS-Thomson	
8000	0.3 *		HCMOS	1.2	2				76	x		x		x		ISB12008	SGS-Thomson	
8466			HCMOS	1.5	2	1			142	x		x		x		ISB9085	SGS-Thomson	
9680	0.25	100	HCMOS	0.8	2	1			88	x		x		x		ISB18010	SGS-Thomson	65
9776	1.0	65	HCMOS	1.2	2				192	x	x	x		x		TSGC10000	SGS-Thomson	
																	(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value *Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
SGS-THOMSON																		
9776																	(Cont'd)	
	1.5	40	HCMOS	2	2				192	x	x	x		x		TSGB10000	SGS-Thomson	
		125	CMOS	2	2				192	x	x	x		x		GB10000D	† SGS-Thomson	
	1.5 *	125	CMOS	2	2				192	x	x	x		x		MKGB10000D	† SGS-Thomson	
11520	0.3 *		HCMOS	1.2	2				92	x		x		x		ISB12011	SGS-Thomson	
11970	1		HCMOS	1.5	2	1			168	x		x		x		ISB9122	† SGS-Thomson	5
13502	0.25	100	HCMOS	0.8	2	1			104	x		x		x		ISB18013	SGS-Thomson	
15680	0.3 *		HCMOS	1.2	2				108	x		x		x		ISB12015	SGS-Thomson	
17772	1		HCMOS	1.5	2	1			196	x		x		x		ISB9165	† SGS-Thomson	
18000	0.25	100	HCMOS	0.8	2	1			120	x		x		x		ISB18018	SGS-Thomson	
19635	1		HCMOS	1.5	2	1			214	x		x		x		ISB9201	† SGS-Thomson	10
20480	0.3 *		HCMOS	1.2	2				120	x		x		x		ISB12020	SGS-Thomson	
25920	0.25	100	HCMOS	0.8	2	1			144	x		x		x		ISB18026	SGS-Thomson	
	0.3 *		HCMOS	1.2	2				136	x		x		x		ISB12025	SGS-Thomson	
32000	0.25	100	HCMOS	0.8	2	1			160	x		x		x		ISB18032	SGS-Thomson	
	04	100	HCMOS	1.2	2	1			152	x		x		x		ISB12032	† SGS-Thomson	15
38720	0.3 *		HCMOS	1.2	2				164	x		x		x		ISB12038	SGS-Thomson	
42320	0.25	100	HCMOS	0.8	2	1			184	x		x		x		ISB1804	SGS-Thomson	
54080	0.25	100	HCMOS	0.8	2	1			208	x		x		x		ISB18054	SGS-Thomson	
	0.3 *		HCMOS	1.2	2				200	x		x		x		ISB12054	SGS-Thomson	
62720	0.4	100	HCMOS	1.2	2	1			224	x		x		x		ISB12062	† SGS-Thomson	20
76880	0.3 *		HCMOS	1.2	2				232	x		x		x		ISB12076	SGS-Thomson	
103680	0.3 *		HCMOS	1.2	2				256	x		x		x		ISB12103	SGS-Thomson	
128000	0.3 *		HCMOS	1.2	2				256	x		x		x		ISB12128	SGS-Thomson	
Sharp Electronics																		
300	1.7	90	CMOS	1.6	2	1			37	x	x			x		LZ93300	Sharp	
315	1.2	100	CMOS	1.2	2	1			37	x	x			x		LZ95300	Sharp	25
	9.5		CMOS	1.2	2	1			46	x	x			x		LZ96300	Sharp	
600	1.7	90	CMOS	1.6	2	1			51	x	x			x		LZ93600	Sharp	
650	1.2	100	CMOS	1.2	2	1			62	x	x			x		LZ95650	Sharp	
	9.5		CMOS	1.2	2	1			62	x	x			x		LZ96650	Sharp	
1010	1.7	90	CMOS	1.6	2	1			67	x	x			x		LZ931000	Sharp	30
1111	1.7	90	CMOS	1.6	2	1			77	x	x			x		LZ931100	Sharp	
1170	1.2	100	CMOS	1.2	2	1			77	x	x			x		LZ951170	Sharp	
	9.5		CMOS	1.2	2	1			77	x	x			x		LZ961170	Sharp	
1596	1.7	90	CMOS	1.6	2	1			97	x	x			x		LZ931600	Sharp	
1680	1.2	100	CMOS	1.2	2	1			97	x	x			x		LZ95160	Sharp	35
	9.5		CMOS	1.2	2	1			97	x	x			x		LZ961600	Sharp	
2000	1.2	100	CMOS	1.2	2	1			97	x	x			x		LZ952000	Sharp	
	9.5		CMOS	1.2	2	1			97	x	x			x		LZ962000	Sharp	
2240	1.7	90	CMOS	1.6	2	1			97	x	x			x		LZ932200	Sharp	
3100	1.2	100	CMOS	1.2	2	1			116	x	x			x		LZ953000	Sharp	40
3145	1.7	90	CMOS	1.6	2	1			112	x	x			x		LZ933000	Sharp	
4009	1.7	90	CMOS	1.6	2	1			128	x	x			x		LZ934000	Sharp	
4255	1.2	100	CMOS	1.2	2	1			128	x	x			x		LZ954000	Sharp	
	9.5		CMOS	1.2	2	1			128	x	x			x		LZ964000	Sharp	
5000	1.2	100	CMOS	1.2	2	1			138	x	x			x		LZ955000	Sharp	45
	1.7	90	CMOS	1.6	2	1			140	x	x			x		LZ935000	Sharp	
	9.5		CMOS	1.2	2	1			138	x	x			x		LZ965000	Sharp	
6075	1.2	100	CMOS	1.2	2	1			148	x	x			x		LZ956000	Sharp	
	9.5		CMOS	1.2	2	1			148	x	x			x		LZ966000	Sharp	
8370	1.2	100	CMOS	1.2	2	1			176	x	x			x		LZ958000	Sharp	50
	9.5		CMOS	1.2	2	1			176	x	x			x		LZ968000	Sharp	
10032	1.2	100	CMOS	1.2	2	1			194	x	x			x		LZ9510000	Sharp	
Sony Corporation of America																		
75	0.2	3000	ECL	1.2	2				32				x		ECL 100K Compatible I/O	E3G70	Sony	
210	0.3	2500	ECL	1.2	2				37				x		ECL 100K Compatible I/O	E3G200	Sony	
1160	0.35	2000	ECL	1.2	2			40			x		x	x	ECL Look/10KH Compatible I/O	E3G1K	‡ Sony	55
2178	0.35	2000	ECL	1.2	2			52			x		x	x	ECL 100K/10KH Compatible I/O	E3G2K	‡ Sony	
3960	0.35	2000	ECL	1.2	2			72	72		x		x	x	ECL 100K/10KH Compatible I/O	E3G4K	‡ Sony	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Synergy Semiconductor																		
540	0.07		ASSET									x	x			**SY05BP00**	**Synergy (3800)**	
1500	0.07		ASSET									x	x			**SY1BP00**	**Synergy (3800)**	
2680	0.07		ASSET									x	x			SY2BP2R4	Synergy	
4928	0.07		ASSET									x	x			**SY2BP00**	**Synergy (3800)**	
6300	0.07		ASSET									x	x			**SY4BP00**	**Synergy (3800)**	5
13600	0.07		ASSET									x	x			**SY8BP4R2**	**Synergy (3801)**	
			ASSET									x	x			**SY9BP6R4**	**Synergy (3801)**	
16000	0.07		ASSET									x	x			**SY11BP00**	**Synergy (3800)**	
18334	0.07		ASSET						192			x	x			**SY15BP10R4**	**Synergy (3801)**	
31680	0.07		ASSET									x	x			**SY21BP00**	**Synergy (3800)**	10
50000	0.07		ASSET									x	x			**SY34BP00**	**Synergy (3800)**	
Texas Instruments																		
13K	0.344	400	BiCMOS	0.8	3	3			80	x	x	x		x		TGB1013	‡ TI	
20K	0.344	400	BiCMOS	0.8	3	3			100	x	x	x		x		TGB1020	‡ TI	
33K	0.344	400	BiCMOS	0.8	3	3			116	x	x	x		x		TGB1033	‡ TI	
51K	0.344	400	BiCMOS	0.8	3	3			156	x	x	x		x		TGB1051	‡ TI	15
66K	0.344	400	BiCMOS	0.8	3	3			188	x	x	x		x		TGB1066	‡ TI	
106K	0.344	400	BiCMOS	0.8	3	3			256	x	x	x		x		TGB1106	‡ TI	
150K	0.344	400	BiCMOS	0.8	3	3			320	x	x	x		x		TGB1150	‡ TI	
1200	9.3	70	CMOS	1	2				57	x	x	x		x	Field Programmable Gate Array	TPC1010A	† TI	
1505	0.5	208	CMOS	1	2	1			44	x	x	x		x		TGC102	‡ TI	20
2000	9.3	70	CMOS	1	2				69	x	x	x		x	Field Programmable Gate Array	TPC1020A	† TI	
2722	0.5	208	CMOS	1	2	1			68	x	x	x		x		TGC103A	‡ TI	
3640	0.5	208	CMOS	1	2	1			100	x	x	x		x	CMOS Gate Array	TGC104	† TI	
4550	0.5	208	CMOS	1	2	1			100	x	x	x		x	CMOS Gate Array	TGC105A	TI	
5600	0.5	208	CMOS	1	2	1			130	x	x	x		x	CMOS Gate Array	TGC106	† TI	25
6720	0.5	208	CMOS	1	2	1			130	x	x	x		x	CMOS Gate Array	TGC107	† TI	
8000	9.3	70	CMOS	1	2				140	x	x	x		x	Field Programmable Gate Array	TPC1280	† TI	
8400	0.5	208	CMOS	1	2	1			158	x	x	x		x	CMOS Gate Array	TGC108A	TI	
10080	0.5	208	CMOS	1	2	1			158	x	x	x		x	CMOS Gate Array	TGC110	† TI	
12802	0.5	208	CMOS	1	2	1			196	x	x	x		x	CMOS Gate Array	TGC113	† TI	30
14878	0.5	208	CMOS	1	2	1			196	x	x	x		x	CMOS Gate Array	TGC115A	† TI	
16296	0.5	208	CMOS	1	2	1			216	x	x	x		x	CMOS Gate Array	TGC116	† TI	
19400	0.5	208	CMOS	1	2	1			216	x	x	x		x	CMOS Gate Array	TGC119	† TI	
23000	0.5	208	CMOS	1	2	1			256	x	x	x		x	CMOS Gate Array	TGC122	† TI	
27140	0.5	208	CMOS	1	2	1			256	x	x	x		x	CMOS Gate Array	TGC126	† TI	35
Toshiba America Electronic Components																		
300	0.6		CMOS	1.5	x				44	x		x				TC11L003	Toshiba	
			CMOS	1.5	x				44	x		x				TC11L005	Toshiba	
			CMOS	1.5	x				44	x		x				TC11L007	Toshiba	
700	0.6	150 *	CMOS	1.5	2	1			44 *	x	x	x		x		TC11L	Toshiba	
1000	0.4		CMOS	1.0	x				100	x		x				TC14L010	Toshiba	40
2000	0.4		CMOS	1.0	x				100	x		x				TC14L020	Toshiba	
2300	0.4	200	CMOS	1.0	2				44	x		x		x		TC140G02	Toshiba	
			CMOS, Si-Gate	1	2				44	x		x		x		TC150G02	Toshiba	
2400	0.4		CMOS	0.8	2				68	x		x			3V Operation	TC163G06	Toshiba	
4000	0.4		CMOS	1.0	x				160	x		x				TC14L040	Toshiba	45
4400	0.3	250	CMOS	0.8	2				84	x		x			3V Operation	TC160G11	Toshiba	
	0.4		CMOS	0.8	2				86	x		x			3V Operation	TC163G11	Toshiba	
		200	CMOS	1.0	2				60	x		x		x		TC140G04	Toshiba	
			CMOS, Si-Gate	1	2				60	x		x		x		TC150G04	Toshiba	
5000	0.4		CMOS	1.0	x				160	x		x				TC14L050	Toshiba	50
	0.4 *	200 *	CMOS	1	2	1			160 *	x	x	x		x		TC14L	Toshiba	
5800	0.4	200	CMOS	1.0	2				68	x		x		x		TC140G06	Toshiba	
			CMOS, Si-Gate	1	2				64	x		x		x		TC150G06	Toshiba	
6000	0.4		CMOS	1.0	x				176	x		x				TC14L060	Toshiba	
6400	0.3	250	CMOS	0.8	2				102	x		x			3V Operation	TC160G16	Toshiba	55
7000	0.4		CMOS	1.0	x				176	x		x				TC14L070	Toshiba	
8000	0.4		CMOS	1.0	x				208	x		x				TC14L080	Toshiba	
8800	0.3	250	CMOS	0.8	2				120	x		x			3V Operation	TC160G22	Toshiba	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Un-committed	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Toshiba America Electronic Components																	(Cont'd)	
8900	0.4	200	CMOS	1.0	2				84	x		x		x		TC140G09	Toshiba	
			CMOS, Si-Gate	1	2				84	x		x		x		TC150G09	Toshiba	
10000	0.4		CMOS	1.0	x				208	x		x				TC14L100	Toshiba	
10400	0.4		CMOS	0.8	2				128	x		x			3V Operation	TC163G26	Toshiba	
12000	0.4		CMOS	1.0	x				208	x		x				TC14L120	Toshiba	5
		200	CMOS	1.0	2				100	x		x		x		TC140G12	Toshiba	
			CMOS, Si-Gate	1	2				100	x		x		x		TC150G12	Toshiba	
13000	0.3	250	CMOS	0.8	2				144	x		x				TC160E33	Toshiba	
			CMOS	0.8	2				144	x		x			3V Operation	TC160G33	Toshiba	
13200	0.4		CMOS	0.8	2				144	x		x			3V Operation	TC163G33	Toshiba	10
15000	0.4		CMOS	1.0	x				208	x		x				TC14L150	Toshiba	
17000	0.3	250	CMOS	0.8	2				184	x		x				TC160E41	Toshiba	
			CMOS	0.8	2				160	x		x			3V Operation	TC160G41	Toshiba	
18000	0.4		CMOS	0.8	2				168	x		x			3V Operation	TC163G45	Toshiba	
		200	CMOS	1.0	2				120	x		x		x		TC140G18	Toshiba	15
			CMOS, Si-Gate	1	2				120	x		x		x		TC150G18	Toshiba	
20000	0.4		CMOS	1.0	x				208	x		x				TC14L200	Toshiba	
22000	0.3	250	CMOS	0.8	2				184	x		x				TC160E54	Toshiba	
			CMOS	0.8	2				184	x		x			3V Operation	TC160G54	Toshiba	
23000	0.4		CMOS	0.8	2				192	x		x			3V Operation	TC163G59	Toshiba	20
27000	0.4	200	CMOS	1.0	2				144	x		x		x		TC140G27	Toshiba	
			CMOS, Si-Gate	1	2				144	x		x	x			TC150G27	Toshiba	
28000	0.26		CMOS	0.8	3				152	x		x				TC165E28	Toshiba	
		75	CMOS	0.8	3				152	x		x				TC165G28	Toshiba	
	0.3	250	CMOS	0.8	2				208	x		x				TC160E70	Toshiba	25
			CMOS	0.8	2				208	x		x			3V Operation	TC160G70	Toshiba	
34000	0.26		CMOS	0.8	3				168	x		x				TC165E34	Toshiba	
		75	CMOS	0.8	3				168	x		x				TC165G34	Toshiba	
37000	0.4	200	CMOS	1.0	2				168	x		x		x		TC140G37	Toshiba	
			CMOS, Si-Gate	1	2				168	x		x		x		TC150G37	Toshiba	30
38000	0.4		CMOS	0.8	2				240	x		x			3V Operation	TC163G95	Toshiba	
43000	0.3	250	CMOS	0.8	2				256	x		x				TC160EA8	Toshiba	
			CMOS	0.8	2				256	x		x			3V Operation	TC160GA8	Toshiba	
44000	0.4	200	CMOS	1.0	2				184	x		x		x		TC140G44	Toshiba	
			CMOS, Si-Gate	1	2				184	x		x		x		TC150G44	Toshiba	35
46000	0.26		CMOS	0.8	3				192	x		x				TC165E46	Toshiba	
		75	CMOS	0.8	3				192	x		x				TC165G46	Toshiba	
46800	0.4		CMOS	0.8	2				264	x		x			3V Operation	TC163GB7	Toshiba	
53000	0.3	250	CMOS	0.8	2				280	x		x				TC160ED2	Toshiba	
			CMOS	0.8	2				280	x		x			3V Operation	TC160GD2	Toshiba	40
54000	0.4	200	CMOS	1.0	2				204	x		x		x		TC140G54	Toshiba	
			CMOS, Si-Gate	1	2				204	x		x		x		TC150G54	Toshiba	
61000	0.26		CMOS	0.8	3				216	x		x				TC165E61	Toshiba	
		75	CMOS	0.8	3				216	x		x				TC165G61	Toshiba	
64000	0.4		CMOS	0.8	2				304	x		x			3V Operation	TC163GG0	Toshiba	45
68000	0.4		CMOS	0.8	2				104	x		x			3V Operation	TC163G16	Toshiba	
	0.4 *	200 *	CMOS	1	2	1			360 *	x	x	x		x		TC140G	Toshiba	
	0.4	200	CMOS	1.0	x				360	x		x				TC140GH42	Toshiba	
			CMOS	1.0	2				228	x		x		x		TC140G68	Toshiba	
			CMOS, Si-Gate	1	2				228	x		x		x		TC150G68	Toshiba	50
71000	0.3	250	CMOS	0.8	2				320	x		x				TC160EH7	Toshiba	
			CMOS	0.8	2				320	x		x			3V Operation	TC160GH7	Toshiba	
86400	0.4		CMOS	0.8	2				352	x		x			3V Operation	TC163GL6	Toshiba	
89000	0.4	200	CMOS	1.0	2				260	x		x		x		TC140G89	Toshiba	
			CMOS, Si-Gate	1	2				260	x		x		x		TC150G89	Toshiba	55

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

							Input/Output Cells			Input/Output Compatibility								
Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input Only	Out-put Only	Un-com-mitted	C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Toshiba America Electronic Components																	(Cont'd)	
94000	0.3	250	CMOS	0.8	2				368	x		x				TC160EN5	Toshiba	
			CMOS	0.8	2				368	x		x			3V Operation	TC160GN5	Toshiba	
95500	0.26		CMOS	0.8	3				264	x		x				TC165E95	Toshiba	
		75	CMOS	0.8	3				264	x		x				TC165G95	Toshiba	
100000	0.4 *	200 *	CMOS	1	3	1			360 *	x	x	x		x		TC150G	Toshiba	5
112000	0.4		CMOS	0.8	2				400	x		x			3V Operation	TC163GSO	Toshiba	
120000	0.3	250	CMOS	0.8	2				416	x		x				TC160EU2	Toshiba	
			CMOS	0.8	2				416	x		x			3V Operation	TC160GU2	Toshiba	
128000	0.4	200	CMOS	1.0	2				312	x		x		x		TC140GC8	Toshiba	
			CMOS, Si-Gate	1	2				312	x		x		x		TC150GC8	Toshiba	10
146000	0.26	75	CMOS	0.8	3				312	x		x				TC165EEG	Toshiba	
			CMOS	0.8	3				312	x		x				TC165GEG	Toshiba	
151000	0.4		CMOS	0.8	2				352	x		x			3V Operation	TC163GT2	Toshiba	
164000	0.3	250	CMOS	0.8	2				368	x		x				TC160ET2	Toshiba	
			CMOS	0.8	2				368	x		x			3V Operation	TC160GT2	Toshiba	15
172000	0.4	200	CMOS	1	2				360	x		x		x		TC140GH2	Toshiba	
			CMOS, Si-Gate	1	2				360	x		x	x			TC150GH2	Toshiba	
196000	0.4		CMOS	0.8	2				400	x		x			3V Operation	TC163GT1	Toshiba	
200500	0.26	75	CMOS	0.8	3				360	x		x				TC165EK0	Toshiba	
			CMOS	0.8	3				360	x		x				TC165GK0	Toshiba	20
210000	0.3	250	CMOS	0.8	2				416	x		x				TC160ET1	Toshiba	
			CMOS	0.8	2				416	x		x			3V Operation	TC160GT1	Toshiba	
264000	0.26	75	CMOS	0.8	3				408	x		x				TC165EQ4	Toshiba	
			CMOS	0.8	3				408	x		x				TC165GQ4	Toshiba	
280000	0.4	200	CMOS	0.8	2/3				400	x	x	x		x	3V core with simultaneous 3V and 5V I/Os	TC163G	Toshiba	25
302000	0.3	200	CMOS	0.8	2/3				416	x	x	x		x	Similar to TC160G, but with 256K bits of embedded SRAM	TC160E	Toshiba	
			CMOS	0.8	2/3				416	x	x	x		x	11K to 302K available gates. Operates at 5V or 3V	TC160G	Toshiba	
329500	0.26	75	CMOS	0.8	3				472	x		x				TC165EW9	Toshiba	
			CMOS	0.8	3				472	x		x				TC165GW9	Toshiba	
377000	0.26	75	CMOS	0.8	3				508	x		x				TC165EZR	Toshiba	30
			CMOS	0.8	3				508	x		x				TC165GZR	Toshiba	
		200	CMOS	0.8	2/3				508	x	x	x		x	Similar to TC165G but with 256K bits of embedded SRAM	TC165E	Toshiba	
			CMOS	0.8	2/3				508	x	x	x		x	IEEE 1149.1 (JTAG) testability and scan test with no performance penalty	TC165G	Toshiba	
800000	0.21	200	CMOS	0.5	2/3				416	x	x	x		x	3V core with 3V I/Os. 20K to 800K available gates.	TC180G	Toshiba	
United Technologies																		
25K	1.58		CMOS	1.2	2	1			175	x	x	x		x	Channelless Array, JTAG Registers	**UTE25D**	**UTMC** **(3844)**	35
			CMOS	1.2	2	1			175	x	x	x		x	Channelless Array	**UTE25DR**	‡ **UTMC** **(3844)**	
			CMOS	1.2	2	1			175	x	x	x		x	Channelless Array, JTAG Registers	UT25E	UTMC	
			CMOS	1.2	2	1			175	x	x	x		x	Channelless Array	UT25ER	‡ UTMC	
35K	1.58		CMOS	1.2	2	1			175	x	x	x		x	Channelless Array, JTAG Registers	**UTE35T**	**UTMC** **(3844)**	
			CMOS	1.2	2	1			175	x	x	x		x	Channelless Array	**UTE35TR**	‡ **UTMC** **(3844)**	40
			CMOS	1.2	2	1			175	x	x	x		x	Channelless Array, JTAG Registers	UT35E	UTMC	
			CMOS	1.2	2	1			175	x	x	x		x	Channelless Array	UT35ER	‡ UTMC	
75K	1.58		CMOS	1.2	2	1			256	x	x	x		x	Channelless Array, JTAG Registers	**UTE75D**	**UTMC** **(3844)**	
			CMOS	1.2	2	1			256	x	x	x		x	Channelless Array	**UTE75DR**	‡ **UTMC** **(3844)**	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells			Input/Output Compatibility					Comments	Device	Source	Line
							Input Only	Output Only	Uncommitted	C-MOS	TTL-LS	TTL	ECL	Three State				
United Technologies																		
75K	1.58																(Cont'd)	
			CMOS	1.2	2	1			256	x	x	x		x	Channelless Array, JTAG Registers	UT75E	UTMC	
			CMOS	1.2	2	1			256	x	x	x		x	Channelless Array	UT75ER	‡ UTMC	
100K	1.58		CMOS	1.2	2	1			256	x	x	x		x	Channelless Array, JTAG Registers	**UTE100T**	**UTMC (3844)**	
			CMOS	1.2	2	1			256	x	x	x		x	Channelless Array, JTAG Registers	**UTE100TR**	**‡ UTMC (3844)**	
			CMOS	1.2	2	1			256	x	x	x		x	Channelless Array, JTAG Registers	UT100E	UTMC	5
			CMOS	1.2	2	1			256	x	x	x		x	Channelless Array, Rad-Hard Library	UT100ER	UTMC	
3400	1		CMOS	1.5	2				96	x	x	x		x		**UT116D**	**UTMC (3844)**	
			CMOS	1.5	2				96	x	x	x		x		**UT116DR**	**‡ UTMC (3844)**	
6000	1		CMOS	1.5	2				136	x	x	x		x		**UT160D**	**UTMC (3844)**	
			CMOS	1.5	2				136	x	x	x		x		**UT160DR**	**‡ UTMC (3844)**	10
7800	1		CMOS	1.5	2				156	x	x	x		x		**UT180D**	**UTMC (3844)**	
			CMOS	1.5	2				156	x	x	x		x		**UT180DR**	**‡ UTMC (3844)**	
11000	1		CMOS	1.5	2				188	x	x	x		x		**UT212D**	**UTMC (3844)**	
			CMOS	1.5	2				188	x	x	x		x		**UT212DR**	**‡ UTMC (3844)**	
Universal Semiconductor																		
99	0.9	50	CMOS	2	1	1			18	x	x	x		x	24 pads	IS02J	Universal	15
	2.5	30	CMOS	3	1	1			18	x	x	x		x	24 pads	IS03J	Universal	
180	0.9	50	CMOS	2	1	1			30	x	x	x		x	40 pads	IS02I	Universal	
	2.5	30	CMOS	3	1	1			30	x	x	x		x	40 pads	IS03I	Universal	
360	0.9	50	CMOS	2	1	1			36	x	x	x		x	46 pads	IS02A	Universal	
	2.4	30	CMOS	3	1	1			36	x	x	x		x	46 pads	IS03A	† Universal	20
	4.4	20	CMOS	5	1	1			36	x	x	x		x	46 pads	IS05A	† Universal	
540	0.9	50	CMOS	2	1	1			48	x	x	x		x	58 pads	IS02B	Universal	
	2.4	30	CMOS	3	1	1			48	x	x	x		x	58 pads	IS03B	† Universal	
	4.4	20	CMOS	5	1	1			48	x	x	x		x	58 pads	IS05B	† Universal	
720	0.9	50	CMOS	2	1	1			54	x	x	x		x	64 pads	IS02C	Universal	25
	2.4	30	CMOS	3	1	1			54	x	x	x		x	64 pads	IS03C	† Universal	
	4.4	20	CMOS	5	1	1			54	x	x	x		x	64 pads	IS05C	† Universal	
960	0.9	50	CMOS	2	1	1			62	x	x	x		x	72 pads	IS02D	Universal	
	2.4	30	CMOS	3	1	1			62	x	x	x		x	72 pads	IS03D	† Universal	
	4.4	20	CMOS	5	1	1			62	x	x	x		x	72 pads	IS05D	† Universal	30
1200	0.9	50	CMOS	2	1	1			68	x	x	x		x	78 pads	IS02E	Universal	
	2.4	30	CMOS	3	1	1			68	x	x	x		x	78 pads	IS03E	† Universal	
	4.4	20	CMOS	5	1	1			68	x	x	x		x	78 pads	IS05E	† Universal	
1500	0.9	50	CMOS	2	1	1			76	x	x	x		x	86 pads	IS02F	Universal	
	2.4	30	CMOS	3	1	1			70	x	x	x		x	86 pads	IS03F	† Universal	35
	4.4	20	CMOS	5	1	1			70	x	x	x		x	78 pads	IS05F	† Universal	
1800	0.9	50	CMOS	2	1	1			82	x	x	x		x	92 pads	IS02G	Universal	
	2.4	30	CMOS	3	1	1			82	x	x	x		x	92 pads	IS03G	† Universal	
	4.4	20	CMOS	5	1	1			82	x	x	x		x	92 pads	IS05G	† Universal	
2400	0.9	50	CMOS	2	1	1			90	x	x	x		x	100 pads	IS02H	Universal	40
	2.4	30	CMOS	3	1	1			82	x	x	x		x	100 pads	IS03H	† Universal	
	4.4	20	CMOS	5	1	1			82	x	x	x		x	100 pads	IS05H	† Universal	
Vertex Semiconductor																		
8900	0.4 *	312	CMOS	1	2				84	x	x	x		x	3600 Usable Gates	V25009	Vertex	
18000	0.4 *	312	CMOS	1	2				120	x	x	x		x	7500 Usable Gates	V25018	† Vertex	
27000	0.4 *	312	CMOS	1	2				144	x	x	x		x	11000 Usable Gates	V25027	† Vertex	45
37000	0.4 *	312	CMOS	1	2				168	x	x	x		x	15000 Usable Gates	V25037	† Vertex	
44000	0.4 *	312	CMOS	1	2				184	x	x	x		x	17000 Usable Gates	V25044	† Vertex	
54000	0.4 *	312	CMOS	1	2				204	x	x	x		x	21000 Usable Gates	V25054	† Vertex	
54700	0.45		CMOS	0.8	2				196	x					Channelless Architecture	ICS25055	Vertex	
68000	0.4 *	312	CMOS	1	2				228	x	x	x		x	27000 Usable Gates	V25068	† Vertex	50
68200	0.45		CMOS	0.8	2				220	x					Channelless Architecture	ICS25068	Vertex	
89000	0.4 *	312	CMOS	1	2				260	x	x	x		x	35000 Usable Gates	V25089	† Vertex	
			CMOS	1	3				260	x	x	x		x	62000 Usable Gates	V25089-3LM	† Vertex	
89200	0.45		CMOS	0.8	2				252	X					Channelless Architecture	ICS25089	Vertex	
128000	0.4 *	312	CMOS	1	2				312	x	x	x		x	51000 Usable Gates	V25128	† Vertex	55
			CMOS	1	3				312	x	x	x		x	90000 Usable Gates	V25128-3LM	† Vertex	

(Continued)

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells: Input Only	Output Only	Uncommitted	Input/Output Compatibility: C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source	Line
Vertex Semiconductor																	(Cont'd)	
128800	0.45		CMOS	0.8	2				304	x					Channelless Architecture	ICS25129	Vertex	
172000	0.4 *	312	CMOS	1	2				360	x	x	x		x	68000 Usable Gates	V25172	† Vertex	
			CMOS	1	3				360	x	x	x		x	120000 Usable Gates	V25172-3LM	† Vertex	
	0.45		CMOS	0.8	2				352	x					Channelless Architecture	ICS25172	Vertex	
Vitesse Semiconductor																		
13K	0.19		GaAs	0.6			40	52			x	x	x			VGFX20KM	‡ Vitesse	5
26K	0.19		GaAs	0.6			44	96			x	x	x			VGFX40KM	Vitesse	
60K	0.19		GaAs	0.6			92	100			x	x	x			VGFX100KM	‡ Vitesse	
121K	0.19		GaAs	0.6			84	172			x	x	x			VGFX200KM	‡ Vitesse	
175K	0.19		GaAs	0.6			128	250			x	x	x			VGFX350KM	‡ Vitesse	
1500	5 *	1600 *	GaAs				20	16			x	x	x		Channelless	VGLC2K	Vitesse	10
2400	0.07	1000	GaAs E/D MESFET	0.8	3	1	40		52	x	x	x		x	PLD Replacement; TTL/CMOS I/O	PLR2KT	‡ Vitesse	
7000	5 *	1600 *	GaAs				36	35			x	x	x		Channelless	VGLC10K	Vitesse	
13000	5 *	1600 *	GaAs				44	96			x	x	x		Channelless	VGLC15K	Vitesse	
20000	0.13 *	1000	GaAs	0.6	4	1					x	x	x		Channel-Free, Programmable ECL/TTL I/O	VGFX20K	Vitesse	
20736	0.07	1000	GaAs E/D MESFET	0.8	3	1	104	19	132		x	x	x	x	8K Static RAM, Programmable ECL/TTL I/O	VSC20K8R	‡ Vitesse	15
40000	0.13 *	1000	GaAs	0.6	4	1					x	x	x		Channel-Free, Programmable ECL/TTL I/O	VGFX40K	Vitesse	
100000	0.13 *	1000	GaAs	0.6	4	1			196		x	x	x	x	Channel-Free, Programmable ECL/TTL I/O	VGFX100K	Vitesse	
200000	0.13 *	1000	GaAs	0.6	4	1			256		x	x	x	x	Channel-Free,Programmable ECL/TTL I/O	VGFX200K	Vitesse	
350000	0.13 *	1000	GaAs	0.6	4	1			360		x	x	x		Channel-Free, Programmable ECL/TTL I/O	VGFX350K	Vitesse	
VLSI Technology																		
0.26	71.3	250	CMOS	1	2/3	1			284	x	x	x		x	Channel-Free Array	VGT353132	† VLSI Tech	20
2.9K	0.26	250	CMOS	1	2/3	1			80	x	x	x		x	Channel-Free Array	VGT350010	† VLSI Tech	
			CMOS	1	2/3	1			80	x	x	x		x	Channel-Free Array	VGT350022	† VLSI Tech	
4.3K	0.18	330	CMOS	0.8	2/3	1			80	x	x	x		x	Channel-Free Array	VGC450080	° VLSI Tech	
			CMOS	0.8	2/3	1			80	x	x	x		x	Channel-Free Array	VGT450080	°† VLSI Tech	
5.2K	0.26	250	CMOS	1	2/3	1			80	x	x	x		x	Channel-Free Array	VGT353010	† VLSI Tech	25
5.5K	0.18	330	CMOS	0.8	2/3	1			92	x	x	x		x	Channel-Free Array	VGC450092	°† VLSI Tech	
			CMOS	0.8	2/3	1			92	x	x	x		x	Channel-Free Array	VGT450092	°† VLSI Tech	
7.5K	0.18	330	CMOS	0.8	2/3	1			80	x	x	x		x	Chanel-Free Array	VGT453080	°† VLSI Tech	
7.9K	0.18	.4330	CMOS	0.8	2/3	1			100	x	x	x		x	Channel-Free Array	VGT450100	°† VLSI Tech	
9.1K	0.26	250	CMOS	1	213	1			140	x	x	x		x	Channel-Free Array	VGT350030	† VLSI Tech	30
9.7K	0.18	330	CMOS	0.8	2/3	1			92	x	x	x		x	Channel-Free Array	VGT453092	°† VLSI Tech	
11.4K	0.18	330	CMOS	0.8	2/3	1			80	x	x	x		x	Channel-Free Array	VGT450122	°† VLSI Tech	
11.9K	0.26	250	CMOS	1	2/3	1			160	x	x	x		x	Channel-Free Array	VGT350039	† VLSI Tech	
			CMOS	1	2/3	1			80	x	x	x			Channel-Free Array	VGT353022	† VLSI Tech	
13.8K	0.18	330	CMOS	0.8	2/3	1			100	x	x	x		x	Channel-Free Array	VGT453100	°† VLSI Tech	35
13.9K	0.26	250	CMOS	1	2/3	1			172	x	x	x		x	Channel-Free Array	VGT350046	† VLSI Tech	
16.3K	0.26	250	CMOS	1	2/3	1			80	x	x	x		x	Channel-Free Array	VGT353030	† VLSI Tech	
19.5K	0.18	330	CMOS	0.8	2/3	1			162	x	x	x		x	Channel-Free Array	VGT450162	°† VLSI Tech	
19.9K	0.18	330	CMOS	0.8	2/3	1			122	x	x	x		x	Channel-Free Array	VGT453122	°† VLSI Tech	
20.7	0.26	250	CMOS	1	213	1			208	x	x	x		x	Channel-Free Array	VTG350068	† VLSI Tech	40
20.7K	0.26	250	CMOS	1	2/3	1			208	x	x	x		x	Channel-Free Array	VGT350068	† VLSI Tech	
21.4K	0.26	250	CMOS	1	2/3	1			160	x	x	x		x	Channel-Free Array	VGT353039	† VLSI Tech	
23.3	0.26	250	CMOS	1	2/3	1			220	x	x	x		x	Channel-Free Array	VGT350077	† VLSI Tech	
24.9	0.26	250	CMOS	1	213	1			172	x	x	x		x	Channel-Free Array	VTG353046	† VLSI Tech	
24.9K	0.26	250	CMOS	1	2/3	1			172	x	x	x		x	Channel-Free Array	VGT353046	† VLSI Tech	45
25.5K	0.18	330	CMOS	0.8	2/3	1			186	x	x	x		x	Channel-Free Array	VGT450186	°† VLSI Tech	
28.3K	0.26	250	CMOS	1	2/3	1			240	x	x	x		x	Channel-Free Array	VGT350094	† VLSI Tech	
28K	0.18	330	CMOS	0.8	2/3	1			146	x	x	x		x	Channel-Free Array	VGT453146	°† VLSI Tech	
32.2	0.18	330	CMOS	0.8	2/3	1			210	x	x	x		x	Channel-Free Array	VGT450210	°† VLSI Tech	
32.2K	0.26	250	CMOS	1	2/3	1			260	x	x	x		x	Channel-Free Array	VGT350110	† VLSI Tech	50
34.2	0.18	330	CMOS	0.8	2/3	1			162	x	x	x		x	Channel-Free Array	VGT453162	°† VLSI Tech	
36.9K	0.18	330	CMOS	0.8	2/3	1			226	x	x	x		x	Channel-Free Array	VGT450226	° VLSI Tech	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells			Input/Output Compatibility					Comments	Device	Source	Line
							Input Only	Output Only	Uncommitted	C-MOS	TTL-LS	TTL	ECL	Three State				
VLSI Technology																	(Cont'd)	
37.1	0.26	250	CMOS	1	2/3	1			208	x	x	x		x	Channel-Free Array	VGT353068 †	VLSI Tech	
37.1K	0.26	250	CMOS	1	213	1			208	x	x	x		x	Channel-Free Array	VTG353068 †	VLSI Tech	
39.8K	0.26	250	CMOS	1	2/3	1			284	x	x	x		x	Channel-Free Array	VGT350132	VLSI Tech	
41.7K	0.26	250	CMOS	1	2/3	1			220	x	x	x		x	Channel-Free Array	VGT353077 †	VLSI Tech	
43.2	0.18	330	CMOS	0.8	2/3	1			244	x	x	x		x	Channel-Free Array	VGT450244 °†	VLSI Tech	5
44.6	0.18	330	CMOS	0.8	2/3	1			186	x	x	x		x	Channel-Free Array	VGT453186 °†	VLSI Tech	
45.5K	0.26	250	CMOS	1	2/3	1			304	x	x	x		x	Channel-Free Array	VGT350151 †	VLSI Tech	
49.K	0.26	250	CMOS	1	2/3	1			316	x	x	x		x	Channel-Free Array	VGT350163 †	VLSI Tech	
50.7K	0.26	250	CMOS	1	2/3	1			240	x	x	x		x	Channel-Free Array	VGT353094 †	VLSI Tech	
55.7K	0.18	330	CMOS	0.8	2/3	1			278	x	x	x		x	Channel-Free Array	VGT450278 °†	VLSI Tech	10
56.3K	0.18	330	CMOS	0.8	2/3	1			210	x	x	x		x	Channel-Free Array	VGT453210 °†	VLSI Tech	
59.4K	0.26	250	CMOS	1	2/3	1			260	x	x	x		x	Channel-Free Array	VGT353110 †	VLSI Tech	
59.8K	0.26	250	CMOS	1	2/3	1			348	x	x	x		x	Channel-Free Array	VGT350198 †	VLSI Tech	
64.6K	0.18	330	CMOS	0.8	2/3	1			226	x	x	x		x	Channel-Free Array	VGT453226 °†	VLSI Tech	
69.2K	0.18	330	CMOS	0.8	2/3	1			310	x	x	x		x	Channel-Free Array	VGT450310 °†	VLSI Tech	15
74.2K	0.26	250	CMOS	1	2/3	1			388	x	x	x		x	Channel-Free Array	VGT350246 †	VLSI Tech	
75.6K	0.18	330	CMOS	0.8	2/3	1			244	x	x	x		x	Channel-Free Array	VGT453244 °†	VLSI Tech	
81.5K	0.26	250	CMOS	1	2/3	1			304	x	x	x		x	Channel-Free Array	VGT353151 †	VLSI Tech	
81.8	0.18	330	CMOS	0.8	2/3	1			338	x	x	x		x	Channel-Free Array	VGT450338 °†	VLSI Tech	
88.3K	0.26	250	CMOS	1	2/3	1			316	x	x	x		x	Channel-Free Array	VGT353163 †	VLSI Tech	20
97.5K	0.18	330	CMOS	0.8	2/3	1			278	x	x	x		x	Channel-Free Array	VGT453278 °†	VLSI Tech	
98.4K	0.18	330	CMOS	0.8	2/3	1			370	x	x	x		x	Channel-Free Array	VGT450370 °†	VLSI Tech	
107.1K	0.26	250	CMOS	1	2/3	1			348	x	x	x		x	Channel-Free Array	VGT353198 †	VLSI Tech	
113.3	0.18	330	CMOS	0.8	2/3	1			398	x	x	x		x	Channel-Free Array	VGT450398 °†	VLSI Tech	
121.1K	0.18	330	CMOS	0.8	2/3	1			310	x	x	x		x	Channel-Free Array	VGT453310 °†	VLSI Tech	25
132.7K	0.18	330	CMOS	0.8	2/3	1			430	x	x	x		x	Channel-Free Array	VGT450430 °†	VLSI Tech	
132.8	0.26	250	CMOS	1	2/3	1			388	x	x	x		x	Channel-Free Array	VGT353246	VLSI Tech	
143.2K	0.18	330	CMOS	0.8	2/3	1			338	x	x	x		x	Channel-Free Array	VGT453338 °†	VLSI Tech	
172.3K	0.18	330	CMOS	0.8	2/3	1			370	x	x	x		x	Channel-Free Array	VGT453370 °†	VLSI Tech	
198.3	0.18	330	CMOS	0.8	2/3	1			398	x	x	x		x	Channel-Free Array	VGT453398 °†	VLSI Tech	30
232.2	0.18	330	CMOS	0.8	2/3	1			430	x	x	x		x	Channel-Free Array	VGT453430 °†	VLSI Tech	
16K	0.18	330	CMOS	0.8	2/3	1			146	x	x	x		x	Channel-Free Array	VGT450146 °†	VLSI Tech	
Xilinx																		
1000	13	70	CMOS	1.2	2				58	x		x		x	User Programmable	**XC2064L-10C**	**Xilinx** (3857)	
1200	1.8	100	CMOS	1.2	2	1			58	x		x		x	User Programmable	**XC2064L**	**Xilinx** (3857)	
	9	100	CMOS	1.2	2	1			58	x		x		x	User Programmable	**XC2064-100C**	**Xilinx** (3857)	35
	13	70	CMOS	1.2	2	1			58	x		x		x	User Programmable	**XC2064-70C**	**Xilinx** (3857)	
	19	50	CMOS	1.2	2	1			58	x		x		x	User Programmable	**XC2064-50C**	**Xilinx** (3857)	
1500	13	70	CMOS	1.2	2				74	x		x		x	User Programmable	**XC2018L-10C**	**Xilinx** (3857)	
1800	4	100	CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-100C**	**Xilinx** (3857)	
			CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-100I**	**Xilinx** (3857)	40
			CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-100M** †	**Xilinx** (3857)	
	6	70	CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-70C**	**Xilinx** (3857)	
			CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-70I**	**Xilinx** (3857)	
			CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-70M** †	**Xilinx** (3857)	
	9	100	CMOS	1.5	2	1			74	x		x		x	HardWire Logic Cell Array	XC2318-100C	Xilinx	45
	12	50	CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-50C**	**Xilinx** (3857)	
			CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-50I**	**Xilinx** (3857)	
			CMOS	1.2	2	1			74	x		x		x	User Programmable	**XC2018-50M** †	**Xilinx** (3857)	
	13	70	CMOS	1.5	2	1			74	x		x		x	HardWire Logic Cell Array	XC2318-70C	Xilinx	
	19	50	CMOS	1.5	2	1			74	x		x		x	HardWire Logic Cell Array	XC2318-50C	Xilinx	50
2000	0.6		CMOS	0.8	2				64	x		x		x	Logic Cell Array	**XC4002A**	**Xilinx** (3857)	
	1.8	125	CMOS	0.8	2	1			64	x		x		x	User Programmable	**XC3020A**	**Xilinx** (3857)	
			CMOS	0.8	2	1			64	x		x		x	User Programmable	**XC3020L-8C**	**Xilinx** (3857)	
	2.7	270	CMOS						64	x	x	x		x	Enhanced XC3000 version	**XC3120-3**	**Xilinx** (3857)	
	3.3	230	CMOS						64	x	x	x		x	Enhanced XC3000 version	**XC3120-4**	**Xilinx** (3857)	55
	4.1	190	CMOS						64	x	x	x		x	Enhanced XC3000 version	**XC3120-5**	**Xilinx** (3857)	
	5.5	125	CMOS	1.2	2	1			64	x		x		x	User Programmable	**XC3020-125C**	**Xilinx** (3857)	
	7	100	CMOS	1.2	2	1			64	x		x		x	User Programmable	**XC3020-100C**	**Xilinx** (3857)	
		135	CMOS	0.8	2	1			64	x		x		x	User Programmable	**XC3020A-6C**	**Xilinx** (3857)	
	8	113	CMOS	0.8	2	1			64	x		x		x	User Programmable	XC3020A-7C	Xilinx	60
	9	70	CMOS	1.2	2	1			64	x		x		x	User Programmable	XC3020-70C	Xilinx	
	12	50	CMOS	1.2	2	1			64	x		x		x	User Programmable	**XC3020-50C**	**Xilinx** (3857)	
3000			CMOS						77	x		x		x	HardWire Gate Array	XC4303	Xilinx	
		100	CMOS	1.2	2	1			80	x		x		x	HardWire Logic Cell Array	XC3330-70C	Xilinx	
	0.6		CMOS	0.8	2				80	x		x		x	Logic Cell Array	**XC4003**	**Xilinx** (3857)	65
			CMOS	0.8	2				80	x		x		x	Logic Cell Array	**XC4003A**	**Xilinx** (3857)	
			CMOS	0.8	2				80	x		x		x	Logic Cell Array	**XC4003H**	**Xilinx** (3857)	
	1.8	125	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030A**	**Xilinx** (3857)	
			CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030L-8C**	**Xilinx** (3857)	
																	(Continued)	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM–Gate Arrays (Cont'd)

Mfr/ Equiv. 2-Input Gates	max Gate Delay (ns)	Toggle Freq (MHz)	Device Process Tech.	Geometry (µm)	Metal	Poly	Input/Output Cells Input Only	Output Only	Uncommitted	Input/Output Compatibility C-MOS	TTL-LS	TTL	ECL	Three State	Comments	Device	Source		Line
Xilinx																			
3000																		(Cont'd)	
	2.7	270	CMOS						80	x	x	x		x	Enhanced XC3000 version	**XC3130-3**	**Xilinx**	(3857)	
	3.3	230	CMOS						80	x	x	x		x	Enhanced XC3000 version	**XC3130-4**	**Xilinx**	(3857)	
	4.1	190	CMOS						80	x	x	x		x	Enhanced XC3000 version	**XC3130-5**	**Xilinx**	(3857)	
	5.5	125	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030-125C**	**Xilinx**	(3857)	
	7	100	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030-100C**	**Xilinx**	(3857)	5
		135	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030A-6C**	**Xilinx**	(3857)	
	8	113	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030A-7C**	**Xilinx**	(3857)	
	9	70	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030-70C**	**Xilinx**	(3857)	
	12	50	CMOS	1.2	2	1			80	x		x		x	User Programmable	**XC3030-50C**	**Xilinx**	(3857)	
4000	0.6		CMOS	0.8	2				96	x		x		x	Logic Cell Array	**XC4004A**	**Xilinx**	(3857)	10
4200		100	CMOS	1.2	2	1			82	x		x		x	HardWire Logic Cell Array	XC3342-70C	Xilinx		
	1.8	125	CMOS	1.2	2	1			96	x		x		x	User Programmable	XC3042L-8C	Xilinx		
	2.7	270	CMOS						96	x	x	x		x	Enhanced XC3000 version	**XC3142-3**	**Xilinx**	(3857)	
	3.3	230	CMOS						96	x	x	x		x	Enhanced XC3000 version	**XC3142-4**	**Xilinx**	(3857)	
	4.1	190	CMOS						96	x	x	x		x	Enhanced XC3000 version	**XC3142-5**	**Xilinx**	(3857)	15
	5.5	125	CMOS	1.2	2	1			96	x		x		x	User Programmable	**XC3042-125C**	**Xilinx**	(3857)	
	7	100	CMOS	1.2	2	1			96	x		x		x	User Programmable	**XC3042-100C**	**Xilinx**	(3857)	
		135	CMOS	1.2	2	1			96	x		x		x	User Programmable	XC3042A-6C	Xilinx		
	8	113	CMOS	1.2	2	1			96	x		x		x	User Programmable	XC3042A-7C	Xilinx		
	9	70	CMOS	1.2	2	1			96	x		x		x	User Programmable	**XC3042-70C**	**Xilinx**	(3857)	20
	12	50	CMOS	1.2	2	1			96	x		x		x	User Programmable	**XC3042-50C**	**Xilinx**	(3857)	
5000			CMOS						112	x		x		x	HardWire Gate Array	XC4305	Xilinx		
	0.9		CMOS	0.8	2				112	x		x		x	Logic Cell Array	**XC4005**	**Xilinx**	(3857)	
			CMOS	0.8	2				112	x		x		x	Logic Cell Array	**XC4005H**	**Xilinx**	(3857)	
6000	0.9		CMOS	0.8	2				128	x		x		x	Logic Cell Array	**XC4006**	**Xilinx**	(3857)	25
6400	1.8	125	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064L-8C**	**Xilinx**	(3857)	
	2.7	270	CMOS						120	x	x	x		x	Enhanced XC3000 version	**XC3164-3**	**Xilinx**	(3857)	
	3.3	230	CMOS						120	x	x	x		x	Enhanced XC3000 version	**XC3164-4**	**Xilinx**	(3857)	
	4.1	190	CMOS						120	x	x	x		x	Enhanced XC3000 version	**XC3164-5**	**Xilinx**	(3857)	
	5.5	125	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064-125C**	**Xilinx**	(3857)	30
	7	100	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064-100C**	**Xilinx**	(3857)	
		135	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064A-6C**	**Xilinx**	(3857)	
	8	113	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064A-7C**	**Xilinx**	(3857)	
	9	70	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064-70C**	**Xilinx**	(3857)	
	12	50	CMOS	1.2	2	1			120	x		x		x	User Programmable	**XC3064-50C**	**Xilinx**	(3857)	35
8000	0.9		CMOS	0.8	2				144	x		x		x	Logic Cell Array	**XC4008**	**Xilinx**	(3857)	
9000		100	CMOS	1.2	2	1			144	x		x		x	HardWire Logic Cell Array	XC3390-70C	Xilinx		
	1.8	125	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090L-8C**	**Xilinx**	(3857)	
	2.7	270	CMOS						144	x	x	x		x	Enhanced XC3000 version	**XC3190-3**	**Xilinx**	(3857)	
	3.3	230	CMOS						144	x	x	x		x	Enhanced XC3000 version	**XC3190-4**	**Xilinx**	(3857)	40
	4.1	190	CMOS						144	x	x	x		x	Enhanced XC3000 version	**XC3190-5**	**Xilinx**	(3857)	
	5.5	125	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090-125C**	**Xilinx**	(3857)	
	7	100	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090-100C**	**Xilinx**	(3857)	
		135	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090A-6C**	**Xilinx**	(3857)	
	8	113	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090A-7C**	**Xilinx**	(3857)	45
	9	70	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090-70C**	**Xilinx**	(3857)	
	12	50	CMOS	1.2	2	1			144	x		x		x	User Programmable	**XC3090-50C**	**Xilinx**	(3857)	
10000			CMOS						160	x		x		x	HardWire Gate Array	XC4310	Xilinx		
	0.9		CMOS	0.8	2				160	x		x		x	Logic Cell Array	**XC4010**	**Xilinx**	(3857)	
13000	0.9		CMOS	0.8	2				192	x		x		x	Logic Cell Array	**XC4013**	**Xilinx**	(3857)	50
13500	2.7	270	CMOS						176	x	x	x		x	Enhanced XC3000 version	**XC3195-3**	**Xilinx**	(3857)	
	3.3	230	CMOS						176	x	x	x		x	Enhanced XC3000 version	**XC3195-4**	**Xilinx**	(3857)	
	4.1	190	CMOS						176	x	x	x		x	Enhanced XC3000 version	**XC3195-5**	**Xilinx**	(3857)	
16000	20	100	CMOS						208					x		XC4016	Xilinx		
20000	20	100	CMOS						240					x		XC4020	Xilinx		55

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Linear & Linear/Digital Arrays

Manufacturer Technology	Linear Total Bonding Pads	Dedicated Op Amps, A/D, etc.	Total Other Lin. Components	Digital Equiv. 2-Input Gates	Gate Delay ns @ V	Uncommited Transistors NPN	PNP	Number Capacitors	Supply Voltage, V	Comments	Device	Source	Line
AT&T													
CBIC			80	30	2	10	12	3	12		ALA210	AT&T	
	30		109			13	15	3	90		ALA300	AT&T	
	32		436			52	60	12	90		ALA301	AT&T	
	36		480			68	43	21	12		ALA201	AT&T	
	38		434			61	61	7	33		ALA401	AT&T	5
	46		744			104	104	12	33		ALA400	AT&T	
	48		960			136	86	38	12		ALA202	AT&T	
BCDMOS	36		207						350		ALA501	AT&T	
Cherry Semiconductor													
BIP	16		333			60	25		20	Flip-chip	CS2800	Cherry Semi	
	18		325			60	18		20		CS2500G	Cherry Semi	10
	22		299			61	24		20	Photosensor on-chip	CS3500	Cherry Semi	
			479			88	36		20	Micropower	CS3100	Cherry Semi	
			479			88	36		20		CS3200L	Cherry Semi	
	23		522						50	Programmable Bandgap Reference	CS8000	Cherry Semi	
	24		437			96	36		20		CS3000F	Cherry Semi	15
	25		533			142	26		15	LSTTL	CS7600	Cherry Semi	
			695			123	52		20		CS3600	Cherry Semi	
Bipolar	18		232			42	31		5		GENESIS 2200E	Cherry Semi	
	26	2	200	64	50	102	41		5		GENESIS 6000	Cherry Semi	
	28		801			141	52		5		GENESIS 4000M	Cherry Semi	20
	40		1178	70		199	103		5		GENESIS 5000	Cherry Semi	
I^{2}L	26		490	64	50				12	143 NPN/PNP Transistors	CS1100	Cherry Semi	
	30										CS1500	Cherry Semi	
	40		400	256		200	69		5		GENESIS 1400	Cherry Semi	
Custom Arrays													
BIP	14		96			27	14	1	20	Accepts Macro/Micro Cell Structures	MMA	† CustomArrays	25
	18		175			46	20	1	20	Accepts Macro/Micro Cell Structures	MMB	† CustomArrays	
	20		254			60	30	1	20	Accepts Macro/Micro Cell Structures	MMC	† CustomArrays	
	25		366			78	36	2	20	Accepts Macro/Micro Cell Structures	MMD	† CustomArrays	
	28		479			90	46	2	20	Accepts Macro/Micro Cell Structures	MME	† CustomArrays	
	30		627			116	60	3	20	Accepts Macro/Micro Cell Structures	MMF	† CustomArrays	30
	38		775			134	70	3	20	Accepts Macro/Micro Cell Structures	MMG	† CustomArrays	
	42		925			256	84	3	20	Accepts Macro/Micro Cell Structures	MMH	† CustomArrays	
	46		1073			178	98	3	20	High-Current NPN Transistors	MMJ	† CustomArrays	
Bipolar	16					28	24	4	40	Accepts Macro/Micro Cell Structures	MVA	† CustomArrays	
	20					48	33	4	40	Accepts Macro/Micro Cell Structures	MVC	† CustomArrays	35
	24					66	47	6	40	Accepts Macro/Micro Cell Structures	MVE	† CustomArrays	
	28					80	60	6	40	Accepts Macro/Micro Cell Structures	MVG	† CustomArrays	
	36					120	93	8	40	Accepts Macro/Micro Cell Structures	MVJ	† CustomArrays	
			1200			240	181	8	40	Can be used to >40 V	MV-Family	† CustomArrays	
	49		1350			360	200	3	20	Can be used to >20 V	MM-Family	† CustomArrays	40
ECI Semiconductor													
Bipolar	4		123			19	14	1	1.5 to 20		**710**	**ECI Semi (3604)**	
	14		70			23	8		20		ECIS020C	† ECI Semi	
	17		291			38	28	2	1.5 to 20		**712**	**ECI Semi (3604)**	
	18		90			38	12		20		ECIS020J	† ECI Semi	
			132			71	22		20		ECIS020H	† ECI Semi	45
	20		150			59	18		20		ECIS020G	† ECI Semi	
	22		423			52	41	4	1.5 to 20		**713**	**ECI Semi (3604)**	

(Continued)

---

[1] Delay conditions: 2-Input NAND driving 2 NANDs (FO = 2), 5V supply, 70°C, worst-case processing.

ASIC/CUSTOM—Linear & Linear/Digital Arrays (Cont'd)

Manufacturer Technology	Total Bonding Pads	Linear Dedicated Op Amps, A/D, etc.	Total Other Lin. Components	Digital Equiv. 2-Input Gates	Gate Delay ns @ V	Uncommited Transistors NPN	PNP	Number Capacitors	Supply Voltage, V	Comments	Device	Source	Line
ECI Semiconductor Bipolar												(Cont'd)	
	24		175			78	24		20		ECIS020L	† ECI Semi	
			252			94	41		20		ECIS020F	† ECI Semi	
	25		645			75	63	7	1.5 to 20		**723**	**ECI Semi (3604)**	
	28		360			150	52		20		ECIS020M	† ECI Semi	
	30		913			100	83	7	1.5 to 20		**724**	**ECI Semi (3604)**	5
			1280			153	126	9	1.5 to 20		**734**	**ECI Semi (3604)**	
	41		1751			221	184	12	1.5 to 20		**736**	**ECI Semi (3604)**	
	48		2418			345	285	16	1.5 to 20		**747**	**ECI Semi (3604)**	
CMOS	14		56	12		31	31	4	1.5 to 20		**P12**	**ECI Semi (3603)**	
	18		146	36		85	85	8	1.5 to 20		**P36**	**ECI Semi (3603)**	10
	22			250	8/15V				18		ECIML50	† ECI Semi	
	24		254	72		162	162	8	1.5 to 20		**P72**	**ECI Semi (3603)**	
	32		180	140	8/15V				15		ECIMCA	† ECI Semi	
			506	144		314	314	16	1.5 to 20		**P144**	**ECI Semi (3603)**	
	38		360	200	15@5				15		ECIMCB	† ECI Semi	15
	44		600	270	8/15V				15		ECIMCC	† ECI Semi	
			938	288		614	614	16	1.5 to 20		**P288**	**ECI Semi (3603)**	
	52		900	440	8/15V				15		ECIMCD	† ECI Semi	
	60			630	8/15V				18		ECIFE600	† ECI Semi	
			1874	576		1206	1206	32	1.5 to 20		**P576**	**ECI Semi (3603)**	20
	80			800	8/15V				18		ECIFE500	† ECI Semi	
Exar BIP	14		110			23	8		20	6 Shottky diodes	XRC100	Exar	
	16		209			50	16		36		XRD100	Exar	
			260			60	18		20	15 Shottky diodes	XRA100	Exar	
			300			69	12		20	16 Shottky diodes	XRB100	Exar	25
	18		200			48	15		20		XRE100	Exar	
			230			34	16		75	High voltage array	XRX100	Exar	
			260			38	12		20		XRJ100	Exar	
			309			60	18		20		XRG100	Exar	
			401			72	22		20		XRH100	Exar	30
	24					95	43		36	4 JFETs, ion implant resistors	XRU100	Exar	
			251			80	26		20		XRL100	Exar	
			472			97	36		20		XRF100	Exar	
	28					102	62		20	Ion implant resistors, low noise	XRCA600	Exar	
			127			127	127	28	26	Transistors are programmable as NPN or PNP	BETA100	Exar	35
			539			144	64	8	36	8 JFETs, ion implant resistors	XRV100	Exar	
			812			148	56		20		XRM100	Exar	
	38		218			218	218	38	26	Transistors are programmable as NPN or PNP	BETA180	Exar	
	40		901			224	70		36	8 JFETs, ion implant resistors	XRW100	Exar	
	48		290			290	290	48	26	Transistors are programmable as NPN or PNP	BETA240	Exar	40
I^2L	40		401	256	50/20 µA	45	12		7	18 I/O cells	XR400	Exar	
GEC Plessey Semiconductors BIP	14		110			22	8		20		MOC	GEC Plessey	
	15		162			27	14	1	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMA	GEC Plessey	
	16		194			50	16		36		MOD	GEC Plessey	
			260			59	18		20		MOA	GEC Plessey	45
	18		170			38	12		20		MOJ	GEC Plessey	
			187			48	15		20		MOE	GEC Plessey	
			314			56	22		20		MOQ	GEC Plessey	
			382			72	22		20		MOH	GEC Plessey	
	19		264			48	20	1	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMB	GEC Plessey	50
	20		310			60	18		20		MOG	GEC Plessey	
	21		378			60	30	1	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMC	GEC Plessey	
	24								20		MOR	GEC Plessey	
			278			81	28		24		BAA1000	GEC Plessey	
			300			69	12		20		MOB	GEC Plessey	55

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Linear & Linear/Digital Arrays (Cont'd)

Manufacturer		Linear		Digital		Uncommited Transistors							
Technology	Total Bonding Pads	Dedicated Op Amps, A/D, etc.	Total Other Lin. Components	Equiv. 2-Input Gates	Gate Delay ns @ V	NPN	PNP	Number Capacitors	Supply Voltage, V	Comments	Device	Source	Line
GEC Plessey Semiconductors													
BIP	24											(Cont'd)	
			416			80	26		20		MOL	GEC Plessey	
			437			96	36		20		MOF	GEC Plessey	
			571			72	57		20		MOP	GEC Plessey	
			572			159	58		24		BAA2000	GEC Plessey	
	26		285	128	40 to 500	150		2	16.5	All arrays have dedicated bandgap reference	ULA 1P	GEC Plessey	5
	27		522			80	36	2	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMD	GEC Plessey	
	28		812			141	56		20		MOM	GEC Plessey	
	30		663			87	46	2	20	Repeat cell structure to facilitate macros and design transfer between arrays	MME	GEC Plessey	
	33		867			116	60	3	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMF	GEC Plessey	
	34		405	338	40 to 500	214		2	16.5	All arrays have dedicated bandgap reference	ULA 3P	GEC Plessey	10
	40		1072			182	70		20		MON	GEC Plessey	
	41		1058			134	70	3	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMG	GEC Plessey	
	42		525	578	40 to 500	278		2	16.5	All arrays have dedicated bandgap reference	ULA 6P	GEC Plessey	
	45		1264			164	84	3	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMH	GEC Plessey	
	49		1455			178	98	3	20	Repeat cell structure to facilitate macros and design transfer between arrays	MMJ	GEC Plessey	15
	50		645	882	40 to 500	342		2	16.5	All arrays have dedicated bandgap reference	ULA 9P	GEC Plessey	
	54		705	1152	40 to 500	374		2	16.5	All arrays have dedicated bandgap reference	ULA 11P	GEC Plessey	
CML	18		530	30	230	199		2	1-5.5	Gate Current 2.4µA	ULA03G	GEC Plessey	
	24		1012	98	230	441		2	1-5.5	Gate Current 2.4µA	ULA1G	GEC Plessey	
	28		1408	162	230	649		2	1-5.5	Gate Current 2.4µA	ULA2G	GEC Plessey	20
	32		1868	242	230	897		2	1-5.5	Gate Current 2.4µA	ULA3G	GEC Plessey	
	36		2392	338	230	1185		2	1-5.5	Gate Current 2.4µA	ULA4G	GEC Plessey	
	40		2980	450	230	1329		2	1-5.5	Gate Current 2.4µA	ULA5G	GEC Plessey	
	44		3632	578	230	1977		2	1-5.5	Gate Current 2.4µA	ULA6G	GEC Plessey	
CMOS	30		602			155	148	84	15		MLB	GEC Plessey	25
	42		930	199		414	398	84	15	16 dedicated flip-flops, switched capacitor array	MLA	GEC Plessey	
CMOS 2.5 µ	68	2	8	1600	0.9@10				10		MA6005	GEC Plessey	
		8	8	1920	0.9@10				10		MA6003	GEC Plessey	
		8	10	1920	0.9@10				10		MA6004	GEC Plessey	
		16	10	1920	0.9@10				10		MA6002	GEC Plessey	30
		20		1920	0.9@10				10		MA6001	GEC Plessey	
Harris Semiconductor													
Bi-Polar		4	8			336	336	300	10	DI Tile Array	HTA3000	Harris	
		8	15			260	260	44	20	DI Tile Array	HTA2000	‡ Harris	
		15	13			300	300	120	40	DI Tile Array	HTA1000	‡ Harris	
Holt Integrated Circuits													
3µCMOS	64	48	200	340		4		10	0.3—18		HI5300	† Holt	35
Honeywell													
Bipolar	26	13	Macros			240	82	8	33	JFETs, Thin Film, TILE Approach	HBA100	† Honeywell	
	48	13	Macros	132	20	453	156	18	33	JFETs, Thin Film, TILE Approach	HBA180	† Honeywell	

[1] Delay conditions: 2-Input NAND driving 2 NANDs (FO = 2), 5V supply, 70°C, worst-case processing.

ASIC/CUSTOM—Linear & Linear/Digital Arrays (Cont'd)

Manufacturer		Linear		Digital		Uncommited Transistors							
Technology	Total Bonding Pads	Dedicated Op Amps, A/D, etc.	Total Other Lin. Components	Equiv. 2-Input Gates	Gate Delay ns @ V	NPN	PNP	Number Capacitors	Supply Voltage, V	Comments	Device	Source	Line
Micrel CMOS/DMOS	78	4	180	200		200		2	20–100	CMOS/DMOS High Voltage Array.	MPD8020	Micrel	
Micro Linear BiCMOS				800	20						FC3560	MicroLinear	
	29		836			152	152				FC3580	MicroLinear	
BIP	24		926			178	78	8	12	f_t ± 1GHz	FB3610	† MicroLinear	
		2	993			173	79	7	12	ft = 1 GHz	FB308	MicroLinear	5
	28		1643	50	2	330	82	14	12	f_t ± 1GHz	FB324	† MicroLinear	
		2	1426			238	138	10	12	ft = 1 GHz	FB312	MicroLinear	
	32		564			116	36	4	40	f_t ± 1GHz	FB3410	† MicroLinear	
			1348			268	124	12	12	f_t ± 1GHz	FB3620	† MicroLinear	
	42	2	1168	142	4	188	108	8	12	ft = 1 GHz	FB330	MicroLinear	10
	44	2	1847			307	181	13	12	ft = 1 GHz	FB315	MicroLinear	
	46		2392			424	232	24	12	f_t ± 1GHz	FB3630	† MicroLinear	
Bipolar	22		1740			368	207		12	f_t = 1 GHz	FB3680	MicroLinear	
	24	4	840	28		260	32		12	f_t = 1 GHz	FB3605	MicroLinear	
	27	12	1360			272	132		12	f_t = 1 GHz	FB3623	MicroLinear	15
	28										FB3480	MicroLinear	
			1460	22		364	96		5		FC3510	MicroLinear	
		12	1370			276	108		12	f_t = 1 GHz	FB3622	MicroLinear	
	29		1290			323	131		40		FB3492	MicroLinear	
	30		1248			315	126		40		FB3491	MicroLinear	20
	32	8	1508			329	88		12	f_t = 1 GHz	FB3621	MicroLinear	
	44	9	2805	130	2	901	63		12	f_t = 1 GHz	FB3635	MicroLinear	
		12	2806	66	2	690	154		12	f_t = 1 GHz	FB3631	MicroLinear	
	46	12	1132			296	124		36	f_t = 1 GHz	FB3420	MicroLinear	
	50		4242	150		1424	152		12	f_t = 1 GHz	FB3651	MicroLinear	25
	66	16	1500			394	168		36	f_t = 1 GHz	FB3430	MicroLinear	
NEC Electronics BiPolar	22		468			129	116	14	14	RF	μPD5023	NEC	
	24		460			105	84	9	44	RF	μPD5200	NEC	
			1090			186	65	26	11	RF	μPD5102	NEC	
	28		720			163	140	15	44	RF	μPD5201	NEC	30
			1116			260	224	28	14	RF	μPD5020	NEC	
	32		1600			368	320	40	14	RF	μPD5021	NEC	
	40		1237			283	252	27	44	RF	μPD5202	NEC	
	50		2098			476	416	52	14	RF	μPD5022	NEC	
	52		2124			484	448	48	44	RF	μPD5203	NEC	35
	62		3124			710	672	72	44	RF	μPD5204	NEC	
	80		4560			836	672	84	14	RF	μPD5024	NEC	
CHS	22	x				129	116	14	14	ft = 5 GHz (NPN)	μPC5023	ℓ NEC	
	28	x				260	224	28	14	ft = 5 GHz (NPN)	μPC5020	ℓ NEC	
	32	x				368	320	40	14	ft = 5 GHz (NPN)	μPC5021	ℓ NEC	40
	50	x				476	416	52	14	ft = 5 GHz (NPN)	μPC5022	ℓ NEC	
	80	x				836	672	84	14	ft = 5 GHz (NPN)	μPC5024	ℓ NEC	
M-CHS	24	x				105	84	9	44	Trimming Capability	μPC5200	ℓ NEC	
	28	x				163	140	15	44	Trimming Capability	μPC5201	ℓ NEC	
	40	x				283	252	27	44	Trimming Capability	μPC5202	ℓ NEC	45
	52	x				484	448	48	44	Trimming Capability	μPC5203	ℓ NEC	
	62	x				710	672	72	44		μPC5204	ℓ NEC	
V-CHS	24	x				186	65	26	11	ft = 7 GHz (NPN)	μPC5102	ℓ NEC	
OnChip Systems Analog CMOS	24	18	30	108	2.5@10						Linear Array 1	OnChip Sys	
	30	18	60	128	2.5@10						Linear Array 2	OnChip Sys	50
	44	16	88	540	2.5@10						Linear Array 3	OnChip Sys	
	46	46	9	240	2.5@10						Linear Array 4A	OnChip Sys	
	56	92	151	300	2.5@10						Linear Array 5	OnChip Sys	
	64	52	103	930	2.5@10						Linear Array 6	OnChip Sys	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Linear & Linear/Digital Arrays (Cont'd)

Manufacturer Technology	Total Bonding Pads	Linear Dedicated Op Amps, A/D, etc.	Linear Total Other Lin. Components	Digital Equiv. 2-Input Gates	Digital Gate Delay ns @ V	Uncommited Transistors NPN	Uncommited Transistors PNP	Number Capacitors	Supply Voltage, V	Comments	Device	Source	Line
Raytheon Semiconductor BIP	24		170			49	19		2–32		RLA80	† Raytheon	
		12				39	16		± 18	Four 100 mA NPN transistors, 148 aluminum feedthroughs, 176 thin-film resistors, dual-layer metal.	RLA120	Raytheon	
	44		312			46	10		2–32		RLA160	Raytheon	
Bipolar	32	10	370			71	29		5	Linear FET Macrocell Array	RFA120	Raytheon	
S-MOS Systems CMOS	48			513	2.0				7.0		SLA6050	S-MOS	5
	80			2232	1.0				7.0		SLA7220	S-MOS	
	112			3432	1.0				7.0		SLA7340	S-MOS	
	136			4900	1.0				7.0		SLA7490	S-MOS	
	158			6210	1.0				7.0		SLA7620	S-MOS	
	178			8000	1.0				7.0		SLA7800	S-MOS	10
	196			9250	1.0				7.0		SLA7930	S-MOS	
SGS-THOMSON BiP	16		600	54	3	74	60	6	15	Tile Structure	TSFJ04	† SGS-Thomson	
	20		919	135	3	107	88	10	15	Tile Structure	TSFJ06	† SGS-Thomson	
	24		1554	162	3	235	103	1	15	Tile Structure	TSFJ09	† SGS-Thomson	
	28		906			188	28	4	15	Tile Structure	TSK09	† SGS-Thomson	15
			1964	324	3	267	131	12	15	Tile Structure	TSFJ13	† SGS-Thomson	
	40		906			188	28	4	15		TSK09 Series	SGS-Thomson	
			3067	486	3	403	224	19	15	Tile Structure	TSFJ23	† SGS-Thomson	
Sipex BIP	26		4 Tiles			90	90	60	± 15	Thin-film resistors and dual level metal	SP2101	‡ Sipex	
	40		16 Tiles			216	216	26	± 15	With 16 JFETS and dual level metal	SP1204	‡ Sipex	20
	46		12 Tiles			242	242	160	± 15	Thin-filmed resistors and dual level metal	SP2104	‡ Sipex	
	54		20 Tiles			390	390	240	± 15	Thin-filmed resistors and dual level metal	SP2107	‡ Sipex	
Universal Semiconductor CMOS	62	228	40	660	1.6	x	x	528	18	Silicon Gate	USI6000	‡ Universal	

---

[1] Delay conditions: 2-Input NAND driving 2 NANDs (FO = 2), 5V supply, 70°C, worst-case processing.

ASIC/CUSTOM—Standard Cells

Manufacturer Device Process Technology	Geometry (µm)	Interconnections Metal	Poly	Delay 2-Input NAND Gate^1 (ns)	A/D	D/A	Cell Library Includes Op Amp	Core µP	RAM	ROM	PLA	Supply Voltage, V	Comments	Library or Process Name	Source	Line
Advanced Linear Devices CMOS	3	1	2	3			x					2–15	13 Analog STD cells, 38 digital SSI cells	FSK11	† AdvLinear	
		1	2	3			x					2–15	13 Analog STD cells, 38 digital SSI cells	FSK12	† AdvLinear	
	5	1	1		x	x	x					± 1–6	Standard Cell Analog, CD4000/HC Logic Cell Library available.	CMOS	† AdvLinear	
American Microsystems CMOS	1.0	2	1	.37				x	x	x	x	2.5–5.5	Dual Port Ram, Slew rate Buffers	CYB	† American Micro	
	1.25	2	1	.5				x	x	x	x	2.5–5.5	MSI, 7400 Functions, various megacells.	CAB	† American Micro	5
	1.5	2	2	1.22	x	x		x	x	x	x	5,10	Electrically Erasable Available	AB(x)	°† American Micro	
		2	2	1.22	x	x		x	x	x	x	5,10	Electrically Erasable Available	AB(x)	American Micro	
	1.5 Digital, 3.5 Analog	2	2	.5	x	x	x	x	x	x	x	0–12 OR −6- +6	Same digital library as 1.25µ process. Parameterized analog building block generator.	ABX	† American Micro	
CMOS, Si-Gate	3	1	1	5			x		x			2.5 to 10		SLM CMOS	† American Micro	
AT&T CMOS	0.5	3		0.33 *	x	x	x	x	x			3.3	TTL input compatible	HL400C	AT&T	10
ECL	1.5	3		0.2									ECL 10K, ECL 10 KH, Schottky TTL compatible I/O.	SFOXIL	AT&T	
		3	2	0.08	x	x	x		x				ECL 10K, ECL 10 KH, Schottky TTL compatible I/O.	BEST-1	AT&T	
Avasem Corp. CMOS	1.25	2	1	0.8		x			x	x	x	5		CELL8	† Avasem	
	1.5	2	1	1		x			x	x	x	5		CELL3	† Avasem	
	2	2	1	1.5	x	x	x	x	x	x	x	5		CELL2	† Avasem	15
		2	2	1.5	x	x	x	x	x	x	x	5		CELL5	† Avasem	
	3	1	1		x	x	x		x	x	x	10		CELL6	† Avasem	
		1	1	2.5	x	x	x		x	x	x	5		CELL1	† Avasem	
		1	2		x	x	x		x	x	x	10		CELL7	† Avasem	
		1	2	2.5	x	x	x		x	x	x	5		CELL4	† Avasem	20
CMOS, Si-gate	1.25	2	1	0.8	x	x	x		x	x		3–5	Multiple Sourcing	MULTI-CELL8	† Avasem	
	1.5	2	1	1	x	x	x	x	x	x		3–5	Multiple Sourcing	MULTI-CELL3	† Avasem	
	2	1	2	1.5	x	x	x		x	x		3–5	Multiple Sourcing	MULTI-CELL9	† Avasem	
		2	1	1.5	x	x	x	x	x	x		3–5	Multiple Sourcing	MULTI-CELL2	† Avasem	
		2	2	1.5	x	x	x		x	x		3–5	Multiple Sourcing	MULTI-CELL6	† Avasem	25
	3	1	2	2.5	x	x	x		x	x		2–10	Multiple Sourcing	MULTI-CELL7	† Avasem	
	5	1	2	7	x	x	x		x	x		3–15	Multiple Sourcing	MULTI-CELL5	Avasem	
DSP Group CMOS	0.8	2						x	x	x		3 to 5.5	50 MHz 16-bit DSP with ALU	PINE	DSP Group	
Exar CMOS	2	2	2	1	x	x	x					3 to 15	Includes Oscillators, Switched Capacitor Filters, PPLs	N2000	Exar	
	3	2		1			x					5	49 Digital Cells, 6 Analog Cells	P3000	Exar	30
GEC Plessey Semiconductors CMOS	2	2	1	1.7	x	x			x	x	x	5	RAM, ROM, PLA are software generated	Megacell	GEC Plessey	
	3	2	2	1.4	x	x	x		x	x		10		MACROMOS I	GEC Plessey	
CMOS, Si-Gate	2.5	2		1.4	x	x	x	x	x	x	x	3 to 7		CMOS	GEC Plessey	
Marconi Circuit Technology CMOS, Si-Gate	3	1	1	3			x		x	x		3 to 8	200°C operation	CELLMOS	GEC Plessey	

† Mil Temp Range (−55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Standard Cells (Cont'd)

Manufacturer Device Process Technology	Geometry (µm)	Interconnections Metal	Interconnections Poly	Delay 2-Input NAND Gate^1 (ns)	A/D	D/A	Cell Library Includes Op Amp	Core µP	RAM	ROM	PLA	Supply Voltage, V	Comments	Library or Process Name	Source	Line
GEC Plessey Semiconductors																
CMOS, Si-Gate	5	1	1	6	x	x	x					3 to 7		CMOS	GEC Plessey	
CMOS, SOS	3	1	1	2			x		x	x		3 to 8		CELLSOS	GEC Plessey	
NMOS	5	1		20								5		NMOS	GEC Plessey	
SOS	2.5	2	1	1.2					x	x		5	Radiation Hardened	MACROSOS I	GEC Plessey	
Harris Semiconductor																
Bi-Polar	2	2		8.0/4.0			x					10		HDI3000	‡ Harris	5
	10	1		0.32/0.06								80–200		HDI4000	‡ Harris	
		2		0.75/0.4			x					40		HDI1000	‡ Harris	
		2		1.2/1.0			x					20		HDI2000	‡ Harris	
BiCMOS	1.2	2	2	800ps	x	x	x		x	x	x	10		HBC1000	‡ Harris	
	3	2	2	2	x	x	x					16		HBC2500	‡ Harris	10
CMOS	1.5	2	1	0.8	x	x	x	x	x	x	x	5		HSC4000	† Harris	
	2	2	1	0.8				x	x	x		5		HSC1000RH	‡ Harris	
	3	2	1	2.5	x	x	x		x			16		BiMOS E	† Harris	
CMOS, Si-Gate	3	2	1	<2								2 to 10		CMOS Library	Harris	
CMOS, SOS	3	1	1	4			x					3 to 12		SOS-2 Library	‡ Harris	15
	5	1	1	8			x					3 to 12		SOS-1 Library	‡ Harris	
Holt Integrated Circuits																
CMOS	2	1	2	3			x	x	x	x		1.5–15	35 Analog Cells	CB-ASIC	† Holt	
	3	1	2	3	x	x	x		x	x		1.5 to 15	Digital 9 V Maximum, Analog 15 V Maximum	CMOS	† Holt	
Honeywell																
RICMOS	1.2	2	1	0.9					x	x		5	QML - Rad Hard	RSCL	† Honeywell	
Hughes																
CMOS, Si-Gate	2.5											4 to 10		HCMOS Library	† Hughes	20
Integrated Circuit Systems																
CMOS, Metal Gate	12	1		30			x			x	x	5–35		CMOS Library	IntCirSys	
		1		30			x			x	x	5–35		CMOS Library	IntCirSys	
CMOS, Si-Gate	1.2	2	1	0.8–1.2	x	x	x		x	x	x	3–5		CMOS Library2	IntCirSys	
	1.5	2	1	1.2–1.8	x	x	x	x	x	x	x	3–5		CMOS Library2	IntCirSys	
	2µm	2	1	1.5–4	x	x	x	x	x	x	x	4.5–5.5	ICS Custom Libary	CMOS Library	IntCirSys	25
	3	2	1	4	x	x	x	x	x	x	x	5	ICS Custom Library	CMOS Library	IntCirSys	
	3.0	1	1	2–3	x	x	x		x	x	x	3–10		CMOS Library2	IntCirSys	
	5	1	1	10	x	x	x		x			5 to 10	ICS Custom Library	CMOS Library	IntCirSys	
CMOS, SiGate	5.0	1	1	4.6	x	x	x		x	x	x	5–18		CMOS Library2	IntCirSys	
NMOS, Metal-Gate	4.5	1		20	x	x	x	x	x	x	x	5 to 10		CMOS Library	IntCirSys	30
	5	1	1	20	x	x	x	x	x	x	x	5 to 10		CMOS Library	IntCirSys	
NMOS, Si-Gate	3	1	1	4	x	x	x	x	x	x	x	5	ICS Custom Library	CMOS Library	IntCirSys	
Intel																
CMOS, Si-Gate	2	1	1	1.0				x	x	x	x	5	Currently in Beta sites	CHMOS-1 Library	Intel	
SiGate CMOS	1.5			0.7	x	x	x	x	x	x	x	5		CHMOS III	† Intel	
International Microcircuits																
CMOS, Si-Gate	3	2	1	2	x	x	x		x	x	x	3.5 to 8		CMOS Library	IMI	35

---

[1] Delay conditions: 2-Input NAND driving 2 NANDs (FO = 2), 5V supply, 70°C, worst-case processing.

ASIC/CUSTOM—Standard Cells (Cont'd)

Manufacturer Device Process Technology	Geometry (µm)	Interconnections Metal	Interconnections Poly	Delay 2-Input NAND Gate¹ (ns)	Cell Library Includes A/D	D/A	Op Amp	Core µP	RAM	ROM	PLA	Supply Voltage, V	Comments	Library or Process Name	Source	Line
Micro-Rel																
BIP, J.I., D.I.	8	1										100		High Voltage	‡ Micro-Rel	
BIP, J.I, D.I	8	1										40	MOS capacitor available, dielectric isolation, 1.3 Kohms/square CrSi resistors	High Voltage	Micro-Rel	
BIP, J.I, D.I.	8	1										20	100Kohms/square CrSi resistors available	Low Voltage	‡ Micro-Rel	
CMOS	3	2	1	2.5	x	x	x					2–10	MOS capacitor available, 1.3 Kohms/square CrSi resistors 200ppm/C° for linear applications.	D3 Library	† Micro-Rel	
	5	1	1	5	x	x	x					2–18	Same as 3µ CMOS	D5 Library	† Micro-Rel	5
National Semiconductor																
ASPECT	2	1		0.17					x	x		5		FSA Series	National	
ASPECT III	0.8	1		0.05					x	x		5		NSA Series	National	
NCM Corporation																
CMOS Metal-Gate	5	1	0	12			x		x	x	x	15		9000	‡ NCM	
CMOS, Si-Gate	3	1	1	3			x		x	x	x	3.5 to 12		4000 Series	NCM	
		1	1	7			x		x	x	x	15		8000/3	‡ NCM	10
	5	1	1	12			x		x	x	x	15		8000/5	‡ NCM	
NCR Microelectronic																
CMOS	0.75	1		0.56	x	x	x					3.3	Over 700 digital core cells	VS500	NCR	
		1		0.56	x	x	x					5	Over 700 digital core cells	VS500	NCR	
NEC Electronics																
CB-C7	0.8	1		0.34	x	x	x	x	x	x		3, 5	4600 Gates	B18	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	6700 Gates	B57	ℓ NEC	15
		1		0.34	x	x	x	x	x	x		3, 5	11100 Gates	B97	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	11900 Gates	C37	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	15100 Gates	C76	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	18600 Gates	D16	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	22500 Gates	D55	ℓ NEC	20
		1		0.34	x	x	x	x	x	x		3, 5	24600 Gates	D75	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	29200 Gates	E15	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	34000 Gates	E54	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	39200 Gates	E94	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	44900 Gates	F34	ℓ NEC	25
		1		0.34	x	x	x	x	x	x		3, 5	50800 Gates	F74	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	57200 Gates	G14	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	63800 Gates	G53	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	71000 Gates	G93	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	78600 Gates	H33	ℓ NEC	30
		1		0.34	x	x	x	x	x	x		3, 5	86300 Gates	H72	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	98900 Gates	J32	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	107600 Gates	J71	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	116800 Gates	K11	ℓ NEC	
		1		0.34	x	x	x	x	x	x		3, 5	136200 Gates	K90	ℓ NEC	35
		2		0.34	x	x	x	x	x	x		3, 5	5700 Gates	B18	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	8100 Gates	B57	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	12390 Gates	B97	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	14600 Gates	C37	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	18400 Gates	C76	ℓ NEC	40
		2		0.34	x	x	x	x	x	x		3, 5	22800 Gates	D16	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	27500 Gates	D55	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	30100 Gates	D75	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	35600 Gates	E15	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	41500 Gates	E54	ℓ NEC	45
		2		0.34	x	x	x	x	x	x		3, 5	47900 Gates	E94	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	54900 Gates	F34	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	62100 Gates	F74	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	69900 Gates	G14	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	78000 Gates	G53	ℓ NEC	50
		2		0.34	x	x	x	x	x	x		3, 5	86800 Gates	G93	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	96000 Gates	H33	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	105500 Gates	H72	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	120900 Gates	J32	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	131500 Gates	J71	ℓ NEC	55

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

ASIC/CUSTOM—Standard Cells (Cont'd)

Manufacturer Device Process Technology	Geometry (µm)	Interconnections Metal	Poly	Delay 2-Input NAND Gate[1] (ns)	Cell Library Includes A/D	D/A	Op Amp	Core µP	RAM	ROM	PLA	Supply Voltage, V	Comments	Library or Process Name	Source	Line
		2		0.34	x	x	x	x	x	x		3, 5	142800 Gates	K11	ℓ NEC	
		2		0.34	x	x	x	x	x	x		3, 5	166500 Gates	K90	ℓ NEC	
OKI Semiconductor CMOS	1.2	2	1	0.77				x	x	x	x	5		MSM91U000	OKI	
	1.5	2	1	1.2					x	x	x	5		91V000	OKI	
		2	1	1.32				x	x	x	x	5		MSM91V000	OKI	5
	2	2						x	x	x				MSM91000	OKI	
		2	1	1.7					x	x	x	5		91H000	OKI	
		2	1	1.85				x	x	x	x	5		MSM91H000	OKI	
	3	2						x	x	x				MSM90000	OKI	
Panasonic CMOS	1.2	2	1	2.1	x	x	x	x	x	x	x	5	70K Gates Max	MN76000	Panasonic	10
	1.5	2	1	1.4	x	x	x	x	x	x	x	5	50K Gates Max	MN73000	Panasonic	
Raytheon Semiconductor BiCMOS	2.5	2		1.5	x		x					5	8 to 68 Pin Packaging Available	RSC4000	Raytheon	
Bipolar	2	2					x					12	16 Tiles, 46 Uncommited I/O Pads	RPA160	Raytheon	
		2					x					12	25 Tiles, 46 Uncommited I/O Pads	RPA250	Raytheon	
		2					x					12	9 Tiles, 33 Uncommited I/O Pads	RPA90	Raytheon	15
Ricoh CMOS, Si-Gate	0.8	2	1		x	x	x	x	x	x	x			RSC08	Ricoh	
	1.2	2	1	1	x	x	x	x	x	x	x	3 to 5		RSC12	ℓ Ricoh	
	2	2		2					x	x	x	−0.3 to 7	Full CAD Support System	RSC20	Ricoh	
S-MOS Systems CMOS	1.2	2	1	0.6				x	x	x		5		SSC3000	S-MOS	
	1.8	2	1	0.9					x	x		5		SSC1000	S-MOS	20
Sanyo N-Sub (P-Well)	1.5	2	1	1.2	x	x	x	x	x	x	x	3–5.5	Standard Cells, 65C02 Microprocessor Core	LC97000A	Sanyo	
N-Sub (Twin Tub)	1.2	2	1	0.9	x	x	x	x	x	x	x	3–5.5	Standard Cells, 65C02S, 65C816S Microprocessor	LC98000A	Sanyo	
P-Sub.Epi (N-Well)	1.5	2	1	0.9	x	x	x	x	x	x	x	3–5.5	User Designed, 65C02	LC97000N	Sanyo	
P-Sub.Epi (Twin-Tub)	1.2	2	1	0.9	x	x	x	x	x	x	x	3–5.5	User Designed, 65C02S, 65C816S Microprocessor	LC98000N	Sanyo	
SGS-THOMSON BiCMOS	2	2	2	2	xx	x	x		x	x	x	10	2.5 GHz PNP, 6 GHz NPN E(sup2)PROM	STKMZ000	† SGS-Thomson	25
Bipolar, MTL^{3}V	6	2		25		x	x		x	x		2 to 10		Zodiac	SGS-Thomson	
CMOS	3.5	1	2	6	x	x	x					10		TSGSM	† SGS-Thomson	
CMOS, Si-Gate	2	2	0	1 *				x	x	x	x	3–6	Military 883C processing available.	TSSB Series	SGS-Thomson	
		2	1	7.4	x	x	x					5,10	Analog and Digital	TSGSM Series	SGS-Thomson	
	3	2	0	1.5				x	x	x	x	3–6	Military 883C processing available.	TSSC Series	SGS-Thomson	30
HCMOS	1.2	2	1	0.7					x	x	x	5		CB12000	† SGS-Thomson	
Sierra Semiconductor CMOS	1.5	2	2	0.9	x	x	x	x	x	x	x	5	Includes EEPROM	SC80000	Sierra	
	3	2	2	2	x	x	x					10	EEPROM Available	CMOS 3	Sierra	
Sipex BIP		2				x	x					35	High performance analog and mixed signal	Std Cell	‡ Sipex	
Toshiba America Electronic Components CMOS	0.8	2	1	0.33				x	x	x		5	Up to 100K Gates	TC25SC	Toshiba	35
		3		0.3				x	x	x		5	Up to 200K Usable Gates	TC26SC	Toshiba	
CMOS, Si-Gate	1	2		0.65					x	x		5	Up to 70K Usable Gates	TC24SC	Toshiba	

---

[1] Delay conditions: 2-Input NAND driving 2 NANDs (FO = 2), 5V supply, 70°C, worst-case processing.

ASIC/CUSTOM—Standard Cells (Cont'd)

Manufacturer Device Process Technology	Geometry (µm)	Interconnections Metal	Poly	Delay 2-Input NAND Gate^1 (ns)	A/D	D/A	Op Amp	Core µP	RAM	ROM	PLA	Supply Voltage, V	Comments	Library or Process Name	Source	Line
TriQuint Semiconductor GaAs	1	2		0.08								–5		QLSI STD-CELL	TriQuint	
VLSI Technology CMOS	1.0	2	1	0.28				x	x	x	x	5		VSC350	VLSI Tech	
		2	1	0.28				x	x	x	x	5		VSC370	VLSI Tech	
	1.5	2	1	0.56				x	x	x	x	5	Compilers	VSC120	† VLSI Tech	
ZyMOS CMOS, Si-gate	1.2	2	1	0.7								2–5.5		Zy70000	ZyMOS	5
	1.5	2	1	0.9								2–5.5		Zy67000	ZyMOS	
	2	2	1	1.4								2–5.5		Zy60000	ZyMOS	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 1500

IC MASTER INTERNATIONAL DISTRIBUTORS

ARGENTINA, COLUMBIA, ECUADOR, VENEZUELA, PERU
Intectra
2629 Terminal Blvd.
Mt. View, CA 94043
Phone (415) 967-8818
FAX 415-967-8836

AUSTRALIA
A.J. Distributors Pty. Ltd.
261 Churchill Rd.
Prospect, S. Australia 5082
Phone 269-1244
Telex (790) 8235
FAX 61-8 269 6743

AUSTRIA
First Components GmbH
Mulweg 1
8029 Sauerlach
Germany
Phone 081047044
FAX 081049992

BELGIUM
Sonetech Nederland B.V.
Gulberg 33
5674 Te Nuenen, Belgium
Phone 02/4600707
Telex (846) 24610
FAX 32 2 460 1200

BRAZIL
Publicacoes Technicas Internacionais
Rua Peixoto Gomide 209
01409-901 Sao Paulo SP
Brazil
Phone 011 55 11 257 2157
FAX 011 55 112 586 990

CANADA
Future Electronics Inc.
237 Hymus Blvd.
Pointe Claire
Quebec H9R 5C7, Canada
Phone (514) 694-7710
TWX 610-421-3251
Telex 05-823599
FAX (514) 695-3707

DENMARK
NC ScandComp Denmark A/S
Rent Emestervej 69A
2400 Copenhagen,
Denmark
Phone 45 31 194433
Telex (855) 22431
FAX 45 31 101287

DUBAI (UAE)
Micro-Tech Publications
P.O. Box 50668
Dubai (UAE)

EGYPT
Langdale Information Group
P.O. Box 2212
Paphos, Cyprus
Phone 011 357 06 241522
FAX 011 357 06 247066

ENGLAND, IRELAND
Farnell Components Ltd.
Marketing & Purchasing Centre
Armley Road
Leeds, England L5122QQ
Phone 532 790101
FAX 532 633404

Carol Roe Associates
Suite 157 Airport House
Purley Way, Croydon
Surrey
England CR0 0XZ
FAX 011 44 81 6499377
Phone 011 44 81 7811811

RS Components
PO Box 99
Corby
Northants NN17 9RS,
England
Phone 0536 201234
Telex 342512
FAX 0536 201501

FINLAND
Farnell Electronic Services
Tyopajankatu 5
PL25, 00581 Helsinki
Finland
Phone 358 0 822641
Telex 123588
FAX 358 0 822199

FRANCE
Conseil et Promotion
8, Avenue du 18 Juin 1940
92500 Rueil Malmaison
France
Phone (1) 47082520
FAX (1) 47329925

GERMANY
Astronic GmbH
Gruenwalder Weg 30
8024 Deisenhofen,
Germany
Phone (089) 6130303
Telex 5216187 astr d
FAX 49 89 6 13 1668

Farnell GmbH
Gruenwalder Weg 30
8024 Deisenhofen,
Germany
Phone (089) 6130301
FAX 089 6131682

GREECE
Aleka Koufoudaky
Smart Electronics Ltd.
39 AG Konstantinou Str.
10437 Athens, Greece
Phone 01-5230453
FAX 01-5245474

HOLLAND
TME B.V.
Components Division
P.O. Box 2399
5202 CJ's-Hertogenbosch
The Netherlands
Phone 31 73 281111
FAX (31) 73 220330

HONG KONG, P.R.C.
Megapower Electronics Ltd.
702, 7th Floor Hilder Centre
2 Sung Ping Street
Hunghom, Kowloon, Hong Kong
Phone 852 3 7730292
Telex 43464
FAX 852 3 624225

Tektron Electronics (HK) LTD.
1702, Bank Centre
636 Nathan Road
Kowloon, Hong Kong
Phone 852 388 0629
FAX 852 780 5871

INDIA, PAKISTAN, BANGLADESH, SRI LANKA
BPB Publications
Munish Plaza
20, Ansari Road
Daryaganj
New Delhi, India 110002
Phone 91-11-3325760
Telex 91-11-3266427

ISRAEL
STG International Ltd.
7 Derech Hashalom
67892 Tel-Aviv, Israel
Phone 972 (3) 6965231
FAX 972 3 6965141

ITALY
Transpart
Corso Sempione. 75
20149 Milano
Phone 02-33.60.54.46
FAX 02-33.60.54.18

JAPAN
Tokyo International Communications Inc.
Miyajima Bldg.
29 Yoyogi 1-Chome,
Shibuya-ku
Tokyo 151, Japan
Phone 379-2561
Telex (781) 33106
FAX 81 03 370 5775

KOREA
Tae Lim Corporation
16-1, 2-G-A, Han Gang-Ro,
Yong San-ku
Sun in Sang GA 21-Dong, 3rd.
Fl. #3253
Seoul, Korea
Phone 02-704-7727
FAX 02-719-3011

MEXICO
Dicopel, S.A DE C.V.
Francisco Pimentel 98
Delegacion Cuauhtemoc
Col. San Rafael 06470 Mexico D.F.
Phone 52-5 705 7422
FAX 52-5 703 1772

NEW ZEALAND
Components and Instruments NZ Ltd.
Semple St. Porirua
50-548
Wellington, New Zealand
Phone 011 64 4 237-5632
FAX 011 64 4 237-8392

NORWAY
Fagbokservice A.S.
Ekebergveien, 130 B
1178 Oslo 11, Norway
Phone 22 28 22 37
FAX 47 22 28 70 29

SAUDI ARABIA
Mejdaf Est.
P.O. Box 2002
Riyadh 11451, Saudi Arabia
Phone 966-1-462-7654,
966-1-462-4145
FAX 966-1-463-0048

SINGAPORE
KOH Electronics Trading
12 Tannery Lane
#04-01/02 Beam Building
Singapore 1334
Phone 65 741 0700
FAX 65 744 6605

SINGAPORE, THAILAND, INDONESIA, MALAYSIA
Tech Publications Pte. Ltd.
B1-39 Sim Lim Tower
10 Jalan Besar, Singapore
0820
Phone 65 276 3611
FAX 65 276 3622

SOUTH AFRICA
Cadshop (Pty.) Ltd.
152 Hendrik Verwoerd Drive
Randburg, 2125 South Africa
Phone 27 11 789 3910
Telex 960 426392
FAX 27 11 789 3913

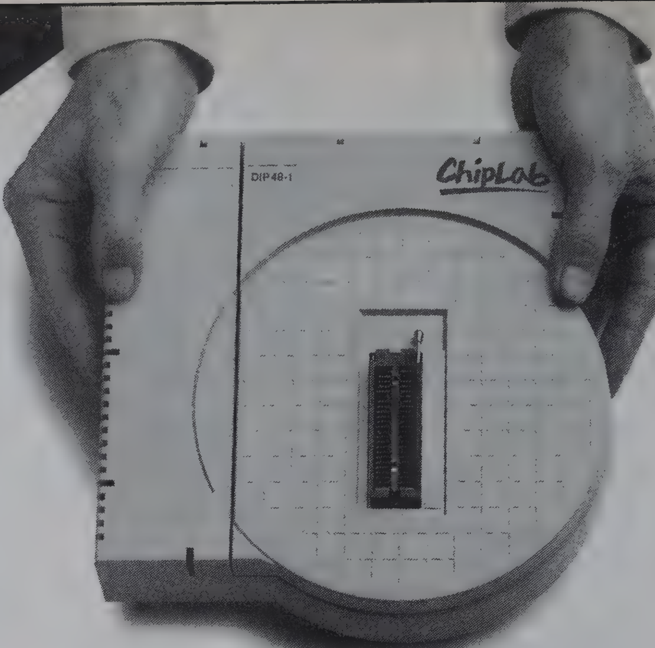
SPAIN
Marcombo S.A.
Granvia De Les
Corts Catalanes, 594
08007 Barcelona, Spain
Phone 011 343 318 0079
FAX 011 343 318 9339

SWEDEN
Computer Press
Box 893
S-85124 Sundsvall, Sweden
Phone 46 60 150475
Telex (854) 71355
FAX 46 60 151413

SWITZERLAND
Stolz Electronics AG
Taefernstrasse 11
CH5405 Baden-Daettwil,
Switzerland
Phone 41 56 849000
FAX 41 56 849174

TAIWAN
Mitronics International Corp.
7F No. 104
Tung Hua S. Road Sec. 2
Taipei, Taiwan, 106 R.O.C.
Phone (02) 7097626
Telex 12621 MITRONIC
FAX (02) 7553394

NEW



ChipLab™

Project Programmer

Chiplab is your personal prototyping tool for programming all the devices you need to finish your project, right at your desk.

- Broadest device support for the price; PLDs, PROMs, and EPROMs and microcontrollers up to 48 pins
- Fast, easy programming with Windows™-like interface and menu-driven software
- Safety, quality, and reliability of a Data I/O® programmer
- Algorithm updates available via electronic bulletin board

Special Introductory Price
32-pin version:
$895
48-pin version:
$1495

To order, call:
1-800-3-DataIO
(1-800-332-8246)
Ext. 914

Also distributed by:
Promark Technology West
(1-800-227-3345)

JDR Microdevices
(1-800-538-5000)

DATA I/O

INTRODUCTION TO PROGRAMMABLE LOGIC DEVICES

Programmable logic devices are listed by major technology families: Bipolar, CMOS, ECL, or GaAs and within them by functional groups in the following order according to output configuration:

COMBINATORIAL OUTPUTS

One-Time Programmable – Combinatorial Outputs....................1502, 1511, 1514, 1532
Erasable Programmable – Combinatorial Outputs 1503, 1514
Electrically Erasable Programmable –
Combinatorial Outputs 1514

REGISTERED OUTPUTS

One-Time Programmable – Registered Outputs 1504, 1512, 1533
Erasable Programmable – Registered Outputs 1505, 1515
Electrically Erasable Programmable –
Registered Outputs 1515

REGISTERED/COMBINATORIAL OUTPUTS

One-Time Programmable
Registered/Combinatorial Outputs 1506, 1513, 1516, 1535
Erasable Programmable–
Registered/Combinatorial Outputs 1513, 1517
Electrically Erasable Programmable – Registered/
Combinatorial Outputs 1524

SUPERSET

One-Time Programmable – Superset 1509, 1513, 1527, 1534
Erasable Programmable – Superset 1528
Electrically Erasable Programmable – Superset 1530

The Superset devices typically have programmable I/O Macrocells that allow one Superset device to replace many different convential programmable logic devices.

Within each of the above categories devices are listed in order of performance.

PROGRAMMABLE LOGIC DEVICES—Bipolar

Max Propagation Delay (ns)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
One-Time Programmable—Combinatorial Outputs											
5	16	—	10	2	6	—	180	24	Field Programmable High Speed decoder, 16 inputs, 8 outputs	PHD16N8-5	°† Philips
	64		10	2	6	180		20		TIBPAL16L8-5	° TI
				8		180	180	24		PAL16L8-5	° AMD
			14	2	6	210		24		TIBPAL20L8-5	° TI
6	8		10		8	180		20		TIBPAD18N8-6	° TI
7	16		10		8	180		20		TIBPAD16N8-7	° TI
7.5	56	—	10	2	6	—	180	20		PAL16L8-7	° AMD
	64	—	10	2	6	—	180	20	Field Programmable Array Logic, 16 inputs, 8 outputs	PLUS16L8-7	°† Philips
			14	2	6	—	210	24	Field Programmable Array Logic, 20 inputs, 8 outputs	PLUS20L8-7	°† Philips
				8		210	210	24		PAL20L8-7	° AMD
7.7	73	0	36	10	12	420	—	68	Programmable High Speed Decoder	PHD48N22-7	Philips
10	42	-	8	-	10	-	200	20	Field Programmable Logic Array, 18 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLUS153-10	Philips
			12		10		210	24	Field Programmable Logic Array, 22 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLUS173-10	Philips
	56	—	10	2	6	—	180	20		PAL16L8D/2	° AMD
			14	2	6	—	210	24		PAL20L8-10/2	AMD
	64	—	9	2	6	—	180	20		PAL16L8D	°† National
			10	2	6	—	180	20	Field Programmable Array Logic, 16 inputs, 8 outputs	PLUS16L8D	°† Philips
			14	2	6	—	210	24	Field Programmable Array Logic, 20 inputs, 8 outputs	PLUS20L8D	°† Philips
12	42	—	8	—	10	—	200	20	Field Programmable Logic Array, 18 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLUS153D	°† Philips
			12	—	10	—	200	24	Field Programmable Logic Array, 20 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLUS173D	°† Philips
15	40		10	10		105	105	24		AMPAL20L10B	° AMD
	42	—	8	—	10	—	200	20	Field Programmable Logic Array, 18 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLUS153B	°† Philips
			12	—	10	—	200	24	Field Programmable Logic Array, 20 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLUS173B	°† Philips
	56	—	10	2	6	—	180	20		PAL16L8B	° AMD
			14	2	6	—	210	24		PAL20L8B	° AMD
	64	—	9	2	6	—	180	20		PAL16L8B	°† National
			14	2	4	—	210	24		PAL20L8B	°† National
										PAL20P8B	† National
25	7	—	14	2	6	—	210	24		PAL20L8A	° AMD
	16	—	10	8	—	—	90	20		PAL10H8A	† National
										PAL10L8A	† National
			12	6	—	—	90	20		PAL12H6A	† National
										PAL12L6A	† National
			14	4	—	—	90	20		PAL14H4A	† National
										PAL14L4A	† National
			16	2	—	—	90	20		PAL16H2A	† National
										PAL16L2A	°† National
			20	2	—	—	100	24		PAL20C1A	† National
										PAL20L2A	°† National
	20	—	12	10	—	—	100	24		PAL12L10A	† National
			14	8	—	—	100	24		PAL14L8A	† National
			16	6	—	—	100	24		PAL16L6A	°† National
			18	4	—	—	100	24		PAL18L4A	† National
	56	—	10	2	6	—	90	20		PAL16L8B-2	° AMD
							180	20		PAL16L8A	° AMD
			14	2	6	—	105	20		PAL20L8B-2	° AMD
	64	—	9	2	6	—	90	20		PAL16L8B2	† National
							180	20		PAL16L8A	°† National
			14	2	4	—	210	24		PAL20L8A	°† National

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

Max Propagation Delay (ns)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
One-Time Programmable—Combinatorial Outputs (Cont'd)												
30	16	—	16	1	—	—	90	20		PAL16C1A	† National	
	32	0	8	0	10	155	—	20		PLS153A	° Philips	
										82S153A	† Philips	
	40	—	12	2	8	—	165	24		PAL20L10A	°† National	
	42	—	12	—	10	—	170	24	Field Programmable Logic Array, 20 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLS173	°† Philips	5
35	16	—	10	8	—	—	45	20		PAL10H8A2 PAL10L8A2	† National † National	
							90	20		PAL10H8 PAL10L8	† National † National	
			12	6	—	—	45	20		PAL12H6A2 PAL12L6A2	† National † National	10
							90	20		PAL12H6 PAL12L6	† National † National	
			14	4	—	—	45	20		PAL14H4A2 PAL14L4A2	† National † National	15
							90	20		PAL14H4 PAL14L4	† National † National	
			16	1	—	—	90	20		PAL16C1	† National	
				2	—	—	45	20		PAL16H2A2 PAL16L2A2	† National † National	20
							90	20		PAL16H2 PAL16L2	† National °† National	
	56	—	10	2	6	—	55	20		PAL16L8B-4	° AMD	
							90	20		PAL16L8A-2	° AMD	
			14	2	6	—	105	24		PAL20L8A-2	° AMD	25
	64	—	9	2	6	—	90	20		PAL16L8A2	† National	
							180	20		PAL16L8	°† National	
40	16	—	16	1	—	—	45	20		PAL16C1A2	† National	
			20	2	—	—	100	24		PAL20C1 PAL20L2	† National °† National	30
	20	—	12	10	—	—	100	24		PAL12L10	† National	
			14	8	—	—	100	24		PAL14L8	† National	
			16	6	—	—	100	24		PAL16L6	°† National	
			18	4	—	—	100	24		PAL18L4	† National	
	42	—	8	—	10	—	155	20	Field Programmable Logic Array, 18 inputs, 10 32-input OR gates, 10 I/O with Polarity Control	PLS153	°† Philips	35
50	40	—	12	2	8	—	165	24		PAL20L10	°† National	
	48	—	16	8	—	—	170	28	Field Programmable Logic Array, 16 inputs, 8 48-input OR gates, 8 outputs with Polarity Control	PLS100	°† Philips	
									Field Progrmmable Logic Array, 16 inputs 8 48-input OR gates, 8 outputs with Polarity Control	PLS101	Philips	
Erasable Programmable—Combinatorial Outputs												
12	64	10	29	24	24			20		PML2552	Philips	
35	112	52	29	24	24	-	120	68	Field Programmable Macro Logic, 53 inputs, 112 NAND gates, 24 I/O	PML2552-35	Philips	40
50	112	52	29	24	24	-	120	68	Field Programmable Macro Logic, 53 inputs, 112 NAND gates, 24 I/O	PML2552-50	Philips	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

One-Time Programmable—Registered Outputs Only

Max Clock Frequency (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
74	64	—	8	8	—	—	180	20		PAL16R8-7	° AMD	
		8	8	8	—	—	180	20	Field Programmable Array Logic, 16 inputs, 8 registered outputs	PLUS16R8-7	°† Philips	
							210	24	Field Programmable Array Logic, 20 inputs, 8 registered outputs	PLUS20R8-7	°† Philips	
71	64	8	8	8	—	—	—	20		PAL16R8D	° National	
60.6	64	8	8	8	—	—	180	20	Field Programmable Array Logic, 16 inputs, 8 registered outputs	PLUS16R8D	°† Philips	5
							210	24	Field Programmable Array Logic, 20 inputs, 8 registered outputs	PLUS20R8D	°† Philips	
58.8	64	—	8	8	—	—	180	20		PAL16R8D/2	AMD	
56	64	8	8	8	0	220		20	Programmable Logic Array	TIBPAL16R8-12M	°‡ TI	
55.5	56	—	12	8	—	—	210	24		PAL20R8-10/12	AMD	
55	48	14	16	8	—	—	200	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 48 transition terms, 8 registered outputs	PLUS105-55	°† Philips	10
	64	16	15	8	—	—	225	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 64 transition terms, 2 clocks, 8 registered outputs	PLUS405-55	°† Philips	
50	64	8	8	8	—	—	—	20		PAL16R8B	°† National	
					0	220		20	Programmable Logic Array	TIBPAL16R8-15M	°† TI	
45	48	14	16	8	—	—	200	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 48 transition terms, 8 registered outputs	PLUS105-45	Philips	
	64	16	15	8	—	—	225	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 64 transition terms, 2 clocks, 8 registered outputs	PLUS405-45	°† Philips	15
41.6	64	8	8	8	0	180		24	Programmable Logic Array	TIBPAL16R8-20M	°† TI	
			12	8	0	180		24		TIBPAL20R8-20M	°† TI	
40	48	14	16	8	—	—	200	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 48 transition terms, 8 registered outputs	PLUS105-40	°† Philips	
	64	8	8	8	—	—	—	20		PAL16R8B2	† National	
37	64	—	8	8	—	—	180	20		PAL16R8B	° AMD	20
			12	8	—	—	210	24		PAL20R8B	° AMD	
	74	16	15	8	—	—	225	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 64 transition terms, 2 clocks, 8 registered outputs	PLUS405-37	°† Philips	
33.3	64	8	8	8	—	—	—	20		PAL16R8A	°† National	
25	64	—	8	8	—	—	90	20		PAL16R8B-2	° AMD	
							180	20		PAL16R8A	° AMD	25
			12	8	—	—	105	24		PAL20R8B-2	° AMD	
							210	24		PAL20R8A	° AMD	
		8	8	—	8	—	170	20		PAL16RA8	°† National	
				8	0	105		20	Programmable Logic Array	TIBPAL16R8-30M	°† TI	
						180		20	Programmable Logic Array	PAL16R8AM	°† TI	30
	80	10	10	—	10	—	200	24		PAL20RA10	°† National	
	120		12	0	10	225		24	Programmable Logic Array	TIBPAL22VP10-25M	°† TI	
22	120		12	0	10	180		24	Programmable Logic Array	TIBPAL220V10AM	† TI	
20	48	12	14	6	—	—	180	24	Field Programmable Logic Sequencer (Mealy type), 14 inputs, 48 transition terms, 6 registered outputs	PLS167A	°† Philips	
		14	12	8	—	—	180	24	Field Programmable Logic Sequencer (Mealy type), 12 inputs, 48 transition terms, 8 registered outputs	PLS168A	°† Philips	35
			16	8	—	—	180	28	Field Programmable Logic Sequencer (Mealy type), 16 inputs, 48 transition terms, 8 registered outputs	PLS105A	°† Philips	
	64	8	8	8	—	—	—	20		PAL16R8	°† National	
										PAL16R8A2	† National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

Max Clock Frequency (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
One-Time Programmable—Registered Outputs Only											**(Cont'd)**	
16	64	—	8	8	—	—	55	20		PAL16R8B-4	° AMD	
							90	20		PAL16R8A-2	° AMD	
			12	8	—	—	105	24		PAL20R8A-2	° AMD	
		8	8	8	0	90		20	Programmable Logic Array	PAL16R8A-2M	°† TI	
13.9	48	12	14	6	—	—	180	24	Field Programmable Logic Sequencer (Mealy Type), 14 inputs, 48 transition terms, 6 registered outputs	PLS167	°† Philips	
		14	12	8	—	—	180	24	Field Programmable Logic Sequencer (Mealy type), 14 inputs, 48 transition terms, 6 registered outputs	PLS168	°† Philips	
			16	8	—	—	180	28	Field Programmable Logic Sequencer (Mealy Type), 16 inputs, 48 transition terms, 8 registered outputs	PLS105	°† Philips	
Erasable Programmable—Registered Outputs Only												
83.3	256	24	12		12	140	180	28	Variable Distribution	CY7C335-83C	Cypress	
66.6	256	24	12		12	140	180	28	Variable Distribution	CY7C335-66C	Cypress	
						160	200	28	Variable Distribution	CY7C335-66I	Cypress	
										CY7C335-66M †	Cypress	
50	256	24	12		12	140	180	28	Variable Distribution	CY7C335-50C	Cypress	
						160	200	28	Variable Distribution	CY7C335-40I	Cypress	
										CY7C335-50I	Cypress	
										CY7C335-50M †	Cypress	
40	256	24	12		12	160	200	28	Variable Distribution	CY7C335-40M †	Cypress	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
		252	22	24	16	8		295	52	Programmable Macro Logic Device	PLHS501 PLHS501I	Philips Philips	
4.5	125	32		8		4		180	28		PAL16R4-4	AMD	
		48		8	6	2		180	28		PAL16R6-4	AMD	
		56		10	8	6		80	28		PAL16L8-4	AMD	5
5	111	64	4	8			180	180	20		PAL16R4-5	° AMD	
			6	8			180	180	20		PAL16R6-5	° AMD	
			8	8			180	180	20		PAL16R8-5	AMD	
	117	32		12	4	4		210	28		PAL20R4-5	AMD	
		48		12	6	2		210	28		PAL20R6-5	AMD	10
		56		14	8	6		210	28		PAL20L8-5	AMD	
		64		12	8			210	28		PAL20R8-5	AMD	
7	100	64	—	14	2	6	—	210	24		TIBPAL20L8-7C	° TI	
			4	12	4	4	—	210	24		TIBPAL20R4-7C	° TI	
			6	12	6	2	—	210	24		TIBPAL20R6-7C	° TI	15
			8	12	8	—	—	210	24		TIBPAL20R8-7C	° TI	
7.5	—	64	—	10	2	6	—	200	20		TIBPAL16L8-7	°† TI	
				14	2	6	—	210	24		TIBPAL20L8-7	°† TI	
	45	64	4	12	4	4	—	210	24		TIBPAL20R4-7	°† TI	
			6	12	6	2	—	210	24		TIBPAL20R6-7	°† TI	20
			8	12	8	—	—	210	24		TIBPAL20R8-7	°† TI	
	74	64	—	8	4	4	—	180	20		PAL16R4-7	° AMD	
					6	2	—	180	20		PAL16R6-7	° AMD	
			4	8	4	4	—	180	20	Field Programmable Array Logic	PLUS16R4-7	°† Philips	
				12			210	210	24		PAL20R4-7	° AMD	25
					4	4	—	210	24	Field Programmable Array Logic	PLUS20R4-7	°† Philips	
			6	8	6	2	—	180	20	Field Programmable Array Logic	PLUS16R6-7	°† Philips	
				12			210	210	24		PAL20R6-7	° AMD	
					6	2	—	210	24	Field Programmable Array Logic	PLUS20R6-7	Philips	
			8	12			210	210	24		PAL20R8-7	° AMD	30
	91	160	10	12		10	220	220	24		PAL22V10-7	AMD	
	100	64	—	10	2	6	—	220	20		TIBPAL16L8-7C	° TI	
			4	8	4	4	—	200	20		TIBPAL16R4-7	°† TI	
								220	20		TIBPAL16R4-7C	° TI	
			6	8	6	2	—	200	20		TIBPAL16R6-7	°† TI	35
								220	20		TIBPAL16R6-7C	° TI	
			8	8	8	—	—	200	20		TIBPAL16R8-7	°† TI	
								220	20		TIBPAL16R8-7C	° TI	
10	—	64	—	10	2	6	—	200	20		TIBPAL16L8-10	°† TI	
	50	97	24	12	8	—	—	210	24	16 internal S/R registers	TIBPLS506 TIBPLS506C	°† TI ° TI	40
	55.5	64	—	12	4	4	—	210	24		PAL20R4-10/2	AMD	
					6	2	—	210	24		PAL20R6-10/2	AMD	
	58	80	16	12	8	—	—	210	24	6-bit on-chip counter	TIBPSG507C TIBPSG507M	° TI °† TI	45
	58.8	64	—	8	4	4	—	180	20		PAL16R4D/2	AMD	
					6	2	—	180	20		PAL16R6D/2	AMD	
	60.6	64	4	8	4	4	—	180	20	Field Programmable Array Logic	PLUS16R4D	°† Philips	
				12	4	4	—	210	24	Field Programmable Array Logic	PLUS20R4D	°† Philips	
			6	8	6	2	—	180	20	Field Programmable Array Logic	PLUS16R6D	°† Philips	50
				12	6	2	—	210	24	Field Programmable Array Logic	PLUS20R6D	°† Philips	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
10											(Cont'd)		
	71	64	4	8	4	4	—	180	20		PAL16R4D	°† National	
			6	8	6	2	—	180	20		PAL16R6D	°† National	
		132	10	12		10	180	180	24		PAL22V10-10	°† AMD	
	71.4	64	—	10	2	6	—	220	20		TIBPAL16L8-10M	°† TI	
				14	2	6	—	210	24		TIBPAL20L8-10C	° TI	5
											TIBPAL20L8-10M	°† TI	
			4	8	4	4	—	220	20		TIBPAL16R4-10M	°† TI	
				12	4	4	—	210	24		TIBPAL20R4-10C	° TI	
											TIBPAL20R4-10M	°† TI	
			6	8	6	2	—	220	20		TIBPAL16R6-10M	°† TI	10
				12	6	2	—	210	24		TIBPAL20R6-10C	° TI	
											TIBPAL20R6-10M	°† TI	
			8	8	8	—	—	220	20		TIBPAL16R8-10M	°† TI	
				12	8	—	—	210	24		TIBPAL20R8-10C	° TI	
	85	64	4	8	4	4	—	200	20		TIBPAL16R4-10	°† TI	15
			6	8	6	2	—	200	20		TIBPAL16R6-10	°† TI	
			8	8	8	—	—	200	20		TIBPAL16R8-10	°† TI	
12	52.6	64	—	14	2	6	—	210	24		TIBPAL20L8-12M	°† TI	
			4	12	4	4	—	210	24		TIBPAL20R4-12M	°† TI	
			6	12	6	2	—	210	24		TIBPAL20R6-12M	°† TI	20
	56	64	0	10	2	6		220	20	Programmable Logic Array	TIBPAL16L8-12M	°† TI	
			4	8	4	4		220	20	Programmable Logic Array	TIBPAL16R4-12M	°† TI	
			6	8	6	2		220	20	Programmable Logic Array	TIBPAL16R6-12M	°† TI	
15	—	64	—	14	2	6	—	180	24		TIBPAL20L8-15	°† TI	
	37	64	—	8	4	4	—	180	20		PAL16R4B	° AMD	25
					6	2	—	180	20		PAL16R6B	° AMD	
				12	4	4	—	210	24		PAL20R4B	° AMD	
					6	2	—	210	24		PAL20R6B	° AMD	
	50	48	12	14	6	—	—	160	24		TIB82S167B	°† TI	
			14	16	8	—	—	180	28		TIB82S105B	°† TI	30
		64	—	10	2	6	—	180	20		TIBPAL16L8-15	°† TI	
			0	10	2	6		220	20	Programmable Logic Array	TIBPAL16L8-15M	°† TI	
			4	8	4	4	—	180	20		PAL16R4B	°† National	
											TIBPAL16R4-15	°† TI	
								220	20	Programmable Logic Array	TIBPAL16R4-15M	°† TI	35
				12	4	4	—	180	24		TIBPAL20R4-15	°† TI	
								210	24		PAL20RP4B	National	
											PAL20R4B	° National	
			6	8	6	2	—	180	20		PAL16R6B	°† National	
											TIBPAL16R6-15	°† TI	40
											(Continued)		

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
												(Cont'd)
15	50	64	6	8	6	2		220	20	Programmable Logic Array	TIBPAL16R6-15M	•† TI
				12	6	2	—	180	24		TIBPAL20R6-15	•† TI
								210	24		PAL20R6B	• National
			8	8	8	—	—	180	20		TIBPAL16R8-15	•† TI
				12	8	—	—	180	24	s+	TIBPAL20R8-15	• TI
								210	24		PAL20RP6B	National
											PAL20RP8B	National
											PAL20R8B	• National
20	33.3	48–96	—	9	4	4 macrocells	—	210	20	Sequencer PAL. 6 buried flip-flops	AMPAL23S8-20	• AMD
	35	65	10	10	10	—	—	180	24		TIBPAL20X10-20	•† TI
		76	—	12	2	8	—	165	24		TIBPAL20L10-20	•† TI
			4	10	4	6	—	180	24		TIBPAL20X4-20	•† TI
			8	10	8	2	—	180	24		TIBPAL20X8-20	•† TI
	41.5	64	6	12	6	2	—	210	24		TIBPAL20R6-20M	•† TI
	41.6	64	0	10	2	6		190	20	Programmable Logic Array	TIBPAL16L8-20M	•† TI
				14	2	6		180	24	Programmable Logic Array	TIBPAL20L8-20M	•† TI
			4	8	4	4		190	20	Programmable Logic Array	TIBPAL16R4-20M	•† TI
				12	4	4		180	24	Programmable Logic Array	TIBPAL20R4-20M	•† TI
			6	8	6	2		190	20	Programmable Logic Array	TIBPAL16R6-20M	•† TI
25	—	64	—	14	2	6	—	105	24		TIBPAL20L8-25	•† TI
	25	48–96	—	9	4	4 macrocells	—	210	20	Sequencer PAL. 6 buried flip-flops	AMPAL23S8-25	• AMD
		64	—	8	4	4	—	90	20		PAL16R4B-2	• AMD
								180	20		PAL16R4A	• AMD
					6	2	—	90	20		PAL16R6B-2	• AMD
								180	20		PAL16R6A	• AMD
				12	4	4	—	105	24		PAL20R4B-2	• AMD
								210	24		PAL20R4A	• AMD
					6	2	—	105	24		PAL20R6B-2	• AMD
								210	24		PAL20R6A	• AMD
	33	64	4	12	4	4	—	105	24		TIBPAL20R4-25	•† TI
			6	12	6	2	—	105	24		TIBPAL20R6-25	•† TI
			8	12	8	—	—	105	24		TIBPAL20R8-25	•† TI
	33.3	64	4	8	4	4	—	180	20		PAL16R4A	•† National
				12	4	4	—	210	24		PAL20R4A	•† National
			6	8	6	2	—	180	20		PAL16R6A	•† National
				12	6	2	—	210	24		PAL20R6A	•† National
			8	12	8	—	—	210	24		PAL20R8A	•† National
	40	64	4	8	4	4	—	100	20		PAL16R4B2	† National
			6	8	6	2	—	100	20		PAL16R6B2	† National
	50	64	—	10	2	6	—	100	20		TIBPAL16L8-25	•† TI
			4	8	4	4	—	100	20		TIBPAL16R4-25	•† TI
			6	8	6	2	—	100	20		TIBPAL16R6-25	•† TI
			8	8	8	—	—	100	20		TIBPAL16R8-25	•† TI

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq *(MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
30	22	76	—	12	2	8	—	165	24		TIBPAL20L10-30	°† TI	
			4	10	4	6	—	180	24		TIBPAL20X4-30	°† TI	
			8	10	8	2	—	180	24		TIBPAL20X8-30	°† TI	
			10	10	10	—	—	180	24		TIBPAL20X10-30	°† TI	
	25	40	4	10	4	6	—	180	24		PAL20X4A	† National	5
			8	10	8	2	—	180	24		PAL20X8A	† National	
			10	10	10	—	—	180	24		PAL20X10A	† National	
		64	0	10	2	6		105	20	Programmable Logic Array	TIBPAL16L8-30M	°‡ TI	
								180	20	Programmable Logic Array	PAL16L8AM	°† TI	
			4	8	4	4		105	20	Programmable Logic Array	TIBPAL16R4-30M	°† TI	10
								180	20	Programmable Logic Array	PAL16R4AM	°† TI	
			6	8	6	2		105	20	Programmable Logic Array	TIBPAL16R6-30M	°† TI	
								180	20	Programmable Logic Array	PAL16R6AM	°† TI	
35	16	64	—	8	4	4	—	55	20		PAL16R4B-4	° AMD	
								90	20		PAL16R4A-2	° AMD	15
					6	2	—	55	20		PAL16R6B-4	° AMD	
								90	20		PAL16R6A-2	° AMD	
				12	4	4	—	105	24		PAL20R4A-2	° AMD	
					6	2	—	105	24		PAL20R6A-2	° AMD	
	18	45	6	4	—	12	—	190	20	Field Programmable Logic Sequencer	PLS159A	Philips	20
	18.2	45		8	—	12	—	210	28	Field Programmable Logic Sequencer	PLS179	Philips	
	20	64	4	8	4	4	—	90	20		PAL16R4A2	† National	
								180	20		PAL16R4	°† National	
			6	8	6	2	—	90	20		PAL16R6A2	† National	
								180	20		PAL16R6	°† National	25
40	16	64	0	10	2	6		90	20	Programmable Logic Array	PAL16L8A-2M	°† TI	
			4	8	4	4		90	20	Programmable Logic Array	PAL16R4A-2M	°† TI	
			6	8	6	2		90	20	Programmable Logic Array	PAL16R6A-2M	°† TI	
45	125	64		8	8			180	28		PAL16R8-4	AMD	
50	14	43	4	4	—	12	—	190	20	Field Programmable Logic Sequencer, 16 inputs, 33 transition terms, 4 registered I/O, 8 I/O with Polarity	PLS155	° Philips	30
			6	4	—	12	—	190	20	Field Programmable Logic Sequencer, 16 inputs, 33 transition terms, 6 registered I/O, 6 I/O with Polarity	PLS157	° Philips	
	16.7	40	4	10	4	6	—	180	24		PAL20X4	† National	
			8	10	8	2	—	180	24		PAL20X8	† National	
			10	10	10	—	—	180	24		PAL20X10	† National	

One-Time Programmable—Superset

Max Propagation Delay (ns)	Max Clock Freq *(MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
15	—	64	—	10	—	8	—	180	20	Polarity	AMPAL18P8B	° AMD	35
		80	—	12	—	8	—	180	24	Polarity	AMPAL22P10B	° AMD	
	50	96–192	—	12	—	8–16	—	180	24	Varied term distribution	PAL22V10-15	° AMD	
		120	10	12	10	10	—	180	24	Macrocell	TIBPAL22V10-15C	° TI	
20	35	120	10	12	10	10	—	180	24	Macrocell	TIBPAL22V10-20M	°† TI	
	37	120	10	12	10	10	—	210	24	Enhanced macrocell	TIBPAL22VP10-20	°† TI	40
25	—	64	—	10	—	8	—	90	20	Polarity	AMPAL18P8AL	° AMD	
								180	20	Polarity	AMPAL18P8A	° AMD	
		80	—	12	—	10	—	90	24	Polarity	AMPAL22P10AL	° AMD	
								180	24	Polarity	AMPAL22P10A	° AMD	

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Bipolar (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
One-Time Programmable—Superset												**(Cont'd)**	
25												(Cont'd)	
	28	120	10	12	10	10	—	180	24	Macrocell	TIBPAL22V10A	•† TI	
	28.5	96–192	—	12	—	10	—	180	24	Varied term distribution	AMPAL22V10A	• AMD	
35	—	64	—	10	—	8	—	90	20	Polarity	AMPAL18P8L	• AMD	
	18	96–192	—	12	—	10	—	180	24	Varied term distribution	AMPAL22V10	• AMD	
		120	10	12	10	10	—	180	24	Macrocell	TIBPAL22V10	•† TI	5
											TIBPAL22V10C	• TI	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—BiCMOS

One-Time Programmable—Combinatorial Outputs

Max Propagation Delay (ns)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
5	64		10		6		180	20		PAL16L8B-5	Aspen	
7.5	64		10		6		180	20		PAL16L8B-7 †	Aspen	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—BiCMOS (Cont'd)

Max Clock Frequency (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
One-Time Programmable—Registered Outputs Only												
117	64	4	8	4	4		80	20		PAL16R4B-5	Aspen	
		6	8	6	2		180	20		PAL16R6B-5	Aspen	
		8	8	8			180	20		PAL16R8B-5	Aspen	
74	64	4	8	4	4		180	20		PAL16R4B-7 †	Aspen	
		6	8	6	2		180	20		PAL16R6B-7 †	Aspen	5
		8	8	8			180	20		PAL16R8B-7 †	Aspen	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral ModelAvailable ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—BiCMOS (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
6	156	16		12	8		180	180	28		CY7B336-6C CY7B338-6C	Cypress Cypress
7	131	12		180	180	28					CY7B338-7M †	Cypress
		16		12	8		180	180	28		CY7B336-7M †	Cypress
	142	16		12	8		180	180	28		CY7B337-7C	Cypress
		32		12	8		180	180	28		CY7B339-7C	Cypress
7.5	57	10	—	10		10	—	190	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLD20G10C-15M †	Cypress
	71	10	—	10		10	—	190	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLD20G10C-12C PLD20G10C-12M †	Cypress Cypress
	90	10	—	10		10	—	190	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLD20G10C-10C PLD20G10C-10M †	Cypress Cypress
	105	10	—	10		10	—	190	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLD20G10C-7C	Cypress
8	113	16		12	8		180	180	28		CY7B336-8C CY7B338-8C	Cypress Cypress
	125	16		12	8		180	180	28		CY7B337-8M †	Cypress
		32		12	8		180	180	28		CY7B339-8M †	Cypress
9	111	32		12	8		180	180	28		CY7B339-9C	Cypress
10	96	16		12	8		180	180	28		CY7B336-10M † CY7B338-10M †	Cypress Cypress
		32		12	8		180	180	28		CY7B339-10M †	Cypress
12	80	16		12	8		180	180	28		CY7B336-12M † CY7B338-12M †	Cypress Cypress

Erasable Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
10	100	160	16	—	—	16	130	130	24		PLD610-10C	Cypress
12	83.3	160	16	—	—	16	150	170	24		PLD610-12C	Cypress
15	66.7	160	16	—	—	16			24		PLD610-15C	Cypress
							170	190	24		PLD610-15M †	Cypress
25	40	160	16	—	—	16			24		PLD610-25C	Cypress
							170	190	24		PLD610-25M †	Cypress

One-Time Programmable—Superset

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
7.5	111	132	10	12		10		190	24		PAL22VP10C-7 PAL22V10C-7	Aspen Aspen
10	90	132	10	12		10		190	24		PAL22VP10C-10 † PAL22V10C-10 †	Aspen Aspen
12	71	132	10	12		10		190	24		PAL22VP10C-12 † PAL22V10C-12 †	Aspen Aspen

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral ModelAvailable ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS

Max Propagation Delay (ns)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
One-Time Programmable—Combinatorial Outputs												
35	74	10	18	8	8			20		P3C18V8ZI ℓ	Philips	
										P3C18V8Z35 ℓ	Philips	
Erasable Programmable—Combinatorial Outputs												
8			8	10			200	28	Ultra High-Speed State Machine EPLD	CY7C361-125C	Cypress	
10			8	10			150	28	Ultra High-Speed State Machine EPLD	CY7C361-100C	Cypress	
							200	28	Ultra High-Speed State Machine EPLD	CY7C361-100M †	Cypress	5
12			8	10			150	28	Ultra High-Speed State Machine EPLD	CY7C361-83C	Cypress	
										CY7C361-83M †	Cypress	
20	40	—	10	2	6	—	70	20		PALC16L8-20M †	Cypress	
	64		8		16	150	200	28	32-Macrocell Max EPLD	CY7C344-20C	Cypress	
						170	220	28	32-Macrocell Max EPLD	CY7C344-20I	Cypress	10
25	64		8		16	150	200	28	32-Macrocell Max EPLD	CY7C344-25C	Cypress	
						170	220	28	32-Macrocell Max EPLD	CY7C344-25I	Cypress	
										CY7C344-25M †	Cypress	
		—	10	2	6	—	45	20		PALC16L8L-25C	Cypress	
							70	20		PALC16L8-25C	Cypress	15
	128		8		28	125	135	44	64-Macrocell Max EPLD	CY7C343-25C	Cypress	
						200	225	44	64-Macrocell Max EPLD	CY7C343-25I	Cypress	
	256		8		52	250	225	68	128-Macrocell Max EPLD	CY7C342-25C	Cypress	
						275	320	68	128-Macrocell Max EPLD	CY7C342-25I	Cypress	
30	64	—	10	2	6	—	70	20		PALC16L8-30M †	Cypress	20
	128		8		28	125	135	44	64-Macrocell Max EPLD	CY7C343-30C	Cypress	
						200	225	44	64-Macrocell Max EPLD	CY7C343-30I	Cypress	
	256		8		52	225	250	68	128-Macrocell Max EPLD	CY7C342-30C	Cypress	
						275	320	68	128-Macrocell Max EPLD	CY7C342-30I	Cypress	
									128-Macrocell Max EPLD	CY7C342-30M †	Cypress	25
35	64		8		16	170	220	28	32-Macrocell Max EPLD	CY7C344-35M †	Cypress	
		—	10	2	6	—	45	20		PALC16L8L-35C	Cypress	
							70	20		PALC16L8-35C	Cypress	
	112	52	29	24	24		120	52		ATS2552-35C	ATMEL	
	128		8		28	125	135	44	64-Macrocell Max EPLD	CY7C343-35C	Cypress	30
						200	225	44	64-Macrocell Max EPLD	CY7C343-35I	Cypress	
										CY7C343-35M †	Cypress	
	256		8		52	225	250	68	128-Macrocell Max EPLD	CY7C342-35C	Cypress	
						275	320	68	128-Macrocell Max EPLD	CY7C342-35M †	Cypress	
									128-Macrocell Max EPLD	CY7C342-35I	Cypress	35
40	64	—	10	2	6	—	70	20		PALC16L8-40M †	Cypress	
50	112	52	29	24	24		120	52		ATS2552-50C	ATMEL	
Electrically Erasable Programmable—Combinatorial Outputs												
			12		24	155	156	40		**PA7040-1**	**American Micro (3503)**	
								48		**PA7040-2**	**American Micro (3503)**	
15	42		12		10	65	98	24	10 Sum Terms PLS 173 Replacement	**PEEL173-15**	**American Micro (3503)**	40
									20 Sum Terms PLS173 Superset	**PEEL273-15**	**American Micro (3503)**	
25					20	140	141	24		**PA7024-1**	**American Micro (3503)**	
								28		**PA7024-2**	**American Micro (3503)**	
	74	8	10		8	25	39	20		**PEEL18CV8-25**	**American Micro (3503)**	
										PEEL18CV8-35	**American Micro (3503)**	45
	132	10	12		10	65	85	24		PEEL22CV10-25	American Micro	
										PEEL32CV10-25	**American Micro (3503)**	

† Mil Temp Range (–55° to 125°C)   ‡ High Rad Resistance   *Typical Value   °Behavioral Model Available   ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Max Propagation Delay (ns)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
Electrically Erasable Programmable—Combinatorial Outputs (Cont'd)												
30	42	—	8	—	10	65	82	20	10 sum terms. PLS153 replacement.	**PEEL153**	**American Micro (3503)**	
									20 sum terms. PLS153 superset.	**PEEL253**	**American Micro (3503)**	
			12	—	10	65	82	24	10 sum terms. PLS173 replacement.	PEEL173	American Micro	
									20 sum terms. PLS173 superset.	**PEEL273**	**American Micro (3503)**	
Erasable Programmable—Registered Outputs Only												
100	132	10	12	10	—	—	140	24	Security Cell	GAL22CV10-7	National	5
83	132	10	12	10	—	—	130	24	Security Cell	GAL22CV10-10	National	
28.6	64	8	8	8	—	—	45 70	20 20		PALC16R8L-25C PALC16R8-25C	Cypress Cypress	
28.5	64	8	8	8	—	—	70	20		PALC16R8-20M	† Cypress	
27	192	12	31	12	12	130	180	28	Asynchronous Registered EPLD	CY7C331-20C °	Cypress	10
23.8	192	12	31	12	12	130	180	28	Asynchronous Registered EPLD	CY7C331-25C °	Cypress	
22	64	8	8	8	—	—	70	20		PALC16R8-30M	† Cypress	
20	192	12	31	12	12	160	200	28	Asynchronous Registered EPLD	CY7C331-25M	°† Cypress	
18.1	192	12	31	12	12	160	200	28	Asynchronous Registered EPLD	CY7C331-30M	°† Cypress	
18	64	8	8	8	—	—	45 70	20 20		PALC16R8L-35C PALC16R8-35C	Cypress Cypress	15
16.7	68	16	15	8	—	0.1	80	28	CMOS Logic Sequencer (Mealy type), 17 inputs, 64 transition terms, zero power mode, 2 clocks, 8 registered outputs	PLC415-16	† Philips	
16.5	64	8	8	8	—	—	70	20		PALC16R8-40M	† Cypress	
14.2	192	12	31	12	12	160	200	28	Asynchronous Registered EPLD	CY7C331-40M	°† Cypress	
Electrically Erasable Programmable—Registered Outputs Only												
27	75	22	10	—	10	—	150	24		GAL6001-30L	°‡ National	20
16.7	68	16	17	8	—		80	28		ATS415-16C	ATMEL	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Avilable ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
5	125	64		10	2	6		180	20		TIBPAL16L8-5 °	TI
				14	2	6		210	24		TIBPAL20L8-5 °	TI
			4	8	4	4		180	20		TIBPAL16R4-5 °	TI
				10	4	4		210	24		TIBPAL20R4-5 °	TI
			6	8	6	2		180	20		TIBPAL16R6-5 °	TI
				10	6	2		210	24		TIBPAL20R6-5 °	TI
			8	8	8			180	20		TIBPAL16R8-5 °	TI
				10	8			210	24		TIBPAL20R8-5 °	TI
7	100	8		10	8	8		115	20	8 Macrocells	85C220-100	Intel
											85C224-100	Intel
7.5	100	8		14	8	8	0.01	90	20	8 Macrocells	85C220-7	Intel
									24	8 Macrocells	85C224-7	Intel
	111	160	10	22	10	&10		190	28	Universal PAL Device	PAL22VP10C-7C	Cypress
						10		190	28	Universal PAL Device	PAL22V10C-7C	Cypress
	133	8		16	8		0.01	50	28		85C508-7	Intel
8.5	80	8		14	8	8	0.01	90	20	8 Macrocells	85C220-8	Intel
									24	8 Macrocells	85C224-8	Intel
9	111	16		12	8		180	180	28	BiCMOS Technology	CY7B337-9C	Cypress
10	62.5	8		14	8	8	0.01	90	20	8 Macrocells	85C220-10	Intel
									24	8 Macrocells	85C224-10	Intel
	71.4	12		12		10		130	24	10 Macrocells	iPLD22V10-10	Intel
	74	8		4		16	8	0.15	24	16 Macrocells	iPLD610-10	Intel
	80	8		10	8	8	0.01	60	20	8 Macrocells	85C220-80	Intel
				14	8	8	0.01	60	24	8 Macrocells	85C224-80	Intel
		16				32			44	40 Macrocells	iFX740	Intel
						60	1	1.5	84		iFX780-10	Intel
						92			132	160 Macrocells	iFX7160	Intel
	83.3	146		7		16	150	170	28	BiCMOS Technology	CY7B333-10C	Cypress
	90	160	10	22	10	10		190	28	Universal PAL Device	PAL22VP10C-10C	Cypress
											PAL22VP10C-10M	Cypress
											PAL22V10C-10C	Cypress
											PAL22V10C-10M	Cypress
	96	16		12	8		180	180	28	BiCMOS Technology	CY7B337-10M †	Cypress
	100	8		4	16	16	0.01	150	24	16 Macrocells	85C060-10	Intel
				16	8		0.01	50	28		85C508-10	Intel
		16		12	10	10	0.01	130	24	10 Macrocells	85C22V10-10	Intel
12	25			8	4		0.01	50	28		85C960-25	Intel
	50	160		4		16	150	170	24	BiCMOS Technology	CY7B326-12C	Cypress
	55.5	146		7		16	150	170	28	BiCMOS Technology	CY7B333-12C	Cypress
							170	190	28	BiCMOS Technology	CY7B333-12M †	Cypress
	62.5	8		12	8	24	12	0.15	40	24 Macrocells	iPLD910-12	Intel
	66	8		4		16	8	0.15	24	16 Macrocells	iPLD610-12	Intel
				10	8	8	0.01	60	20	8 Macrocells	85C220-66	Intel
				14	8	8	0.01	60	24	8 Macrocells	85C224-66	Intel
	71	160	10	22	10	10		190	28	Universal PAL Device	PAL22VP10C-12C	Cypress
											PAL22VP10C-12M †	Cypress
											PAL22V10C-12C	Cypress
											PAL22V10C-12M †	Cypress
	80	16		12	8		180	180	28	BiCMOS Technology	CY7B337-12M †	Cypress
		32		12	8		180	180	28	BiCMOS Technology	CY7B339-12M †	Cypress
	83	8		4	16	16	0.01	150	24	16 Macrocells	85C060-12	Intel
	125	64	8	10		8	75	75	20	8 Macrocell Replacement	EP330-12	Altera
15	20			8	4		0.01	50	28		85C960-20	Intel
	41.7	160		4		16	150	170	24	BiCMOS Technology	CY7B326-15C	Cypress
							170	190	24	BiCMOS Technology	CY7B326-15M †	Cypress
	50	8		4		16	8	0.15	24	16 Macrocells	iPLD610-15	Intel
				12	8	24	12	0.15	40	24 Macrocells	iPLD910-15	Intel
		146		7		16	170	190	28	BiCMOS Technology	CY7B333-15M †	Cypress

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

One-Time Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
15												(Cont'd)	
	57	160	10	22	10	10		190	28	Universal PAL Device	PAL22VP10C-15M	† Cypress	
											PAL22V10C-15M	† Cypress	
	58.8	12		12		10		130	24	10 Macrocells	iPLD22V10-15	Intel	
	66	8		4	16	16	0.01	150	24	16 Macrocells	85C060-15	Intel	
		16		12	10	10	0.01	130	24	10 Macrocells	85C22V10-15	Intel	5
	80	16				60	1	1.5	84		iFX780-15	Intel	
	83.3	8		12	24	24	0.06	150	40	24 Macrocells	85C090-15	Intel	
	100	64	8	10		8	75	75	20	8 Macrocell PAL/GAL Replacement	EP330-15	Altera	
17	33.3	160		4		16	170	190	24	BiCMOS Technology	CY7B326-17M	† Cypress	
20	66	8		12	24	24	0.06	150	40	24 Macrocells	85C090-20	Intel	10
	71.4	256	64	36	32	32			44	Replacement for EPS464	MPS464-20	Altera	
		320	32	8		16	150	155	28	High Volume Replacement for EPM5032	MPM5032-20	Altera	
25	30	8		12	24	24	0.06	150	40	24 Macrocells	85C090-25	Intel	
	33.3	8		12	8	24	12	0.15	40	24 Macrocells	iPLD910-25	Intel	
	35.7	12		12		10		130	24	10 Macrocells	iPLD22V10-25	Intel	15
	40	8		4		16	8	0.15	24	16 Macrocells	iPLD610-25	Intel	
					16	16	0.01	150	24	16 Macrocells	85C060-25	Intel	
	50	256	64	36	32	32			44	Replacement for EPS464	MPS464-25	Altera	
		480	48	16		48	150	225	68	High Volume Replacement for EP1810	MP1810-25	Altera	
	62.5	320	32	8		16	150	155	28	High Volume Replacement for EPM5032	MPM5032-25	Altera	20
		640	64	8		28	125	135	44	High Volume Replacement for EPM5064–1	MPM5064-1	Altera	
		1280	128	8		52			100	Replacement for EPM5128	MPM5128-1	Altera	
				20		64			100	Replacement for EMP5130	MPM5130-1	Altera	
		1920	192	8		64			100	Replacement for EPM5192	MPM5192-1	Altera	
30	30	160				22	60	105	24	CMOS and TTL Compatible	**UT22VP10**	**‡ UTMC (3847)**	25
	50	640	64	8		28	125	135	44	High Volume Replacement for EPM5064–2	MPM5064-2	Altera	
		1280	128	8		52			100	Replacement for EPM5128	MPM5128-2	Altera	
				20		64			100	Replacement for EMP5130	MPM5130-2	Altera	
		1920	192	8		64			100	Replacement for EPM5192	MPM5192-2	Altera	
35	40	480	48	16		48	150	180	68	High Volume Replacement for EP1810	MP1810-35	Altera	30
		640	64	8		28	125	135	44	High Volume Replacement for EPM5064	MPM5064	Altera	
		1280	128	8		52			100	Replacement for EPM5128	MPM5128	Altera	
				20		64			100	Replacement for EMP5130	MPM5130	Altera	
		1920	192	8		64			100	Replacement for EPM5192	MPM5192	Altera	

Erasable Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
	20	768		8	16		95	140	28	Stand Alone Microsequencer	EPS448	† Altera	35
3	66.6	256		10	10	12	140	180	28		CY7C330-66C °	Cypress	
5	40	256		10	10	12	150	180	28		CY7C330-40M	°† Cypress	
	50	256		10	10	12	160	200	28		CY7C330-50C °	Cypress	
											CY7C330-50M	°† Cypress	
5.5	125		256			64	10	100	100	1200 gate FPGA	**XC3020-125C**	**Xilinx (3857)**	40
			360			80	10	120	100	1800 gate FPGA	**XC3030-125C**	**Xilinx (3857)**	
			480			96	10	140	132	2500 gate FPGA	XC3042-125C	Xilinx	
			688			120	10	160	132	3500 gate FPGA	**XC3064-125C**	**Xilinx (3857)**	
			928			144	10	180	175	5000 gate FPGA	**XC3090-125C**	**Xilinx (3857)**	
7	100		174			74	12	100	84	1200 gate FPGA	XC2318-100C	Xilinx	45
			256			64	10	100	100	1200 gate FPGA	**XC3020-100C**	**Xilinx (3857)**	
			360			80	10	120	100	1800 gate FPGA	**XC3030-100C**	**Xilinx (3857)**	
			480			96	10	140	132	2500 gate FPGA	XC3042-100C	Xilinx	
			688			120	10	160	132	3500 gate FPGA	**XC3064-100C**	**Xilinx (3857)**	
			928			144	10	180	175	5000 gate FPGA	**XC3090-100C**	**Xilinx (3857)**	50
	166	18		12		10	0.1	140	24		AT22V10B-7C	ATMEL	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
7.5	180		2	4	30	100		44		ALU each Macrocell	**XC7336C**	**Xilinx (3857)**	
											XC7336I	**Xilinx (3857)**	
											XC7336M †	**Xilinx (3857)**	
9	70		256			64	10	100	100	1200 gate FPGA	**XC3020-70C**	**Xilinx (3857)**	
			360			80	10	120	100	1800 gate FPGA	**XC3030-70C**	**Xilinx (3857)**	5
			480			96	10	140	132	2500 gate FPGA	**XC3042-70C**	**Xilinx (3857)**	
			688			120	10	160	132	3500 gate FPGA	**XC3064-70C**	**Xilinx (3857)**	
			928			144	10	180	175	5000 gate FPGA	**XC3090-70C**	**Xilinx (3857)**	
	100		122			58	12	100	68	800 gate FPGA	**XC2064-100C**	**Xilinx (3857)**	
			174			74	12	100	84	1200 gate FPGA	**XC2018-100C**	**Xilinx (3857)**	10
10	28.5	256		11	12	12	150	180	28		CY7C330-28M †	Cypress	
	33.3	256		10	10	12	130	160	28		CY7C330-33C °	Cypress	
	100	160	16	4		16	90	90	28	High Speed Version of EP610	EP610A-10	Altera	
	125	1024	32	4		32	18	20	44	EEPROM	EPM7032C-10	Altera	
		4096	128	4		96	90	100	84	EEPROM	EPM7128C-10	Altera	15
	142	18		12		10	0.1	140	24		AT22V10B-10C	ATMEL	
								160	24		AT22V10B-10I	ATMEL	
											AT22V10B-10M	† ATMEL	
12		2688	452	4		116	0.3	25	160	SRAM Programmable Logic, 8000 Gates	EPF8452C-2	Altera	
		5376	820	4		148	0.4	55	192	SRAM Programmable Logic, 16000 Gates	EPF8820C-2	Altera	20
		8064	1188	4		180	0.5	80	232	SRAM Programmable Logic, 24000 Gates	EPF81188C-2	Altera	
	50		256			64	10	100	100	1200 gate FPGA	**XC3020-50C**	**Xilinx (3857)**	
			360			80	10	120	100	1800 gate FPGA	**XC3030-50C**	**Xilinx (3857)**	
			480			96	10	140	132	2500 gate FPGA	**XC3042-50C**	**Xilinx (3857)**	
			688			120	10	160	132	3500 gate FPGA	**XC3064-50C**	**Xilinx (3857)**	25
			928			144	10	180	175	5000 gate FPGA	**XC3090-50C**	**Xilinx (3857)**	
	83.3	160	16	4		16	90	90	28	High Speed Version of EP610	EP610A-12	Altera	
	125	18		12		10	0.1	140	24		AT22V10B-12C	ATMEL	
								160	24		AT22V10B-12I	ATMEL	
											AT22V10B-12M	† ATMEL	30
		1024	32	4		32	18	20	44	EEPROM	EPM7032C-12	Altera	
											EPM7032I-12	Altera	
		4096	128	4		96	90	100	84	EEPROM	EPM7128C-12	Altera	
		5120	160	4		100	110	115	84	EEPROM	EPM7160C-12	Altera	
		6144	192	4		120	130	135	160	EEPROM	EPM7192C-12	Altera	35
13	70		122			58	12	100	68	800 gate FPGA	**XC2064-70C**	**Xilinx (3857)**	
			174			74	12	100	84	1200 gate FPGA	**XC2018-70C**	**Xilinx (3857)**	
											XC2318-70C	Xilinx	
15		2688	452	4		116	0.3	25	160	SRAM Programmable Logic, 8000 Gates	EPF8452C-3	Altera	
											EPF8452I-3	Altera	40
											EPF8452M-3 †	Altera	
		5376	820	4		148	0.4	55	192	SRAM Programmable Logic, 16000 Gates	EPF8820C-3	Altera	
											EPF8820I-3	Altera	
		8064	1188	4		180	0.5	80	232	SRAM Programmable Logic, 24000 Gates	EPF81188C-3	Altera	
											EPF81188I-3	Altera	45
											EPF81188M-3 †	Altera	
	47.6	192		12	10	12	120	180	28		CY7C332-15C °	Cypress	
	66.6	72	8	10		8		45	20	8 Macrocells, Available in OTP Package	EP330	TI	
	71.4	160	16	4		16	60	90	28	High Speed Version of EP610	EP610-15T	Altera	
	83.3	18		12		10	0.1	90	24		AT22V10-15C	ATMEL	50
								100	24		AT22V10-15I	ATMEL	
											AT22V10-15M †	ATMEL	
		132	10	12	0	10	90	90	24	Varied Term Distribution	AT22V10-15 °	ATMEL	
		160	16	4		16	10	90	28	Low Power Version of EP610	EP630-15	Altera	
							150	90	24	16 Macro-cell Zero-Power EPLD	EP610-15	Altera	55
		240	24	12		24	150	150	40	24 Macrocell High-Performance EPLD	EP910A-15	Altera	
		320	32	8		16	150	155	28	32 Macrocell MAX EPLD	EPM5032-15	Altera	
		480	96	4		60	170	180	84	96 Macrocell MAX 7000 EPLD	EPM7096J84-2	Altera	
		3072	96	4		60	85	90	84	EPROM	EPM7096C-2	Altera	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source
15												(Cont'd)
	100	160	16	8		8	110	115	20	16 Macrocell MAX EPLD	EPM5016-15	Altera
		1024	32	4		32	18	20	44	EEPROM	EPM7032C-15	Altera
											EPM7032I-15	Altera
											EPM7032VC-15	Altera
											EPM7032VC-20	Altera
		4096	128	4		96	90	100	84	EEPROM	EPM7128C-15	Altera
		5120	160	4		100	110	115	84	EEPROM	EPM7160C-15	Altera
		6144	192	4		120	130	135	160	EEPROM	EPM7192C-15	Altera
		8192	256	4		160	150	155	160	EPROM	EPM7256C-15	Altera
17	83.3	160	16	8		8	110	115	20	16 Macrocell MAX EPLD	EPM5016-17	Altera
		320	32	8		16	150	155	28	32 Macrocell MAX EPLD	EPM5032-17	Altera
	720							184		3.3 or 5 V Operation	**XC73144C**	**Xilinx (3857)**
											XC73144I	**Xilinx (3857)**
											XC73144M	† **Xilinx (3857)**
19	50		122			58	12	100	68	800 gate FPGA	**XC2064-50C**	**Xilinx (3857)**
			174			74	12	100	84	1200 gate FPGA	**XC2018-50C**	**Xilinx (3857)**
											XC2318-50C	Xilinx
20	25	768		16	4		120	200	28	Stand-Alone Microsequencer	EPS448-25	Altera
	28.5	64	4	8	4	4	—	70	20		PALC16R4-20M	† Cypress
			6	8	6	2	—	70	20		PALC16R6-20M	† Cypress
	37	192		12	10	12	150	200	28		CY7C332-20M	°† Cypress
	43.4	192		12	10	12	120	180	28		CY7C332-20C	° Cypress
	50		256			64	10	100	120	2000 gate FPGA	**XC4002A**	† **Xilinx (3857)**
			360			80	10	110	120	3000 gate FPGA	**XC4003A**	† **Xilinx (3857)**
			480			96	10	120	160	4000 gate FPGA	**XC4004**	**Xilinx (3857)**
											XC4004A	† **Xilinx (3857)**
			616			112	10	140	160	5000 gate FPGA	**XC4005**	† **Xilinx (3857)**
			768			128	10	160	160	600 gate FPGA	**XC4006**	† **Xilinx (3857)**
			936			144	10	180	192		**XC4008**	† **Xilinx (3857)**
			1120			160	10	200	192	10000 gate FPGA	**XC4010**	† **Xilinx (3857)**
		18		12		10	0.1	15	24		AT22V10L-20C	ATMEL
								20	24		AT22V10L-20I	ATMEL
											AT22V10L-20M	† ATMEL
								90	24		AT22V10-20C	ATMEL
								100	24		AT22V10-20I	ATMEL
											AT22V10-20M	† ATMEL
		132	10	12	0	10	90	90	24	Varied Term Distribution	AT22V10-20	ATMEL
	55	160	16	4		16	0.15	100	24	16 Macrocells, Available in OTP Package	EP630	TI
		171	20	12		10		120	24		ATV750-20C	ATMEL
								140	24		ATV750-20I	ATMEL
											ATV750-20M	† ATMEL
											ATV750-20M/883	† ATMEL
	55.5	160	16	4		16	60	90	28	High Speed Version of EP610	EP610-20T	Altera
	62.5	160	16	4		16	10	90	28	Low Power Version of EP610	EP630-20	Altera
							150	90	24	16 Macrocell Zero-Power EPLD	EP610-20	Altera
				8		8	110	115	20	16 Macrocell MAX EPLD	EPM5016-20	Altera
		480	48	16		48	0.15	225	68	Low Power Version of EP1810	EP1830-20	Altera
							150	225	68	48 Macrocell Zero-Power EPLD	EP1810-20	Altera
							250	250	68	High Speed Version of EP1810	EP1810-20T	Altera
	71.4	320	32	8		16	150	155	28	32 Macrocell MAX EPLD	EPM5032-20	Altera
			64	4		32	120	125	44	64 Macrocell Global EPLD	EPS464-20	Altera
		480	96	4		60	170	180	84	96 Macrocell MAX 7000 EPLD	EPM7096J84-3	Altera
		3072	96	4		60	85	90	84	EPROM	EPM7096C-3	Altera
	83	240	24	8		12		100	24	24 Macrocells, Available in OTP Package	EPM6024	TI
		320	32	8		16		125	28	32 Macrocells, Available in OTP Package	EPM6032	TI
	83.3	1024	32	4		32	18	20	44	EEPROM	EPM7032-20	Altera
		1280	256	4		160	175	180	192	256 Macrocell MAX7000 EPLD	EPM7256G192-2	Altera
		4096	128	4		96	90	100	84	EEPROM	EPM7128C-20	Altera
											EPM7128I-20	Altera

(Continued)

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)													
20	83.3											(Cont'd)	
		5120	160	4		100	110	115	84	EEPROM	EPM7160C-20	Altera	
											EPM7160I-20	Altera	
		6144	192	4		120	130	135	160	EEPROM	EPM7192C-20	Altera	
											EPM7192I-20	Altera	
											EPM7192M-20 †	Altera	5
		8192	256	4		160	150	155	160	EPROM	EPM7256C-20	Altera	
	100	180	10	12		10		90	24		AT22LV10-20C	ATMEL	
								100	24		AT22LV10-20I	ATMEL	
											AT22LV10-20M †	ATMEL	
											AT22LV10-20M/883 †	ATMEL	10
	270		9	8	42	330 *	470 *	68		3.3 or 5 V Operation	**XC7354-10C**	**Xilinx (3857)**	
											XC7354-10I	**Xilinx (3857)**	
22	20	768		16	4		120	200	28	Stand-Alone Microsequencer	EPS448-20	Altera	
	360		12	23	37			84		3.3 or 5 V Operation	**XC7372-10C**	**Xilinx (3857)**	
											XC7372-10I	**Xilinx (3857)**	15
25		8	20	12		10			24		ATV750LV-40C	ATMEL	
											ATV750LV-50M	ATMEL	
											ATV750LVL-4C ℓ	ATMEL	
											ATV750LVL-7M †	ATMEL	
		72	48	14		24			40		ATV2500LV-60C	ATMEL	20
											ATV2500LV-80M †	ATMEL	
											ATV2500LVL-3C	ATMEL	
											ATV2500LVL-7M †	ATMEL	
	28	88	8	10	—	8	80	80	24	48ma output drivers	PLX448 °†	PLX Tech	
									28	64mA output drivers	PLX464 °†	PLX Tech	25
	28.5	64	4	8	4	4	—	45	20		PALC16R4L-25C	Cypress	
								70	20		PALC16R4-25C	Cypress	
			6	8	6	2	—	45	20		PALC16R6L-25C	Cypress	
								70	20		PALC16R6-25C	Cypress	
	30	72		2	8	8	0.1	45	20	Universal 20 pin PAL	PLC18V8Z25	Philips	30
										Universal 20 pin PAL, Industrial	PLC18V8ZIA	Philips	
		74		10	8		0.1	1.5	20		AT18V8Z-25C	ATMEL	
	34.4	256		12	10	12	150	200	28		CY7C332-25M °†	Cypress	
	35.7	256		12	10	12	120	180	28		CY7C332-25C °	Cypress	
	40	416	48	14		24		160	40		ATV2500H-25C	ATMEL	35
								180	40		ATV2500H-25I	ATMEL	
											ATV2500H-25M †	ATMEL	
											ATV2500H-25M/883 †	ATMEL	
	41.6	18		12		10	0.1	15	24		AT22V10L-25C	ATMEL	
								20	24		AT22V10L-25I	ATMEL	40
											AT22V10L-25M †	ATMEL	
								55	24		AT22V10-25C	ATMEL	
											AT22V10-25I	ATMEL	
											AT22V10-25M †	ATMEL	
		132	10	12	0	10	90	90	24	Varied Term Distribution	AT22V10-25	ATMEL	45
	45	171	20	12		10		15	24		ATV750L-25C	ATMEL	
								20	24		ATV750L-25I	ATMEL	
											ATV750L-25M †	ATMEL	
											ATV750L-25M/883 †	ATMEL	
								120	24		ATV750-25C	ATMEL	50
								140	24		ATV750-25I	ATMEL	
											ATV750-25M †	ATMEL	
											ATV750-25M/883 †	ATMEL	
	47.6	160	16	4		16	60	90	28	High Speed Version of EP610	EP610-25T	Altera	
	50	40	128			52	350		68		ATV5100-25C	ATMEL	55
		320	64	4		32	120	125	44	64 Macrocell Global EPLD	EPS464-25	Altera	
												(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
25	50											(Cont'd)	
		480	48	16		48	0.15	225	68	Low Power Version of EP1810	EP1830-25	Altera	
							150	225	68	48 Macrocell Zero-Power EPLD	EP1810-25	Altera	
							250	250	68	High Speed Version of EP1810	EP1810-25T	Altera	
		876	128	8		52		350	52		ATV5000-25C	ATMEL	
	62.5	240	24	12		24	150	150	40	24 Macrocell High-Performance EPLD	EP910A-25	Altera	5
		320	32	8		16	150	155	28	32 Macrocell MAX EPLD	EPM5032-25 †	Altera	
		480	96	4		60	170	180	84	96 Macrocell MAX 7000 EPLD	EPM7096J84	Altera	
		640	64	8		28	125	135	44	64 Macrocell MAX EPLD	EPM5064-1	Altera	
		1280	128	8		52	225	250	68	128 Macrocell MAX EPLD	EPM5128-1	Altera	
				20		48	250	275	84	128 Macrocell MAX EPLD	EPM5130J-1	Altera	10
						64	250	275	100	128 Macrocell MAX EPLD	EPM5130-1	Altera	
		1920	192	8		64	360	380	84	192 Macrocell MAX EPLD	EPM5192-1	Altera	
		3072	96	4		60	85	90	84	EPROM	EPM7096C	Altera	
											EPM7096I	Altera	
	66	16		10	12	12	0.3	80	24	12 Macrocells	5AC312-25	Intel	15
				12	24	24	0.5	20	40	24 Macrocells	5AC324-25	Intel	
	71.4	180	10	12		10		15	24		AT22LV10L-30C	ATMEL	
								20	24		AT22LV10L-30I	ATMEL	
	83.3	180	10	12		10		15	24		AT22LV10L-25C	ATMEL	
								20	24		AT22LV10L-25I	ATMEL	20
											AT22LV10L-25M	† ATMEL	
								90	24		AT22LV10-25C	ATMEL	
								100	24		AT22LV10-25I	ATMEL	
											AT22LV10-25M	† ATMEL	
											AT22LV10-25M/883	† ATMEL	25
		1280	256	4		160	175	180	192	256 Macrocell MAX7000 EPLD	EPM7256G192	Altera	
		8192	256	4		160	150	155	160	EPROM	EPM7256C-25	Altera	
											EPM7256I-25	Altera	
											EPM7256M-25 †	Altera	
	228		2	4	30	100		44	ALU each Macrocell		**XC7236A-16C**	**Xilinx (3857)**	30
											XC7236A-16I	**Xilinx (3857)**	
	456		12	18	42	250		84	ALU each Macrocell		**XC7272A-16C**	**Xilinx (3857)**	
											XC7272A-16I	**Xilinx (3857)**	
	4706	160	16	4		16	150	60	24	16 Macrocell-Zero-Power EPLD	EP610-25	Altera	
27	270		9	8	42	300 *	430 *	68	3.3 or 5 V Operation		**XC7354-12C**	**Xilinx (3857)**	35
											XC7354-12I	**Xilinx (3857)**	
											XC7354-12M	**Xilinx (3857)**	
28	360		12	23	37			84	3.3 or 5 V Operation		**XC7372-12C**	**Xilinx (3857)**	
											XC7372-12I	**Xilinx (3857)**	
											XC7372-12M	**Xilinx (3857)**	40
30	22	64	4	8	4	4	—	70	20		PALC16R4-30M	† Cypress	
			6	8	6	2	—	70	20		PALC16R6-30M	† Cypress	
	25	74		10	8		0.1	1.5	20		AT18V8Z-30C	ATMEL	
	29.4	256		12	10	12	150	200	28		CY7C332-30M	°† Cypress	
	33	416	48	14		24		5	40		ATV2500L-30C	ATMEL	45
								10	40		ATV2500L-30I	ATMEL	
											ATV2500L-30M	† ATMEL	
								160	40		ATV2500H-30C	ATMEL	
								180	40		ATV2500H-30I	ATMEL	
											ATV2500H-30M	† ATMEL	50
											ATV2500H-30M/883	† ATMEL	
	33.3	18		12		10		20	24		AT22V10L-30M	† ATMEL	
							0.1	55	24		AT22V10-30M †	ATMEL	
		384		8	8		200	310	84	192 Macrocell MAX-EPLD	CY7C341-30C	Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
30												(Cont'd)	
	40	30	128			52	40		68		ATV5100L-30C	ATMEL	
							50		68		ATV5100L-30I	ATMEL	
											ATV5100L-30M	† ATMEL	
							350		68		ATV5100-30C	ATMEL	
							400		68		ATV5100-30I	ATMEL	5
											ATV5100-30M	† ATMEL	
		171	20	12		10		15	24		ATV750L-30C	ATMEL	
								20	24		ATV750L-30I	ATMEL	
											ATV750L-30M	† ATMEL	
											ATV750L-30M/883	† ATMEL	10
								120	24		ATV750-30C	ATMEL	
								140	24		ATV750-30I	ATMEL	
											ATV750-30M	† ATMEL	
											ATV750-30M/883	† ATMEL	
		876	128	8		52		40	52		ATV5000L-30C	ATMEL	15
								350	52		ATV5000-30C	ATMEL	
								400	52		ATV5000-30I	ATMEL	
											ATV5000-30M	† ATMEL	
	41.7	160	16	4		16	150	60	24	16 Macrocell Zero-Power EPLD	EP610-30	Altera	
		240	24	12		24	150	80	40		EP910-30T	Altera	20
										24 Macrocell Zero-Power EPLD	EP910-30	Altera	
	50	12		10	8	8	0.1	25	20	8 Macrocells	5C032-30	Intel	
		16		10	12	12	0.3	80	24	12 Macrocells	5AC312-30	Intel	
				12	24	24	0.5	20	40	24 Macrocells	5AC324-30	Intel	
		640	64	8		28	125	135	44	64 Macrocell MAX EPLD	EPM5064-2	Altera	25
		1280	128	8		52	225	250	68	128 Macrocell MAX EPLD	EPM5128-2	Altera	
				20		48	250	275	84	128 Macrocell MAX EPLD	EPM5130J-2	Altera	
						64	250	275	100	128 Macrocell MAX EPLD	EPM5130-2	Altera	
		1920	192	8		64	360	380	84	192 Macrocell MAX EPLD	EPM5192-2	Altera	
	71.4	180	10	12		10		20	24		AT22LV10L-30M	† ATMEL	30
											AT22LV10L-30M/883	† ATMEL	
								90	24		AT22LV10-30C	ATMEL	
								100	24		AT22LV10-30I	ATMEL	
											AT22LV10-30M	† ATMEL	
											AT22LV10-30M/883	† ATMEL	35
	228		2	4	30	100		44		ALU each Macrocell	XC7236-30C	Xilinx	
											XC7236-30I	Xilinx	
	540							84		3.3 or 5 V Operation	**XC73108-12C**	**Xilinx (3857)**	
											XC73108-12I	**Xilinx (3857)**	
32	228		2	4	30	100		44		ALU each Macrocell	**XC7236A-20C**	**Xilinx (3857)**	40
											XC7236A-20I	**Xilinx (3857)**	
											XC7236A-20M	**† Xilinx (3857)**	
	270		9	8	42	270 *	400 *	68		3.3 or 5 V Operation	**XC7354-15C**	**Xilinx (3857)**	
											XC7354-15I	**Xilinx (3857)**	
											XC7354-15M	**† Xilinx (3857)**	45
	456		12	18	42	250		84		ALU each Macrocell	**XC7272A-20C**	**Xilinx (3857)**	
											XC7272A-20I	**Xilinx (3857)**	
											XC7272A-20M	**† Xilinx (3857)**	
33	30		122			58	12	100	68	800 gate FPGA	XC2064	† Xilinx	
	33		174			74	12	100	84	1200 gate FPGA	**XC2018-33C**	**Xilinx (3857)**	50
											XC2018-33M	**† Xilinx (3857)**	
34	360		12	23	37			84		3.3 or 5 V Operation	**XC7372-15C**	**Xilinx (3857)**	
											XC7372-15I	**Xilinx (3857)**	
											XC7372-15M	**† Xilinx (3857)**	
35	18	64	4	8	4	4	—	70	20		PALC16R4-35C	Cypress	55
											PALC16R4L-35C	Cypress	
			6	8	6	2	—	45	20		PALC16R6L-35C	Cypress	
								70	20		PALC16R6-35C	Cypress	
												(Continued)	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
35												(Cont'd)	
	21	74		10	8		0.1	1.5	20		AT18V8Z-35C	ATMEL	
								31.5	20	Universal 20 pin PAL	PLC18V8Z35	Philips	
	22.2	384		8	8		200	310	84	192 Macrocell MAX-EPLD	CY7C341-35C	Cypress	
							240	320	84	192 Macrocell MAX-EPLD	CY7C341-35M †	Cypress	
	28	416	48	14		24		5	40		ATV2500L-35C	ATMEL	5
								10	40		ATV2500L-35I	ATMEL	
											ATV2500L-35M	† ATMEL	
											ATV2500L-35M/883	† ATMEL	
								160	40		ATV2500H-35C	ATMEL	
								180	40		ATV2500H-35I	ATMEL	10
											ATV2500H-35M	† ATMEL	
											ATV2500H-35M/883	ATMEL	
	33	25	128			52	40		68		ATV5100L-35C	ATMEL	
							50		68		ATV5100L-35I	ATMEL	
											ATV5100L-35M	† ATMEL	15
							350		68		ATV5100-35C	ATMEL	
							400		68		ATV5100-35I	ATMEL	
											ATV5100-35M †	ATMEL	
		171	20	12		10		120	24		ATV750-35C	ATMEL	
								140	24		ATV750-35I	ATMEL	20
											ATV750-35M †	ATMEL	
											ATV750-35M/883	† ATMEL	
		876	128	8		52		40	52		ATV5000L-35C	ATMEL	
								50	52		ATV5000L-35I	ATMEL	
											ATV5000L-35M	† ATMEL	25
											ATV5000L-35M/883	† ATMEL	
								350	52		ATV5000-35C	ATMEL	
								400	52		ATV5000-35I	ATMEL	
											ATV5000-35M †	ATMEL	
											ATV5000-35M/883	† ATMEL	30
	33.3	18		12		10		15	24		AT22V10L-35C	ATMEL	
								20	24		AT22V10L-35I	ATMEL	
							0.1	55	24		AT22V10-35C	ATMEL	
											AT22V10-35I	ATMEL	
		132	10	12	0	10	90	90	24	Varied Term Distribution	AT22V10-35	ATMEL	35
	37	160	16	4		16	150	60	24	16 Macrocell Zero-Power EPLD	EP610-35 †	Altera	
		240	24	12		24	150	80	40	24 Macrocell Zero-Power EPLD	EP910-35	Altera	
	40	12		10	8	8	0.1	25	20	8 Macrocells	5C032-35	Intel	
		16		12	24	24	0.5	20	40	24 Macrocells	5AC324-35	Intel	
		480	48	16		48	150	180	68	48 Macrocell Zero-Power EPLD	EP1810-35	Altera	40
							215	215	68	High Speed Version of EP1810	EP1810-35T	Altera	
		640	64	8		28	125	135	44	64 Macrocell MAX EPLD	EPM5064 †	Altera	
		1280	128	8		52	225	250	68	128 Macrocell MAX EPLD	EPM5128 †	Altera	
				20		48	250	275	84	128 Macrocell MAX EPLD	EPM5130J	Altera	
						64	250	275	100	128 Macrocell MAX EPLD	EPM5130	Altera	45
		1920	192	8		64	360	380	84	192 Macrocell MAX EPLD	EPM5192	Altera	
	50	105	10	8				120	24		ATS42VA12-35C	ATMEL	
	62.5	180	10	12		10		15	24		AT22LV10L-35C	ATMEL	
								20	24		AT22LV10L-35I	ATMEL	
											AT22LV10L-35M	† ATMEL	50
											AT22LV10L-35M/883	† ATMEL	
36	540							84		3.3 or 5 V Operation	**XC73108-15C**	**Xilinx (3857)**	
											XC73108-15I	**Xilinx (3857)**	
											XC73108-15M †	**Xilinx (3857)**	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
40	16.5	64	4	8	4	4	—	70	20		PALC16R4-40M †	Cypress	
			6	8	6	2	—	70	20		PALC16R6-40M †	Cypress	
	18	74		10	8		0.1	1.5	20		AT18V8Z-35I	ATMEL	
								27	20	Universal 20 pin PAL, Industrial	PLC18V8ZI	Philips	
	19.6	384		8	8		240	320	84		CY7C341-40M †	Cypress	5
	25	416	48	14		24		5	40		ATV2500L-40C	ATMEL	
								10	40		ATV2500L-40I	ATMEL	
											ATV2500L-40M †	ATMEL	
											ATV2500L-40M/883 †	ATMEL	
	28	171	20	12		10		120	24		ATV750-40I	ATMEL	10
											ATV750-40M †	ATMEL	
											ATV750-40M/883 †	ATMEL	
	32.3	240	24	12		24	150	80	40	24 Macrocell Zero-Power EPLD	EP910-40	Altera	
	35.7	480	48	16		48	150	180	68	48 Macrocell Zero-Power EPLD	EP1810-40	Altera	
	38	12		10	8	8	0.1	25	20	8 Macrocells	5C032-40	Intel	15
	228		2	4	30	100		44		ALU each Macrocell	XC7236-25C	Xilinx	
											XC7236-25I	Xilinx	
											XC7236A-25C	**Xilinx (3857)**	
											XC7236A-25I	**Xilinx (3857)**	
											XC7236A-25M	**Xilinx (3857)**	20
	456		12	18	42	250		84		ALU each Macrocell	XC7272-25C	Xilinx	
											XC7272-25I	Xilinx	
											XC7272A-25C	**Xilinx (3857)**	
											XC7272A-25I	Xilinx	
											XC7272A-25M †	**Xilinx (3857)**	25
45	22	416	48	14		24		10	40		ATV2500L-45I	ATMEL	
											ATV2500L-45M †	ATMEL	
											ATV2500L-45M/883 †	ATMEL	
	26	8		4	16	16	0.1	15	24	16 Macrocells	5C060-45	Intel	
	26.3	160	16	4		16	150	60	24	16 Macrocell Zero-Power EPLD	EP600-45	Altera	30
	28.6	240	24	12		24	150	80	40	24 Macrocell Zero-Power EPLD	EP910-45 †	Altera	
	33.3	480	48	16		48	150	180	68	48 Macrocell Zero-Power EPLD	EP1810-45 †	Altera	
	540							84		3.3 or 5 V Operation	**XC73108-20C**	**Xilinx (3857)**	
											XC73108-20I	**Xilinx (3857)**	
											XC73108-20M †	**Xilinx (3857)**	35
48	456		12	18	42	250		84		ALU each Macrocell	XC7272-30C	Xilinx	
											XC7272-30I	Xilinx	
50	26	8		12	24	24	0.1	25	40	24 Macrocells	5C090-50	Intel	
55	25	64	—	10	2	6	—	70	20		TICPAL16L8-55C •	TI	
			4	8	4	4	—	79	20		TICPAL16R4-55C •	TI	40
			6	8	6	2	—	70	20		TICPAL16R6-55C •	TI	
			8	8	8	—	—	70	20		TICPAL16R8-55C •	TI	
	26	8		4	16	16	0.1	15	24	16 Macrocells	5C060-55	Intel	
60	21	8		12	24	24	0.1	25	40	24 Macrocells	5C090-60	Intel	
70	21	8		16	48	48	0.1	25	68	48 Macrocells	5C180-70	Intel	45
75	20	8		16	48	48	0.1	25	68	48 Macrocells	5C180-75	Intel	
90	16	8		16	48	48	0.1	25	68	48 Macrocells	5C180-90	Intel	

Electrically Erasable Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
	70		1188	4		180	1	160	232	12000 Gate FLEX device	EPF81188G232	Altera	
7	100	64	8	8	8	8		115	20		GAL16V8B-7L •	Lattice	
7.5	100	64	8	8	8	8		115	20		GAL20V8B-7L	Lattice	50
	105	64		16	8	8		100	20		P3Q16V8-7 ℓ	Philips	
		132	10	22	10	10		120	28		P3Q22V10-7 ℓ	Philips	
9	76.9	50	24	14	—	12	105 *	105 *	28		PA7128-1	ICT	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Electrically Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
10	55.5		8	16	8	4			20	Universal PAL	PALCE16V8H-10C	° AMD	
	62.5	64	8	8	8	8		115	20		GAL16V8B-10L	Lattice	
											GAL16V8B-10LI	Lattice	
											GAL20V8B-10L	Lattice	
											GAL20V8B-10LI	Lattice	5
									24		GAL16V8B-10L/883C	† Lattice	
		74	8	10		8	120	151	20		**PEEL18CV8-10** °	**American Micro (3503)**	
	66.6	132	10	22	10	10		120	28		PL22V10-10	Philips	
	71.4	80	10	10	10	10		90	24		GAL20XV10B-10L	Lattice	
		122	10	12	10	10		130	24		GAL22V10B-10L	Lattice	10
	90	16	—	10	—	10	90		28		PALC22V10D-10C	Cypress	
	125	160	32	4		32	35	40	44	32 Macrocell MAX 7000 EPLD	EPM7032L44-1	Altera	
12	52.6	64	64	38	32	8		180	44	High Density Programmable Logic	MACH215-12	AMD	
	58.8	132	10	22	10	10		120	28		PL22V10-12	Philips	
	62.5	80	10	10	10	10		100	24		GAL20RA10-12L	Lattice	15
	125	160	32	4		32	35	40	44	32 Macrocell MAX7000 EPLD	EPM7032L44-2	Altera	
		800	160	4		60	220	230	84	160 Macrocell MAX 7000 EPLD	EPM7160L84-1	Altera	
		960	192	4		120	260	270	160	192 Macrocell MAX 7000 EPLD	EPM7192G160-1	Altera	
15	41.7	64	64	38	32	8		180	44	High Density Programmable Logic	MACH215-15	AMD	
	45.4			22	10		130	130	24	Generic Array Logic	GAL22V10-15LC	° National	20
							150	150	24	Generic Array Logic	GAL22V10-15LI	° National	
											GAL22V10-15LM	°† National	
	45.5	64	8	8		8	55	55	20	GAL-Type Device	PALCE16V8Q-15	° AMD	
				12		8	55	55	24	GAL-Type Device	PALCE20V8Q-15	AMD	
							110	110	24	GAL-Type Device	PALCE20V8H-15	AMD	25
		80		14	10	10		90	28		PALCE24V10H-15	AMD	
	50	16	—	10	—	10	90		28		PALC22V10D-15C	Cypress	
											PALC22V10D-15I	Cypress	
							120		28		PALC22V10D-15M	† Cypress	
		64	32	38	32	16			44		MACH110-15C °	AMD	30
			48	58	48	8			68		MACH120-15C	AMD	
			64	38	32	8			44		MACH210-15C	AMD	
				70	64	16			84		MACH130-15C	AMD	
		80	10	10	10	10		100	24		GAL20RA10-15L	° Lattice	
		92	10	12		10	105	130	24		**PEEL20CG10-15**	**American Micro (3503)**	35
		96	96	56	48	8			68		MACH220-15C	AMD	
		128		4		16		90	28		PALCE610H-15	AMD	
			128	70	64	16			84		MACH230-15C	AMD	
		132	10	12		10	105	130	24		PEEL22CV10-15	° American Micro	
											PEEL32CV10-15	**American Micro (3503)**	40
				22	10	10		120	28		PL22V10-15	Philips	
											PL22V10I-15	Philips	
	55.5	122	10	12	10	10		130	24		GAL22V10B-15-L/883C	† Lattice	
	58.8	80	10	10	10	10		90	24		GAL20XV10B-15L	Lattice	
	62.5	64	8	8	8	8		115	20		GAL16V8B-15LI	Lattice	45
		84	10	8		10		115	20		GAL18V10-15L °	Lattice	
		108	12	14		12		130	28		GAL26CV12-15L	° Lattice	
	83.3	336	56			56		225	67		ATH3000-15C	ATMEL	
								270	67		ATH3000-15I	ATMEL	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Electrically Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
15											(Cont'd)		
	100	160	32	4		35	40	30	44	32 Macrocell MAX7000 EPLD	EPM7032L44-3	Altera	
		800	160	4		60	220	230	84	160 Macrocell MAX 7000 EPLD	EPM7160L84-2	Altera	
		960	192	4		120	260	270	160	192 Macrocell MAX 7000 EPLD	EPM7192G160-2	Altera	
20	33.3			22	10		130	130	24	Generic Array Logic	GAL22V10-20LC °	National	
							150	150	24	Generic Array Logic	GAL22V10-20LI °	National	5
											GAL22V10-20LM °†	National	
		64	64	38	32	8		180	44	High Density Programmable Logic	MACH215-20	AMD	
	40	64	32	38	32	16			44		MACH110-20C °	AMD	
											MACH110-20M °†	AMD	
			48	58	48	8			68		MACH120-20C	AMD	10
			64	38	32	8			44		MACH210-20C	AMD	
											MACH210-20M †	AMD	
				70	64	16			84		MACH130-20C	AMD	
											MACH130-20M †	AMD	
		96	96	56	48	8			68		MACH220-20C	AMD	15
		128	128	70	64	16			84		MACH230-20C	AMD	
	41.6	64	8	8		8		90	24		iSPGAL16Z8-20L	Lattice	
	41.7	80	10	10	10	10		100	24		GAL20RA10-20L °	Lattice	
								120	24		GAL20RA10-20LI °	Lattice	
	62.5	84	10	8		10		115	20		GAL18V10-20L °	Lattice	20
					10	10		125	20		GAL18V10-20LI °	Lattice	
	66.7	336	56			56		5	67		ATH3000L-20C	ATMEL	
											ATH3000L-20I	ATMEL	
								225	67		ATH3000-20C	ATMEL	
								270	67		ATH3000-20I	ATMEL	25
											ATH3000-20M †	ATMEL	
											ATH3000-20M/883 †	ATMEL	
	80	320	64	4		32		200	44		ISPLSI1016-80	Lattice	
											PLSI1016-80	Lattice	
		480	96	6		48		200	68		ISPLSI1024-80	Lattice	30
											PLSI1024-80	Lattice	
		640	128	8		64		195	84		ISPLSI1032-80	Lattice	
											PLSI1032-80	Lattice	
	83.3	800	160	4		60	220	230	84	160 Macrocell MAX 7000 EPLD	EPM7160L84-3	Altera	
		960	192	4		120	260	270	160	192 Macrocell MAX 7000 EPLD	EPM7192G160-3	Altera	35
23	50	84	40	2	—	20	100	100mA + 0.5mA/MHz	24	High density logic array. Approx. 1200-equiv gates.	PA7024	ICT	
		124	48	14	—	24	150	150mA + 0.5mA/MHz	24	High density logic array. Approx. 1700-equiv. gates	PA7040	ICT	
											PA7140	ICT	
25	28.5			22	10		130	130	24	Generic Array Logic	GAL22V10-25LC °	National	
							150	150	24	Generic Array Logic	GAL22V10-25LI °	National	40
											GAL22V10-25LM °†	National	
	28.6	128		4		16		90	28		PALCE610H-25	AMD	
	33.3	16	—	10	—	10	90		28		PALC22V10D-25C	Cypress	
											PALC22V10D-25I	Cypress	
							120		28		PALC22V10D-25M †	Cypress	45
		64		8		8	0.015	90	20	Zero Power PLD 20 pin	PALCE16V8Z-25	AMD	
			8	8		8		90	24		iSPGAL16Z8-25L	Lattice	
											(Continued)		

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance •Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Electrically Erasable Programmable—Registered/Combinatorial Outputs (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
25	33.3	64–192	—	5	—	16 macrocells	—	100	24	Asynchronous PAL. Programmable clock. Advanced I/O macrocell.	(Cont'd) PALCE29MA16H-25	AMD	
		132		12		10	0.015	120	24	Zero Power PLD 24 pin	PALCE22V10Z	AMD	
		148	12	14		12	105	105	28	28-pin 22V10	PALCE26V12H-25	° AMD	
	37	64	8	12		8	55	55	24	GAL-Type Device	PALCE20V8Q-25	AMD	
							110	110	24	GAL-Type Device	PALCE20V8H-25	AMD	5
		120		14	10	10		90	28		PALCE24V10H-25	AMD	
	45.5	64	8	8		8	55	55	20	GAL-Type Device	PALCE16V8Q-25	° AMD	
	50	336	56			56		5	67		ATH3000L-25C	ATMEL	
								10	67		ATH3000L-25I	ATMEL	
											ATH3000L-25M	† ATMEL	10
											ATH3000L-25M/883	† ATMEL	
								225	67		ATH3000-25C	ATMEL	
								270	67		ATH3000-25I	ATMEL	
											ATH3000-25M	† ATMEL	
											ATH3000-25M/883	† ATMEL	15
	70	800	160	10		96		200	120		ISPLSI1048-70	Lattice	
											PLSI1048-70	Lattice	
30	20	80	10	10	10	10		100	24		GAL20RA10-30L	Lattice	
	22.2			22	10		130	130	24	Generic Array Logic	GAL22V10-30LC	° National	
							150	150	24	Generic Array Logic	GAL22V10-30LI	° National	20
											GAL22V10-30LM	°† National	
60	12	41	8	9	0	9	0.04	25	20		TC9800	Toshiba	
											TC9801	Toshiba	

One-Time Programmable—Superset

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
20	50	132	10	12	0	10	12	55	24	Varied Term Distribution	AT22VIOL-20	† ATMEL	
	55	171	20	12	0	10	12	120	24	750 gate EPLD	ATV750L-20	° ATMEL	25
							120	120	24	750 gate EPLD	ATV750-20	°† ATMEL	
25	40	416	48	14	0	24	120	120	40	2500 gate EPLD	ATV2500H-25	°† ATMEL	
	45	171	20	12	0	10	12	120	24	750 gate EPLD	ATV750L-25	°† ATMEL	
							120	120	24	750 gate EPLD	ATV750-25	°† ATMEL	
	50	120	10	12	10	10	0.1	2mA/MHz	24	CMOS Macrocell	TICPAL22V10Z-25C	° TI	30
		1216	128	8	0	52	40	40	68	5000 gate EPLD	ATV5000-25	ATMEL	
30	33	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-30	ATMEL	
							120	120	40	2500 gate EPLD	ATV2500H-30	°† ATMEL	
	40	171	20	12	0	10	12	120	24	750 gate EPLD	ATV750L-30	°† ATMEL	
						12	120	120	24	750 gate EPLD	ATV750-30	°† ATMEL	35
		1216	128	8	0	52	40	40	68	5000 gate EPLD	ATV5000-30	† ATMEL	
35	28	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-35	°† ATMEL	
							120	120	40	2500 gate EPLD	ATV2500H-35	°† ATMEL	
	33	120	10	12	10	10	0.1	2mA/Hz	24	CMOS Macrocell	TICPAL22V10Z-35C	° TI	
	35	1216	128	8	0	52	40	40	68	5000 gate EPLD	ATV5000-35	† ATMEL	40
40	25	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-40	°† ATMEL	
	28	171	20	12	0	10	120	120	24	750 gate EPLD	ATV750-40	°† ATMEL	
45	22	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-45	°† ATMEL	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Superset

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
12	50	8	—	—	—	—	—	90	20	Replaces: 10H8, 12H6, 14H4, 16H2, 10L8, 12L6, 14L4, 16L2, 10P8, 12P6, 14P4, 16P2, 16H8, 16L8, 16P8, 16R8, 16R6, 16R4, 16RP8, 16RP6, 16RP4, 18P8, 16V8	PLDC18G8-12C	Cypress	
15	41.6	8	—	—	—	—	—	70	20	Replaces: 10H8, 12H6, 14H4, 16H2, 10L8, 12L6, 14L4, 16L2, 10P8, 12P6, 14P4, 16P2, 16H8, 16L8, 16P8, 16R8, 16R6, 16R4, 16RP8, 16RP6, 16RP4, 18P8, 16V8	PLDC18G8L-15C	Cypress	
								90	20	Replaces: 10H8, 12H6, 14H4, 16H2, 10L8, 12L6, 14L4, 16L2, 10P8, 12P6, 14P4, 16P2, 16H8, 16L8, 16P8, 16R8, 16R6, 16R4, 16RP8, 16RP6, 16RP4, 18P8, 16V8	PLDC18G8-15C	Cypress	
								110	20	Replaces: 10H8, 12H6, 14H4, 16H2, 10L8, 12L6, 14L4, 16L2, 10P8, 12P6, 14P4, 16P2, 16H8, 16L8, 16P8, 16R8, 16R6, 16R4, 16RP8, 16RPS, 16RP4, 18P8, 16V8	PLDC18G8-15M	† Cypress	
										Replaces: 10H8, 12H6, 14H4, 16H2, 10L8, 12L6, 14L4, 16L2, 10P8, 12P6, 14P4, 16P2, 16H8, 16L8, 16P8, 16R8, 16R6, 16R4, 16RP8, 16RP6, 16RP4, 18P8, 16V8	PLDC18G8L-15I	Cypress	5
	45.4	8	—	—	—	—	—	70	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10B-15C PLDC20G10B-15I	Cypress Cypress	
	45.5	—	—	20	—	10	75	80	24	Macrocell Architecture	PLDC20RA10-15C	Cypress	
	50	96–192	—	12	—	10	90	90	24	Varied Term Distribution	PALC22V10B-15C	Cypress	
							100	100	24	Varied Term Distribution	PALC22V10B-15I PALC22V10B-15M	Cypress Cypress	10
20	31.2	96–192	—	12	—	10	100	100	24	Varied Term Distribution	PALC22V10B-20M	† Cypress	
	33.3	—	—	20	—	10	75	80	24	Macrocell architecture	PLDC20RA10-20C	Cypress	
							80	85	24	Macrocell architecture Macrocell Architecture	PLDC20RA10-20I PLDC20RA10-20M	Cypress † Cypress	15
		8	—	—	—	—	—	100	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10B-20M	† Cypress	
								110	20	Replaces: 10H8, 12H6, 14H4, 16H2, 10L8, 12L6, 14L4, 16L2, 10P8, 12P6, 14P4, 16P2, 16H8, 16L8, 16P8, 16R8, 16R6, 16R4, 16RP8, 16RP6, 16RP4, 18P8, 16V8	PLDC18G8-20M PLDC18G8L-20I	† Cypress Cypress	
	41.6	8	—	—	—	—	—	70	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10B-20C PLDC20G10B-20I	Cypress Cypress	20
		96–192	—	12	—	10	90		24	Varied Term Distribution	PALC22V10-20C	Cypress	
	55	171	20	12	0	10	12	120	24	750 gate EPLD	ATV750L-20 °	ATMEL	
							120	120	24	750 gate EPLD	ATV750-20 °†	ATMEL	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Superset (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
25	25	—	—	20	—	10	80	85	24	Macrocell architecture	PLDC20RA10-25I PLDC20RA10-25M	Cypress † Cypress	
	28	—	—	—	—	—	—	—	—		TICPAL22V10Z-25	° TI	
	30.3	8	—	—	—	—	—	100	28	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10B-25M	† Cypress	
	33.3	—	—	—	—	—	—	100	24	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10-25C PLDC20G10-25I	Cypress Cypress	5
		96–192	—	12	—	10	55	65	24	Varied Term Distribution	PALC22V10L-25C	Cypress	
							90		24	Varied term distribution	PALC22V10-25C PALC22V10-25I	Cypress Cypress	
							100		24	Varied term distribution	PALC22V10-25M	Cypress	10
	40	416	48	14	0	24	120	120	40	2500 gate EPLD	ATV2500H-25	°† ATMEL	
	45	171	20	12	0	10	12	120	24	750 gate EPLD	ATV750L-25	°† ATMEL	
							120	120	24	750 gate EPLD	ATV750-25	°† ATMEL	
	50	126	128	8	0	52	40	40	68	5000 gate EPLD	ATV5000-25	ATMEL	
30	25	—	—	—	—	—	—	80	24	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10-30M	† Cypress	15
		96–192	—	12	—	10	100		24	Varied Term Distribution	PALC22V10-30M	† Cypress	
	33	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-30 ATV2500-30 ATV2500-30	° ATMEL ° ATMEL ° ATMEL	
							120	120	40	2500 gate EPLD	ATV2500H-30	°† ATMEL	20
	33.3	171	20	22	22	22	0.01	120	24		ATV750-30	° ATMEL	
		416	48	14		100	0.01	10	40		ATV2500H-30	° ATMEL	
	40	171	20	12	0	10	12	120	24	750 gate EPLD	ATV750L-30	°† ATMEL	
							120	120	24	750 gate EPLD	ATV750-30	°† ATMEL	
		1216	128	8	0	52	40	40	68	5000 gate EPLD	ATV5000-30	† ATMEL	25
35	18.1	—	—	—	—	—	—	55	24	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10-35C PLDC20G10-35I	Cypress Cypress	
				20	—	10	80	85	24	Macrocell architecture	PLDC20RA10-35I PLDC20RA10-35M	Cypress † Cypress	
		96–192	—	12	—	10	55	90	24	Varied Term Distribution	PALC22V10L-35C	Cypress	30
							90		24	Varied term distribution	PALC22V10-35C PALC22V10-35I	Cypress Cypress	
	25	105	10	8	—	12	60	90	24	CMOS Programmable Logic Sequencer, 22 inputs, 32 64-input OR gates, synch and asynch clocks, 10 output macrocells	PLC42VA12	° Philips	
	28	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-35	°† ATMEL	
							120	120	40	2500 gate EPLD	ATV2500H-35	°† ATMEL	35
	28.6	171	20	22	22	22	0.01	120	24		ATV750-35	° ATMEL	
		416	48	14		100	0.01	10	40		ATV2500-35 ATV2500H-35	° ATMEL ° ATMEL	
	33	171	20	0	0	10	120	120	24	750 gate EPLD	ATV750-35	°† ATMEL	
	35	1216	128	8	0	52	40	40	68	5000 gate EPLD	ATV5000-35	† ATMEL	40
40	16.6	—	—	—	—	—	—	80	24	Replaces: 20L10, 20L8, 20R8, 20R6, 20R4, 12L10, 14L8, 16L6, 18L4, 20L2, 20V8	PLDC20G10-40M	† Cypress	
	18.1	96–192	—	12	—	10	100		24	Varied term distribution	PALC22V10-40M	† Cypress	

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Erasable Programmable—Superset (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
40												(Cont'd)	
	25	171	20	22	22	22	0.01	120	24		ATV750-40 °	ATMEL	
		416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-40 °†	ATMEL	
	28	171	20	12	0	10	120	120	24	750 gate EPLD	ATV750-40 †	ATMEL	
45	22	416	48	14	0	24	5	120	40	2500 gate EPLD	ATV2500-45 °†	ATMEL	

Electrically Erasable Programmable—Superset

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
7.5	90.9	74	8	10	—	8	90 *	90 *	20	Flexible High Performance Alternate to Early-generation PLDs	PEEL18CV8-7	ICT	5
	105.2	132	10	12	—	10	115 *	115 *	24	ICT & Third Party Development	PEEL22CV10A-7	ICT	
10	62.5	74	8	10	—	8	80	80 + 0.5ma/MHz	20	PAL superset, 12-configurable I/O macrocells	PEEL18CV8-10 °	ICT	
							120	151	20		**PEEL18CV8-10 °**	**American Micro (3503)**	
	86.9	92	10	12	—	10	115 *	115 *	24	JEDEC File Translation	20CG10A-10	ICT	
	100	132	10	12	—	10	115 *	115 *	24	ICT & Third Party Development	PEEL22CV10A-10	ICT	10
15	41.6	64	—	8	—	8	—	90	20	Prog enable	PALCE16V8H-15	AMD	
		74	8	10	—	8	32 *	32 *	20	Flexible Alternate to Early-generation PLDs	PEEL18CV8L-15	ICT	
	50	64	8	10	—	8	—	90	20	Generic Programmable Array Logic	GAL16V8-15H °	SGS-Thomson	
				12	—	8	—	45	24	Generic Programmable Array Logic	GAL20V8-15H °	SGS-Thomson	
		74	8	10	—	8	80	80mA + 0.5mA/MHz	20	PAL superset. 8 I/O macrocells with 12 configurations.	PEEL18CV8-15 °	ICT	15
							90	125	20		**PEEL18CV8-15 °**	**American Micro (3503)**	
		92	10	12		10	105	130	24		**PEEL20CG10-15 °**	**American Micro (3503)**	
		96–192	—	12	—	10	—	90	24	Varied Term Distribution	PALCE22V10H-15 °	AMD	
		132	10	12		10	105	130	24		PEEL22CV10-15 °	American Micro	
											PEEL32CV10-15	**American Micro (3503)**	20
	66.7	92	10	12	—	10	75 *	75 *	24	JEDEC File Translation, Low Power	20CG10AL-15	ICT	
							115 *	115 *	24	JEDEC File Translation	20CG10A-15	ICT	
		132	10	12	—	10	75 *	75 *	24	ICT & Third Party Development, Low Power	PEEL22CV10AL-15	ICT	
							115 *	115 *	24	ICT & Third Party Development	PEEL22CV10A-15	ICT	
20	33.3	8–16	—	14	—	12	—	90	28	Varied Term Distribution	PALCE26V12H-20 °	AMD	25
	41.6	64	8	10	8	90	—	90	20	Generic Programmable Array Logic	GAL16V8-20H °	SGS-Thomson	
				12	—	8	—	90	24	Generic Programmable Array Logic	GALV20V8-20 °	SGS-Thomson	
25	28.5	64	—	8	—	8	—	90	20	Prog enable	PALCE16V8H-25	AMD	
		96–192	—	12	—	10	—	90	24	Varied Term Distribution	PALCE22V10H-25 °	AMD	
	28.8	96–192	—	12	—	10	—	45	24	Varied Term Distribution	PALCE22V10Q-25 °	AMD	30
	33.3	64	8	10	—	8	—	45	20	Generic Programmable Array Logic	GAL16V8-25Q °	SGS-Thomson	
								90	20	Generic Programmable Array Logic	GAL16V8-25H °	SGS-Thomson	
				12	—	8	—	45	28	Generic Programmable Array Logic	GAL20V8-25Q °	SGS-Thomson	
								90	24	Generic Programmable Array Logic	GAL20V8-25H °	SGS-Thomson	
		74	8	10	—	8	20	20mA + 0.7mA/MHz	20	PAL superset. 8 I/O macrocells with 12 configurations.	PEEL18CV8-25 °	ICT	35
							22 *	22 *	20	Flexible Alternate to Early-generation PLDs	PEEL18CV8L-25	ICT	
		92	10	12	—	10	67 *	67 *	24	JEDEC File Translation	20CG10A-25	ICT	
		128–256	—	5	—	16	—	100	24	Advanced I/O macrocell	PALCE29M16H-25	AMD	
		132	10	12	—	10	55	72	24	200mA zero power	**PEEL22CV10Z °**	**American Micro (3502)**	
										22V10 replacement	**PEEL22CV10 °**	**American Micro (3503)**	40

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—CMOS (Cont'd)

Electrically Erasable Programmable—Superset (Cont'd)

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
25	33.3	132	10	12	—	10	67 *	67 *	24	ICT & Third Party Development	PEEL22CV10A-25	(Cont'd) ICT	
	35.3	74	8	10	—	8	25	50	20		**PEEL18CV8** °†	**American Micro (3503)**	
	37	92	10	12	—	10	55	55mA + 0.5mA/MHz	24	PAL superset. 10 I/O macrocells with 12 configurations.	PEEL20CG10-25 °	ICT	
		132	10	12	—	10	0.2	55mA + 0.5mA/MHz	24	PAL superset with zero power feature	**PEEL22CV10Z-25** °	**ICT (3503)**	
							55	55mA + 0.5mA/MHz	24	PAL superset. 10 I/O macrocells with 12 configurations.	PEEL22CV10-25 °	ICT	5
	40	92	10	12	—	10	55	75	24		**PEEL20CG10** °	**American Micro (3503)**	
	50	92	10	12		10	105	130	24		**PEEL20CG10-25**	**American Micro (3503)**	
30	22.9	179	108	11	—	10	—	90	24	Generic Programmable Array Logic	GAL39V18-30H	SGS-Thomson	
35	28.6	64	8	10	—	8	—	45	20	Generic Programmable Array Logic	GAL16V8-35Q °	SGS-Thomson	
				12	—	8	—	45	24	Generic Programmable Array Logic	GAL20V8-35Q °	SGS-Thomson	10

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—ECL

One-Time Programmable—Combinatorial Outputs

Max Propagation Delay (ns)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
3			16	4		170	170	28	10K Compatible 100K Compatible	CY10E302-3C CY100E302-3C	• Cypress • Cypress	
					4	220	0.5	24	10KH Compatible 100K Compatible	CY10E302-3C CY100E302-3C	• Aspen • Aspen	
4			16	4		170	170	28	10K Compatible	CY10E302-4C CY10E302L-4C	• Cypress Cypress	5
									100K Compatible	CY100E302-4C CY100E302L-4C	• Cypress • Cypress	
						220	220	28	10K Compatible	CY10E302-4M	† Cypress	
					4	170	0.5	24	10KH Compatible 100K Compatible	CY10E302L-4C CY100E302L-4C	• Aspen • Aspen	10
						220	0.5	24	10KH Compatible	CY10E302-4C CY10E302-4M	• Aspen † Aspen	
									100K Compatible	CY100E302-4C	• Aspen	
				8	4	170	170	28	10K Compatible 100K Compatible	CY10E301-4C CY100E301-4C	• Cypress • Cypress	15
					8	240	0.5	24	10KH Compatible 100K Compatible	CY10E301-4C CY100E301-4C	• Aspen • Aspen	
	32	—	16	4	—	—	220	24		PAL10016P4A PAL1016P4A	• National • National	20
5			16	8	4	240	240	28	10K Compatible	CY10E301-5M	•† Cypress	
					8	240	0.5	24	10KH Compatible	CY10E301-5M	•† Aspen	
6			16	8	4	170	170	28	10K Compatible 100K Compatible	CY10E301L-6C CY100E301L-6C	• Cypress • Cypress	
					8	170	0.5	24	10KH Compatible	CY10E301L-6C	• Aspen	25
	32	—	12	4	4	—	240	24		PAL10016P8 PAL1016P8	• National • National	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value •Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—ECL (Cont'd)

Max Clock Frequency (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
One-Time Programmable—Registered Outputs Only												
200	32	4	12	—	4	—	240	24		PAL10016RM4A PAL1016RM4A	National National	
117	64	8	8	8	—	—	280	24		PAL10016RD8 ° PAL1016RD8 °	National National	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—ECL (Cont'd)

One-Time Programmable—Superset

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
4.5	200	90	8	11	—	8	—	230	24	ECL 10KH Field Programmable Array Logic, 8 output macro cells	10H20EV8-4 10020EV8-4	Philips Philips	
										ECL 100K Field Programmable Array Logic, 20 inputs, 90 product terms, 8 output macro cells	10020EV8	† Philips	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

PROGRAMMABLE LOGIC DEVICES—Gallium Arsenide

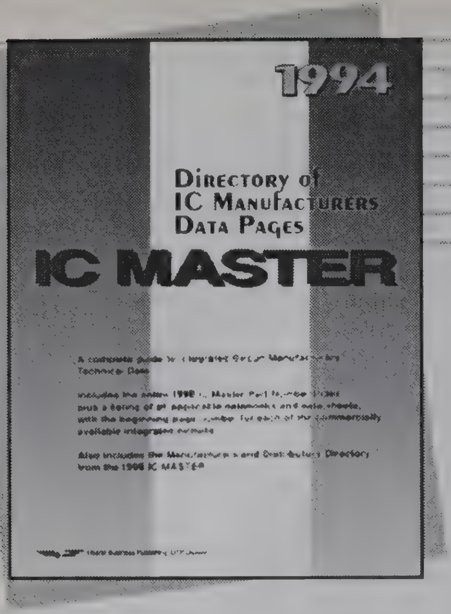
One-Time Programmable—Registered/Combinatorial Outputs

Max Propagation Delay (ns)	Max Clock Freq (MHz)	Product Terms	Flip Flops	Dedicated Inputs	Dedicated Outputs	Bidirectional I/Os	Max Standby Current (mA)	Max Active Current (mA)	Pins	Description	Device	Source	Line
5.5	125	160		10	—	10	—	225	24	Shareable I/Os TTL Compatible	GA22VP10-5 GA22V10-5	TriQuint TriQuint	
6	125	160		10	—	10	—	225	24	Shareable I/Os TTL Compatible	GA22VP10-6 GA22V10-6	TriQuint TriQuint	
7.5	111	160		10	—	10	—	225	24	Shareable I/Os TTL Compatible	GA22VP10-7 GA22V10-7	TriQuint TriQuint	5
	166	135	14	9	—	8	—	220	20	20 pin PLD sequencer	GA23S8-7	TriQuint	
10	100	135	14	9	—	8	—	220	20	20 pin PLD sequencer	GA23S8-10SC	TriQuint	
35	35	112	52	29	24	24	10	120	68		PML2852-35	Philips	
50	50	112	52	29	24	24	10	120	68		PML2852-50	Philips	10

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °Behavioral Model Available ℓ Low Voltage Devices

Bold face indicates additional data is provided on the page noted.

Last Page This Section. Next Page Is 1600



THE FAST AND EASY WAY TO FIND IC MANUFACTURERS' DATA BOOKS!

The 1994 DIRECTORY OF IC MANUFACTURERS' DATA PAGES is a unique index designed to save you time and help you find the manufacturers' precise data book or sheet that you need on any integrated circuit listed in the 1994 IC Master.

Simply look up any IC by base number. The cross-reference will show you the manufacturer's complete device number together with the name and issue date of the applicable manufacturers' data book.

For example: If you wanted the complete manufacturers' data on device number ADOP07. Look up base number 07. Following the base number is the manufacturer's name...Analog Devices, the complete device number ADOP07 and the page number of where the device is described in the IC Master. The listing will then show you that the manufacturer's data book is Analog Devices "Linear Products DataBook" .

Now you can contact Analog Devices by phone or FAX and request the EXACT data book you need. No wasted words, no wasted time.

Plus, where and whom to call for technical information, at any IC manufacturer, is at your fingertips in the complete Manufacturers & Distributors Directory.

A guaranteed time saver, this unique directory is a must for every engineering department!

Don't waste another precious engineering minute.

ORDER THE 1994 DIRECTORY OF IC MANUFACTURERS' DATA PAGES...TODAY!

To order your 1994 Directory of IC Manufacturers' Data Pages,
Contact your local IC MASTER distributor or,
send your purchase order and check for $84.50 plus tax* to:

Marie Botta
Hearst Business Publishing
645 Stewart Avenue Garden City, NY 11530
(516) 227-1314 • FAX (516) 227-1453

*Please add sales tax in NY,MA,IL, CA, or GST tax in Canada
For delivery outside the USA, please add $20 per directory.

For faster service, have your VISA or
MasterCard handy, and call our
CREDIT CARD HOTLINE: 1-800-833-7138

Published annually in February

INTRODUCTION TO CHIP SETS AND MULTIFUNCTION DEVICES

Chip Sets

Many chips are designed from inception as chip sets. When they can be used as stand-alone devices they may be found in other Master Selection Guides. To help point out the interrelatedness of these devices they are repeated and grouped together in this section. They are described anecdotally to help you understand how they "play together". For each function, the first device listed is the **name** of the chip set and the subsequent device numbers are the components that comprise the chip set. The chip sets are sequenced alphabetically by category, i.e., Communications Chip Sets, Graphics Chip Sets, PC Chip Sets, and then by manufacturer and chip set name.

Multifunction Devices

As the level of chip integration rises, there are some application specific standard parts whose function is so complex that their functions defy easy classification. Yet these are the very parts that are clearly on the leading edge and offer the greatest design advantages. These multifunction devices are grouped by function and have anecdotal descriptions. It's a good idea to browse through this section occasionally for new ideas.

Category
- Bios & Driver 1602
- Communications............................1602
- Controllers....................................1603
- DSP 1603
- FDDI 1604
- Graphics......................................1604
- LAN 1605
- PC 1605
- Video..1609
- Workstation 1609

CHIP SETS & MULTIFUNCTION

Bios & Driver

Function	Device	Source	Line
Super XT BIOS.	OC82C100	Chips&Tech	
Super XT BIOS, Enhanced.	OC82C100 +	Chips&Tech	

Communications

Function	Device	Source	Line
Audio Processing, signalling, and wideband data processing of AMPS or TACS standard. DTMF generation and detection.	D5001B D5001D	DSP Group DSP Group	
Cellular Radio Chip Set. Includes six key ICs for maximum integration: NE605/606 single-chip FM system, NE5750 audio processor (companding and amplifier), NE5751 audio processor (filter and control section), UMA1000 data processor for cellular radio, UMA1014 universal synthesizer for radio communication, and S80C552 single-chip microcontroller.	Cellular Radio	Philips	5
Data/Fax Modem Device Set with AT and Fax Class 1 and 2 Commands	RC9624ATL <	Rockwell	
Data/Fax/Voice Chip Set. Has fax capability and is intended for stand-alone or PC card modems. The chip-set supports most CCITT and Bell modem standards including V.42, V.422bis, V.32, V.32bis, V.29, V.27ter, V.23, V.22bis, V.22, V.21, V.17 and Bell 212 and 103. Can operate full duplex in both synchronous and asynchronous data format at at data rates of 14400, 12000, 9600, 7200, 4800, 2400, 1200 and 300 bps. Consists of PHY115 DSP and PHY202 A/D Front End.	PHY1003	Phylon Inc.	
Data/Fax/Voice Chip Set. Incorporates data compression. Functionality includes V.32terbo, and lower speeds for data, V.17 for downward fax compatibility, voice compression/decompression at 19200 bps, and industry standard CCITT V.42/V.42bis and MNP 2–4/5 error correction and data compression. Can operate full duplex in both synchronous and asynchronous data format at 19200, 16800, 14400, 12000, 9600, 7200, 4800, 1200, and 300 bps and CCITT standards for Group 3 facsimile. Consists of PHY115 DSP and PHY202 A/D Front End.	PHY1013 PHY2001	Phylon Inc. Phylon Inc.	
Data/Fax/Voice Chip Set. V.32terbo turnkey modem complete with AT controller. Automatic call progress detection. ADPCM voice compression and decompression at 19200 bps. MNP2–5 and CCITT V.42 and V.42bis error correction and data compression. Operation in full duplex asynchronous data format at data rates of 19200, 16800, 14400, 12000, 9600, 7200, 4800, 1200, and 0–300 bps. Consists of PHY115 DSP and PHY202 A/D Front End.	PHY2011	Phylon Inc.	10
Digital Speech/Signal Processing subsystem with speech compression, telephone line signal processing, memory management, and voice data transfer between the host and internal message buffer.	D7002A	DSP Group	
ESCON-Compatible Data Communications Link, 200 Mbaud (3-chip set)	**FC200**	**TriQuint (3840)**	
Facsimile Engine Device Set, 9600 bps	R96FE <	Rockwell	
FAX/Modem. SQ6196 is a Class 2 fax and data modem with Group 3 fax capability at 9,600 bits/s. The caller-ID capability has several options, such as locking or unlocking database access, scrambling and encoding, and other security features.	SQ6196	Sierra	
Fax/Modem Chip Set. Fax VOdem offers integrated fax, data, adaptive differential pulse-code modulation (ADPCM) voice and called-ID capabilities.	Fax VOdem	Yamaha	15
Fax/Modem Chip Set. Has fax capability and high performance (14.4 kbit/s throughput). The chip-set supports most CCITT and Bell modem standards including V.32bis and V.17 for dial-up communications. Can operate both full duplex and half duplex in both synchronous and asynchronous data format at 14400, 12000, 9600, 7200, 4800, 1200, and 300 bps and CCITT standards for Group 3 facsimile at data rates of 14400, 12000, 9600, 7200, 4800, and 2400 bps. Consists of PHY105 DSP and PHY202 A/D Front End.	PHY1001	Phylon Inc.	
Fax/Modem Chip Set. Has fax capability and is intended for stand-alone or PC card modems. The chip-set supports most CCITT and Bell modem standards including V.32terbo, V.32bis and V.17 for dial-up communications. Can operate both full duplex and half duplex in both synchronous and asynchronous data format at 19200, 16800, 14400, 12000, 9600, 7200, 4800, 1200, and 300 bps and CCITT standards for Group 3 facsimile at data rates of 14400, 12000, 9600, 7200, 4800, and 2400 bps. Consists of PHY105 DSP and PHY202 A/D Front End.	PHY1011	Phylon Inc.	
Fax/Modem Chip Set for embedded applications. The chip-set supports most CCITT and Bell modem standards including V.32bis and V.17 for dial-up communications. MNP 2–5 with error correction/data compression. AT command set. Can operate in full duplex synchronous and asynchronous data format at 14400, 12000, 9600, 7200, 4800, 1200, and 300 bps. Consists of PHY301 Bus Interface, PHY115 DSP and PHY202 A/D Front End.	PHY2100 PHY2101	Phylon Inc. Phylon Inc.	
Fax/Modem Chip Set for PCMC applications. The chip-set supports most CCITT and Bell modem standards including V.32bis and V.17 for dial-up communications. AT command set. Automatic line speed matching and call progress detection. Can operate in full duplex synchronous and asynchronous data format at 14400, 12000, 9600, 7200, 4800, 1200, and 300 bps. Consists of PHY301 Bus Interface, PHY115 DSP and PHY202 A/D Front End.	PHY3001 PHY3011	Phylon Inc. Phylon Inc.	20
FAX/Modem Chip Set (MNP5, V.42bis Datacom). The SSI73D2247-F consists of two CMOS integrated circuits which provide the data pump and protocol functions required to implement a high performance 2400 bit/s modem with error control and data compression. The basic modem function is provided by the SSI73K224L modem chip and is compatible with CCITT V.21, V.22, V.22bis and Bell 103 and 212A protocols. The error control functions are provided by modular software running in the SSI73D630 controller. Modules are available for MNP4, and V.42. Compression software modules can be added to the controller; MNP5 and V.42bis are available.	SSI73D2247-F	SiliconSys	
Fiber Optic Set with Transmitter TQ9041, Receiver TQ9042, and Controller TQ9043. Data rates of 200 to 1000 Megabaud at distances to 0.5 Km. Optional RS232 interface.	**GA9040**	**TriQuint (3840)**	
Fiber-Channel-Compatible Data Communications Link, (3-chip set)	**FC1000** **FC265**	**TriQuint (3840)** **TriQuint (3840)**	25
General-purpose interface for high-speed point-to-point communications over coaxial or fiber-optic media. The parallel data throughput is 17.5 Mbs to 27.5 Mbs in 8-bit mode. Serial data throughput is 175 Mbaud to 275 Mbaud in 8-bit mode. Compatible with ANSI X3T9.3 Fiber Channel Standard and IBM ESCON. Consists of two devices: Am79168 transmitter and Am79169 receiver. 8 or 10-bit interface. Speed options.	AM79168 AM79169 G-TAXIchips < VSC7101-1 VSC7101-1.2 VSC7102-1	AMD AMD Vitesse Vitesse Vitesse Vitesse	30

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value •BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

CHIP SETS & MULTIFUNCTION (Cont'd)

Communications (Cont'd)

Function	Device	Source
General-purpose interface for high-speed point-to-point communications over coaxial or fiber-optic media. The −1.2 parts operate up to 1.25 Gb/s; the −1 parts up to 1.0625 Gb/s. Compatible with ANSI X3T9.3 Fiber Channel Standard. Consists of four devices: VSC7101 transmitter, VSC7102 receiver, VSC7103 multiplexer, and VSC7104 demultiplexer.	(Cont'd) VSC7102-1.2 VSC7103 VSC7104	 Vitesse Vitesse Vitesse
IBM 3270 Protocol Controller. The 82C570 is a highly integrated IBM 3270 coaxial type A protocol controller. It serves as an I/O processor to emulate most of the IBM terminals and printers. It works with IBM 3276/3274/3174 control units either locally or remotely attached.	82C570	Chips&Tech
IBM 3270 Terminal Controller. Highly integrated processor to be used to design 3270 Display Stations such as 3191 and 3192-compatible display terminals.	82C578	Chips&Tech
Integrated Data/Fax Modem Device Set with AT and Fax Class 1 and 2 Commands, 14,400 bps	RC144AC RC96AC	< Rockwell < Rockwell
Transmitter/Receiver pair for 40-bit parallel communication over coax line at data transmission rates of 200 to 800 Mbit/sec. TTL level bus interface. Single +5 V supply.	GA9011	TriQuint
V.22 bis/V.42 bis Data/Fax Modem Device Set with AT and Fax Class 1 and 2 Commands	RC9624AC	< Rockwell
V.22 bis/V.42 bis Modem Device Set with AT Commands	RC2324ACL	Rockwell

Controllers

Function	Device	Source
CPV-CACHE Chip Set. Includes 50 MHz 486 DX CPU, 82495DX Cache Controller, and 82490DX Dual-Ported Intelligent Cache SRAM	INTEL486DX CPV-CACHE	Intel
The MC1400 is a 2 IC chip set providing closed loop digital control for a large variety of servo motors. The MC1400 chip set consists of two 68 pin PLCC's both fabricated in CMOS. The Peripheral Input/Output IC (I/O chip) is responsible for interfacing to the host processor and to the position input encoders. The Command Processor IC (CP chip) is responsible for all host command, profile and servo computations, as well as for outputting PWM and DAC signals. The CP and I/O chips function together as one integrated processor. The major components connected to the chip set are the Encoder (4 axes), the motor (4 axes) and the host processor.	MC1400 MC1400CP MC1400IO	< PMD PMD PMD
1.8-inch Hard Drive Controller. Combines a Z8-based Zilog microcontroller, a 16-bit digital servo signal processor licensed from Clarkspur Design, Zilog-developed A/D converter technology and a disk controller created by Oak. This packs all the functions of a 1.8-inch drive electronics- except for the commodity memories, read/write channel and servo decoder- onto one die.	86C99 86C99	Oak Technology Zilog
80188 Family Peripheral Multifunction ASIC. The MS2184 does for embedded controllers what PC-clone chip sets have done for MS-DOS PCs by packing essential embedded controller functions into one highly integrated VLSI chip. The MS2184 replaces several large and expensive MSI chips, decode and glue logic, saving board space, power, and parts cost. It is ideal for embedded control applications. Compatible with the 80188/80186 family of microprocessors (CMOS or NMOS) running at 8 MHz clock frequency. Functional blocks include: Microprocessor Interface, Watchdog Timer, DRAM Control, Dual Serial Ports, LCD Control, Keypad Interface, Printer Control, Speaker Driver, LED Driver, Event Counter, and Delta A/D Converter.	MS2184	Systronix

DSP

Function	Device	Source
DaSP/PaC Chipset. Comprises the a66110/a66111 devices which combines arrays of adders, multipliers, and ALUs with applications for Radar, Sonar, Digital Radio, Test Instruments, and Medical Instruments.	DaSP/PaC Chipset	< Array Micro
Digital Speech/Signal Processor for an All Digital Answering Machine. DTMF receive/transmit and 8-bit host interface. Consists of D6005B–11A DSP, D6005A–71B ASIC, D0000–26 or D0000–29 Analog I/O Interface, and one or more D0000–31A or D0000–34A ARAM Message Memory chips.	D6005B D6055A D6065A D6105A D6135A	DSP Group DSP Group DSP Group DSP Group DSP Group
The AD9505 is a high performance, digitally programmable timing vernier with 'on-the-fly' update capability. The delay from the triggering edge to the output is proportional to the 8-bit delay data. The AD9505 is designed specifically for applications requiring dynamic delay update such as ATE pulse pattern generation and very high speed, pulse width modulation.	AD9505	AD
Ultra-High Speed DSP Chip Set for Real-Time Applications. Comprises an LH9124 Digital Signal Processor and the LH9320 Address Generator. At 40 MHz, the chip set performs a 1K point complex FFT in 80 microseconds. Multiple units can be cascaded together for even higher performance. The LH9124 is a 24-bit fixed point integer which supports DSP, vector, matrix, logical and arithmetic operations. The LH9320 performs address sequencing and system synchronization for the LH9124. With 20 address bits, the LH9320 can directly address a megaword of memory, permitting either very large transforms (1 M), or support up to 32 channels of significant array size (32K).	LH9124/LH9320 LH9124Y-40 LH9320U-40	< Sharp Sharp Sharp
Very high speed lossless image compression/decompression chip set. The AHA3370 performs compression at a maximum rate of 20 MSamples per second, to 280 Mbits (35 MBytes/sec). The AHA3371 decompresses at 10 MSamples/sec (17.5 MBytes/sec). Sixteen bit parallel output.	AHA3370 AHA3371	< AHA AHA

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

CHIP SETS & MULTIFUNCTION (Cont'd)

FDDI

Function	Device	Source	Line
FDDI Chip Set. Fiber distributed data interface (FDDI) is a 100-Mbps, fiber-optic-based, token ring LAN standard developed to accommodate rings of up to 1000 stations, 2 km between stations, and 200 km total ring length. FDDI is an American National Standards Institute (ANSI) standard. This standard specifies the media access control (MAC) layer, the physical (PHY) and physical media dependent (PMD) entities, and the station management (SMT) and submanagement physical connection management (PCM). The FDDI chip set consists of four devices. It includes: MC68836 FDDI clock generator; MC68837 elasticity buffer and link manager; MC68838 media access controller; and, MC68839 FDDI system interface.	FDDI MC68836 MC68837 MC68838 MC68839	< Motorola Motorola Motorola Motorola Motorola	5

Graphics

Function	Device	Source	Line
Double byte character set controller. Provides scalable font manipulation suitable for display presentation of Chinese, Japanese, Korean and other non-alphanumeric fonts. Supports 16x16 and 16x24 text fonts; supports SVGA to 1024x768 in 256 colors.	TLX8200 TLX9200	Trident Micro Trident Micro	
GUI accelerator. ISA, MCA and 32-bit local bus interface. Supports up to 2 MB of 256Kx4, 256Kx8 or 256Kx16 DRAM. Supports packed pixel formats of 4/8/16 bits/pixel. Provides pixel BLT, line draw, rectangle fill, and image transfer.	TGUI9420 TGUI9430	Trident Micro Trident Micro	
Integrated graphics accelerator for key functions such as color expansion, pattern fill and screen copy. Integrated true color DAC and clock synthesizer. Compatible with 32-bit VESA Local Bus. Pin-for-pin compatible with TVGA9200CXr.	TGUI9400CXi	Trident Micro	10
Laser Printer Chip Set. Consists of the VY86C129 Memory Controller and the VY86C429 Laser Printer Interface Chip. When used with the AMD290xx, the chips fully implement the AMDLaser29 board used in embedded laser control applications.	VY86C129 VY86C429	VLSI Tech VLSI Tech	
PC Graphics Chip Set. Features the ATT20C47XA RAMDACs which are designed to increase speed and reduce power required for D/A conversion of frame buffer images. Comprise ATT20C475A D/A (portable, 6-bit appl.), ATT20C476A D/A (desktop, 6-bit appl.), ATT20C477A D/A (portable, 8-bit appl.), ATT20C478A D/A (desktop, 8-bit appl.), ATT20C458 D/A (workstation, 8-bit appl.), ATT20C491 D/A (true color, 8-bit appl.), and the ATT20C492 D/A (true color, 6-bit appl.).	PC Graphics Chip Set	AT&T	
Super VGA controller. Operates with a 108 MHz dot clock and supports 640x480 24-bit true color mode. Zero-wait-state direct-memory-write bus. Supports 2 MB linear addressing. Maximum resolution 1280x1024 in 256 color, interlaced (16 color non-interlaced) at 60 Hz. Built-in data baus transceiver.	TVGA8900CX	Trident Micro	
Super VGA controller. Supports 256K, 512K or 1MB DRAM and 1024x768x256 colors non-interlaced at 70 Hz refresh. Autosensing of memory size; automatic 8- or 16-bit bus detection. Supports HiColor RAMDACs.	TVGA8900C	Trident Micro	15
Super VGA controller. Zero-wait-state direct-memory-write ISA bus, 48-MHz DRAM clock. Supports up to 1 MB of DRAM for 1024x768 (interlaced or non-interlaced) in 256 colors. Requires only one EPROM for 16-bit operation. Supports linear addressing. Minimum motherboard solution can be achieved with four support chips: DAC, clock, and two 256x4 DRAM.	TVGA8900CL TVGA8900D	Trident Micro Trident Micro	

Function	Device	Source	Line
Super VGA controller. Compatible with 32-bit VESA Local Bus. Integrated 24-bit true color DAC; supports up to 2 MB of DRAM and linear addressing. Built-in data bus transceiver.	TVGA9200CXr	Trident Micro	
Super-VGA Controller. Delivers up to 10 times the drawing speed of standard VGA controllers. Incorporates a smart host interface with a deep 32-word by 16-bit FIFO buffer and other logic that improves system throughout. Has clock-generator support, a bit-mapped cursor and hardware control, and expanded DRAM control to handle the 64k-by–16 memories. Dot clock rates of up to 65 MHz are possible. Font widths of 4 or 7 to 16 pixels can be displayed on screens with resolutions of 1024-by–768 or 800-by–600 pixels and 16 colors or 640-by–480 with 256 colors. Up to 4 MBytes of frame-buffer RAM can be addressed, allowing the chip to handle multitasking video, extended-display modes, and animation.	NCR77C22	NCR	
Super-VGA Controller. Delivers 800-by–600 displays with 16 or 256 colors and 1024-by–768 images with 16 colors (interlaced). Boils a super-VGA subsystem down to just five chips plus memory. The controller includes a FIFO buffer to lessen bus-transfer-rate dependence. As a result, 100-ns DRAMs can be used- even with all of the enhanced modes. Using 4- or 16-bit-wide DRAMs, the controller enables a minimal-space VGA subsystem to be included on a system mother-board or occupy a small portion of an add-in card.	POACH52	ZyMOS	20
Super-VGA Controller. Displays up to 256 colors in 800-by–600 pixel images, 16-colors in 1024-by–768 pixel screens, and offers a portrait mode with 4 colors and a 768-by–1024 pixel format. Both interlaced and noninterlaced monitors can be driven with a 65 MHz dot clock.	OTI067	Oak Technology	
Super-VGA Controller. Displays 1024-by–768 pixels with 16 colors either interlaced or noninterlaced using regular DRAMs.	HT208	Headland	
Super-VGA Controller. Displays 256 colors on a 1024-by–768, 800-by–600-, or 640-by–480 pixel image. Supports 65 MHz noninterlaced monitors as well as video or DRAMs (including 128k-by–8 deives). Has IBM 3270-compatible text mode.	HT209	Headland	
Super-VGA Controller. Enhanced version of the WD90C00. Supports all functions of the 90C00 when in the CRT mode, and delivers 640-by–480 pixel resolution with 8-, 16-, or 32-shade gray-scale mapping. Can drive either monochrome or color LCD or plasma panels. To keep system requirements low, the 132-lead PQFP-housed chip includes the 18-bit wide color palette and tripple DACs to drive the CRT display. On-chip intelligent power-management logic reduces standby power for the display subsystem. Only four chips are needed to form an entire video subsystem- the 90C20 controller, two 64k-by–16 DRAMs, and the 90C61 clock IC.	WD90C20	Western	
Super-VGA Controller. For high performance, the Tseng ET4000 adds support for video RAMs and provides 1024-by–768 pixel displays with 256 colors, or 800-by–600 pixel displays with 65,000 simulataneous colors. Can drive either interlaced or noninterlaced monitors and can improve display speed up to 17-fold over the ET3000A when video RAMs are used.	ET4000	Tseng Labs	25
Super-VGA Controller. Has 800-by–600 pixel 16-color extension.	OTI037	Oak Technology	
Super-VGA Controller. Operates with up to a 65 MHz dot clock and includes support for nearly all super-VGA modes up to 1024-by–768 pixels with 16 colors, and 800-by–600 pixels with 256 colors, on interlaced monitors. Has hardware zooming to view and alter individual pixels and the ability to simultaneously display up to eight character fonts.	ET3000A	Tseng Labs	
Super-VGA Controller. Supports 800-by–600 pixel extensions with either video or standard DRAMs.	HT205	Headland	

CHIP SETS & MULTIFUNCTION (Cont'd)

Function	Device	Source	Line
Graphics (Cont'd)			
Ultra VGA Graphics Controller. High performance VRAM based VGA optimized 800x600 and 1024x768, 16 and 256 color, display resolutions. 4 VRAMs (256kx4) support all Super VGA modes up to 1024x768 with 16 colors including 800x600 with 256 colors. 8 VRAMs (256kx4) support 1024x768, 256 colors out of 16 million.	82C453	Chips&Tech	
VGA Controller. Highly integrated design resulting in a lower chip count. Total of 7 chips required for a VGA implementation including memory. Supports two-chip and four-chip memory configurations using 256k x 4 DRAMs. Two DRAMs provide standard VGA modes. Four DRAMs provide extended modes and increased performance.	82C450	Chips&Tech	
VGA controller. Supports 256K or 512K DRAM; supports 1024x768 in 16 colors (interlaced or non-interlaced) at 70 Hz refresh. Integrated clock synthesizer, display DAC and bus transceiver. Reequires only one 256Kx4 DRAM for complete video subsystem.	TVGA9000i TVGA9000B	Trident Micro Trident Micro	
VGA Flat Panel Controller Chip Set. Comprises the AVCC advanced video CRT controller and AVPC advanced video panel controller. Supports extended 800-by–600 pixel resolution with 16 colors on either flat panels or CRTs, and up to 1024-by–768 pixels with 16 colors only on CRTs. Uses 16-, 8-, or 4- bit wide DRAMs, and static or pseudo-static RAMs for the video memory. Provide up to 64 gray scales with monochrome displays, and up to 4096 colors with a color LCD panel.	AVCC AVCC/ACPC < AVCC/AVPC <	Yamaha Yamaha Yamaha	5
VGA Flat-Panel Controller. Controls LCD, plasma, and EL panels with resolutions ranging from 320-by–200 to 640-by–480 pixels. Up to 16 colors or gray scales can be displayed at maximum resolution.	V6388	Yamaha	
Video processing chip. Video resize chip and real-time frame grabber. Supports standard graphics RAMDACs and live video overlay with VGA graphics or frame buffer.	PC View	Trident Micro	
Video processing chipset. Supports 8, 16, 24 or 32 bits/pixel. Provides full motion video windowing, multiple frame capture, VGA/XGA graphics and text overlay, digital special effects processing, chroma keying and up to 16.7 million displayable colors.	TVP9520/25	Trident Micro	10
Video Windowing Chip set which is the core component of a subsystem to convert standard full-motion video image into format for display on a computer graphics monitor. Supports 5 VRAM (256K x 4) configurations. 4pc ± 2:1:1, 6pc ± 4:1:1, 8pc ± 4:2:2 or 16-bit RGB, 16pc ± 4:2:2 (1024 x 1024) or 24-bit RGB, 12pc ± 24-bit RGB.	69003 69004	Chips&Tech Chips&Tech	
XGA Chip Set. The MCA XGA chip set consists of two chips, the IMS G200 XGA display controller and the IMS G190 XGA serializer palette D/A.	IMSG190 IMSG200 MCA XGA <	SGS-Thomson SGS-Thomson SGS-Thomson	15
Three chips that control both CRTs and LCD panels form the Dragon chip set. The SPC8000 controller handles the VGA operations, the SPC8010 or 8011 controls the LCD interface, and the SEA6461 RAMDAC ties the SPC8000 into a CRT subsystem. The LCD controller can convert color-palette information into 16 or 64 gray sclaes. For color LCD panels the SEA6461 RAMDAC is replaced with the SEA6462, and the LCD controller with an additional unit, the SPC 8030. The 8030 can display up to 64 colors with resolutions reaching 800-by–600 pixels.	DRAGON < SEA6461 SEA6462 SPC8000 SPC8010 SPC8011	S-MOS S-MOS S-MOS S-MOS S-MOS S-MOS	20

(Continued)

Function	Device	Source	Line
Three chips that control both CRTs and LCD panels form the Dragon chip set. The SPC8000 controller handles the VGA operations, the SPC8010 or 8011 controls the LCD interface, and the SEA6461 RAMDAC ties the SPC8000 into a CRT subsystem. The LCD controller can convert color-palette information into 16 or 64 gray sclaes. For color LCD panels the SEA6461 RAMDAC is replaced with the SEA6462, and the LCD controller with an additional unit, the SPC 8030. The 8030 can display up to 64 colors with resolutions reaching 800-by–600 pixels. (Cont'd)	SPC8011 SPC8030	S-MOS S-MOS	
LAN			
Bus Interface Module.	NCR92C133	NCR	
Bus Interface Module	NCR92C140	NCR	25
Ethernet Controller. Combines Nice integrated controller/Endec to an ISA bus interface, pulse-shaping filters and Level–1's 10 Base-T transceiver. Entire system requires only seven chips and supports both twisted-pair and co-ax.	EtherCoupler	Fujitsu	
IEEE 802.3 Media Access Controller with integrated Manchester Encoder/Decoder.	NCR92C110	NCR	
IEEE 802.3 Network Management Module.	NCR92C105 NCR92C130	NCR NCR	
ISA Slave Host Interface Module.	NCR92C143	NCR	30
Power Line Carrier LAN System, IC/SS	ICSS1001 ICSS1002 ICSS1003	National National National	
SBus I/O Chipset. The NCR89C100 and NCR89C105 designed with Sun Microsystems for SPARC compatible systems. Integrates I/O macrocells, 7990-compatible Ethernet controller core, 8-bit SCSI, parallel port, DMA2 controller, and SBus interface.	NCR89C100	NCR	
PC			
AT-SCAT System Controller. Incorporates most of the motherboard logic required to build a low-cost, highly-integrated IBM PC/AT compatible computer. It is designed to be used in conjunction with other CHIPS' controllers such as the 82C451 VGA Controller, the 82C601 Peripheral Controller, and the 82C765 Floppy Disk Controller. When used with these devices, the 82C235 serves as the heart of a highly-integrated system, significantly reducing the system's motherboard size and component count, and the need for many I/O Channel (AT Bus) slots.	82C235	Chips&Tech	35
Bus interface for use in PC/AT systems. Compatible with 486DX, 486DX2, 486SX, 386DX and Super386 CPUs. 256K, 1M, and 4M DRAM support. Local bus master and slave support. Asynchronous or synchronous AT clock source option. Zero wait state support. Two chip set - 4021 and 4025.	4021 4025	Chips&Tech Chips&Tech	
Bus Master MicroCHIP. The 82C614 is a single chip that contains all of the logic required on an adapter card to implement a Bus Master interface to the Micro Channel. It is intended to implement a Bus Master interface to the Micro Channel. It is intended to give bus mastering capabilities to adapter cards that would normally use the system DMA controller. The advantages of bus mastering vs. standard DMA include faster transfer rates (up to 4 times) and the ability to easily implement 'full duplex' DMA. One of the goals of the 82C614 is to allow adapter card designers to take advantage of the performance improvements offered by bus mastering while remaining cost competivie with standard DMA slave designs.	82C614	Chips&Tech	
Cache controller. SX systems.	VL82C325	VLSI Tech	

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

CHIP SETS & MULTIFUNCTION (Cont'd)

PC (Cont'd)

Function	Device	Source	Line
EISA Bus Master Interface Controller. Highly integrated Bus Master designed for use in 32-Bit EISA Bus Master expansion board designs. Supports all enhancements defined in EISA specifications required for EISA bus master applications. The BMIC provides a simple, yet, powerful and flexible interface between functions on the expansion board and the EISA bus. With the help of external buffer devices, the BMIC provides all EISA control, address, and data signals necessary to interface to the EISA bus. The primary function of the 82355 is to support 16- and 32-bit burst data transfers between functions on the EISA expansion board and the EISA bus.	82355	Intel	
EISA Chip Set. Supports the 20 to 50 MHz 386 CPU or i486 CPU. The 82350DT chip set integrates a complete EISA system into the following chips: 82357- Integrated System Peripheral; 82358- EISA Bus Controller; 82359- DRAM Controller; 82353- Advanced Data Path; 82351- ;IOE Local IO Peripheral (optional); 82352DT- EISA Bus Buffer; 82077AA- Floppy Disk Contrller (optional); PST- Programmable State Tracker (PST- consisting of 2 PLDs); 8742- Keyboard Controller.	82350DT	< Intel	
	82351	Intel	
	82352DT	Intel	
	82353	Intel	5
	82359	Intel	
EISA Chip Set. Supports the 33 MHz and 25 MHz 386 CPU or i486 CPU, 82385 Cache Controller, and optional 80387 numeric coprocessor. The EISA chip set contains three chips: 82352- EISA Bus Buffers; 82357- Integrated System Peripheral; and 82358- EISA Bus Controller.	82350	< Intel	
	82352	Intel	
	82357	Intel	
	82358	Intel	10
	82358DT	Intel	
EISA/ISA Compatible Chip Set for 80386/80486 system operation to 66 MHz. 8 ISA DMA channels, 6 EISA master channels, 14 interrupt channels. AT40957 Integrated System Peripheral, AT40958 Bus Controller and Data Buffer, and AT40959 DRAM and Cache Controller.	AT40957	< ATMEL	
	AT40958	ATMEL	
	AT40959	ATMEL	
Floppy disk controller.	VL82C110	VLSI Tech	15
GENLINX Cable Driver with Two Adjustable Outputs. Interfaces directly with GS9002 encoder.	GS9008	Gennum	
GENLINX Cable Driver with Four Adjustable Outputs. Interfaces directly with GS9002 encoder.	GS9009	Gennum	
High integration/low cost chipset for use in 486-based PC/AT systems. Eight TTL devices required to implement a complete system with a 2-bank DRAM (up to 32MB) and one VESA VL-Bus slot for either a master or a slave. On-chip oscillators, integrated flash ROM support, 0 or 1 wait state, up to 33 MHz. Two chip set - F84031 AND F84035.	F84031	Chips&Tech	
	F84035	Chips&Tech	
High-Integration Interface Deivce for 386SX. Used together with the 82230/82231 to provide a cost effective high performance system design solution for AT-compatible 386 SX microprocessor based systems. The DRAM control feature is designed and optimized for the 16 MHz and 20 MHz 386 SX microprocessor bus architecture. The page mode, interleaved memory design allows 0 wait state performance on most memory accesses with 100 ns DRAM at 16 MHz or 80 ns DRAM at 20 MHz. The 82335 SX also provides the necessary interface signals to allow the 387 SX numeric coprocessor to run in a PC/AT system. The 82335 SX with its integrated parity generation and checking provides system designers with data integrity and reliability.	82335SX	Intel	20

Function	Device	Source	Line
High-Integration Interface for 386SX. Used together with the 82230/82231 to provide a cost-effective high performance design solution for AT-compatible 386 SX microprocessor based systems. The 82335 DRAM control feature is designed and optimized for the 16 MHz 386 SX microprocessor bus architecture. The page mode, interleaved memory design allows 0 wait state performance on most memory accesses with 100 ns DRAM. Provides the necessary interface signals to allow the 387 SX numeric coprocessor to run in a PC/AT system. The 82335 with its integrated parity generation and checking provides system designers with data integrity and reliability.	82335	Intel	
IBM PS/2 Model 30 and Super XT Compatible Chip. The 82C110 is a single chip implementation of most of the system logic necessary to implement a super XT compatible system with PS/2 Model 30 functionality using either an 8086 or 8088 microprocessor. The 82C110 can be used with either 8- or 16-bit microprocessors. The 82C110 includes features which will enable the PC manufacturer to design a super PS/2 Model 30/XT compatible system with the highest performance at 10 MHz zero wait state system with an 8086, the highest functionality with dual clock and 2.5 MB DRAM (with integrated Extended Memory System control logic), the highest integration with the lowest component count SMT design. The 82C110 can be combined with CHIPS' 82C601 Graphics Controller to provide a high performance, high integration PS/2 Model 30 type system.	82C110	Chips&Tech	
Micro Channel Compatible Peripherals Family. Consists of a complete chip set which can be used to build high performance, 100% Micro Channel compatible motherboard. The 82311 chip set features a highly integrated peripheral bus, and includes the 80277 Single Chip Floppy Disk Controller. The chip set supports 386 systems at 16, 20, and 25 MHz, as well as 386 SX systems at 16 MHz. System components include: 82303- Local I/O Support Chip; 82304- Local I/O Support Chip; 82307- DMA/CACP Controller; 82308- Micro Channel Bus Controller; 82309- Address Bus Controller; and, 82077- Floppy Disk Controller. To implement a minimum configuration Micro Channel compatible motherboard, each of the seven system components listed above are required in addition to the following components: 80386 or 80386 SX microprocessor, TTL buffers for various buses, 8742 keyboard controller, battery-back real time clock with CMOS RAM, serial port, memory, system clock.	82077	Intel	
	82303	Intel	
	82304	Intel	25
	82307	Intel	
	82308	Intel	
	82309	Intel	
	82311	< Intel	
MS441 is a high-performance, high integration cache controller for use with the 80486 or 80386 in high performance computer systems. The Concurrent nature of the Cache subsystem is facilitated by MOSEL's MS443 Dual Port Burst Memories. The Dual Concurrent Bus Controllers in the MS441 manage the high speed data path from CPU to Cache Memory to the System. Concurrancy permits background write back while read and write cache hits continue uniterupted.	MS441	< Mosel-Vitelic	30
Peripheral Controller, Universal. Supports ADAPTER applications. Provides one printer port, two 16450 UARTs, IDE AT hard disk interface, floppy disk controller, and one game port chip select.	82C712	Chips&Tech	
Peripheral Controller, Universal. Single chip controller offering the complete I/P solution for the PC-XT & PC-AT environments. The chip is an LSI implementation of the most commonly used peripheral devices found in an IBM PC, XT or AT. Incorporates 16450 compatible UART, enhanced parallel port, IDE compatible hard disk interface, uPD72065B compatible floppy disk controller, PS/2 type mouse logic, and various chip selects.	82C710	Chips&Tech	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

CHIP SETS & MULTIFUNCTION (Cont'd)

PC (Cont'd)

Function	Device	Source	Line
Power management unit.	VL82C312	VLSI Tech	
SCAMP controller. 286 systems.	VL82C311L	VLSI Tech	
Serial Digital Cable Equalizer for SMPTE/EBU scrambled NRZI Serial Digital Video signals. Interfaces with GS9005 receiver.	GS9004	Gennum	
Serial Digital Video Cable Driver. Monolithic chip designed to drive 75-ohm cables to SMPTE/EBU serial digital signal standards. It interfaces directly with the GENLINX GS9002 encoder.	GS9007	Gennum	
Serial Digital Video Decoder. Monolithic chip designed to decode SMPTE/EBU serial digital signals. Performs the functions of data descrambling, serial to parallel conversion, frame synchronization and automatic D1/D2 selection. It interface directly with the GENLINX GS9005 Receiver and the GENLINX GS9001 Ancilliary Data Processor.	GS9000	Gennum	5
Serial Digital Video Encoder. Monolithic chip designed to encode SMPTE/EBU serial digital signals. Performs the functions of data scrambling, parallel to serial conversion, data and clock synchronization and parallel clock to serial clock conversion. It interfaces directly with the GENLINX GS9007 Cable Driver and the GENLINX GS9003 Processor.	GS9002	Gennum	
Serial Digital Video Receiver. Monolithic chip designed to recover SMPTE/EBU serial digital signals. Performs the functions of automatic cable equalization, data recovery and clock recovery. It interface directly with the GENLINX GS9000 decoder.	GS9005	Gennum	
Super XT Compatible Controller. The 82C100 is a single chip implementation of most of the system logic necessary to implement a super XT compatible system with PS/2 Model 30 functionality using either an 8086 or 8088 microprocessor. The 82C100 can be used with either 8- or 16-bit microprocessors. It includes features which enable the PC manufacturer to design a super PS/2 Model 30/XT compatible system with the highest performance at 10 MHz zero wait state with an 8086, the highest functionality with dual clock and 2.5 MB DRAM (with integrated Extended Memory System control logic), the lowest power implementation by utilizing the on-chip power management features and the highest integration with the loest component count SMT design. The 82C100 can be combined with CHIPS' 82C601 Multifunction Controller to provide a high performance, high integration PS/2 Model 30 type system.	82C100	Chips&Tech	
The Tigershark chipset is capable of converting R4000 SysAD system bus to 80486DX–25, 33, 50MHz system bus. It consists of the TC85R4021 and TC85R4022 controllers.	**TC85R4021** < **TC85R4022**	**Toshiba (3835)** **Toshiba (3835)**	10
The 80386DX PC/AT chip set, consisting of the AT40381 and AT40382, is a 100% IBM PC/AT compatible chip set for the 80386DX-based systems of up to 33 MHz. The high integration and on-chip direct mapped cache controller design allow maximum system performance. Together with a peripheral controller, such as the AT40206 IPC, an 80386DX motherboard can be built with fewer than 20 ICs plus memory. The AT40381 System and Cache Controller performs the system control and data bus conversion functions. The AT40382 provides flexible implementation of main memory paging. This approach permits the user to increase the size of the system platform memory as requirements demand without imposing performance penalties. The chip set is compatible with the AT40206 Integrated Peripheral Controller and works with BIOS from AMI, Phoenix, Award, and Quadtel.	AT40381 AT40382 AT40391B	ATMEL ATMEL ATMEL	
		(Continued)	

Function	Device	Source	Line
The 80386DX PC/AT chip set, consisting of the AT40391 and AT40392, is a 100% IBM PC/AT compatible chip set for the 80386DX-based systems of up to 25 MHz. The high integration and on-chip copyback, direct mapped cache controller design allows maximum system performance. Together with a peripheral controller, such as the AT40206 IPC, a very high performance, yet low-cost, 80386DX motherboard can be built with a minimum number of components. The AT40391 System Controller performs the system control, memory and cache control functions. The AT40392 performs the data buffer and co-processor interface functions. The AT40391/2 PC/AT chip set is compatible with the AT40206 Integrated Peripheral Controller and works with BIOS from AMI, Phoenix, Award, and Quadtel.		(Cont'd)	
	AT40391B-25	ATMEL	
	AT40391B-33	ATMEL	15
	AT40391B-40	ATMEL	
	AT40392	ATMEL	
	AT40392-25	ATMEL	
	AT40392-33	ATMEL	
	AT40392-40	ATMEL	20
	80386DX <	ATMEL	
The 80486 PC/AT Chip Set consisting of the AT40493/AT40392 is an IBM PC/AT compatible Chip Set for the 80486-Based Systems operating up to 50mhz. The high integration and an on Chip direct mapped cache controller design allow maximum system performance. Together with a peripheral controller, such as the AT40206 IPC, an 80486 motherboard can be built with fewer than 20 ICs plus memory. The AT40493 System and cache controller performs the System Control and data bus conversion functions. The AT40392 provides flexible implementation of main memory paging. This approach permits the user to increase the size of the system platform memory as requirements demand without imposing performance penalties. Low cost systems are made possible through the support of single ROM/EPROM BIOS configurations thus reducing DRAM speed requirements by at least 15ns	AT40493-25 <	ATMEL	
The 80486 PC/AT chip set is a 100% IBM PC/AT compatible chip set for the 80486-based systems of up to 25 MHz. The high integration and on-chip copyback, direct mapped cache controller design allows maximum system performance. Together with a peripheral controller, such as the AT40206 IPC, a very high performance, yet low-cost, 80386DX motherboard can be built with a minimum number of components. The AT40495 System Controller performs the system control, memory and cache control functions. The AT40495 supports one or two banks of cache SRAM and does not require the use of buffers in the data path. The AT40495 PC/AT chip set is compatible with the AT40206 Integrated Peripheral Controller and works with BIOS from AMI, Phoenix, Award, and Quadtel.	AT40495-25	ATMEL	
The 80486DX PC/AT chip set, consisting of the AT40491 and AT40492, is a 100% IBM PC/AT compatible chip for 80486DX-based systems of up to 33 MHz. The high integration and on-chip copy-back direct mapped cache controller design allows maximum system performance. Together with a peripheral controller, such as the AT40206 IPC, a very high performance, yet low-cost, 80486DX motherboard can be built with a minimum number of components. The AT40491 System Controller performs the system control, memory and cache control functions. The AT40492 performs the data buffer and co-processor interface functions. The AT40491/2 PC/AT chip set is compatible with the AT40206 Integrated Peripheral Controller and works with BIOS from AMI, Phoenix, Award, and Quadtel.	80486DX	ATMEL	

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

CHIP SETS & MULTIFUNCTION (Cont'd)

Function	Device	Source	Line
PC (Cont'd)			
The 80486SX PC/AT chip set, consisting of the AT40491 and AT40492, is a 100% IBM PC/AT compatible chip set for 80486SX-based systems of up to 33 MHz. The high integration and on-chip copy-back direct mapped cache controller design allows maximum system performance. Together with a peripheral controller, such as the AT40206 IPC, a very high performance, yet low-cost, 80486DX motherboard can be built with a minimum number of components. The AT40491 System Controller performs the system control, memory and cache control functions. The AT40492 performs the data buffer and co-processor interface functions. The AT40491/2 PC/AT chip set is compatible with the AT40206 Integrated Peripheral Controller and works with BIOS from AMI, Phoenix, Award, and Quadtel.	AT40491	ATMEL	
	AT40492	ATMEL	
	80486SX	ATMEL	
The 82230 and 82231 are a two-chip implementation of LSI/MSI/SSI logic controlling the IBM Personal Computer AT. The devices provide a low power, highly integrated PC-AT design solution that may be applied to any 80286-based system. The 82230 performs the functions of the 82284 Clock Generator & ready Interface, 82288 Bus Controller for 80286 processors, 6818 Real Time Clock/RAM, and the Master-Slave implementation of the dual 8259A Programmable Interrupt Controllers, as well as the Command Delay, Shut Down, Address/Data Bus Control and ready Generation logic. The 82231 includes the 8254 Programmable Interval Timer, 8284A Clock Generator, LS612 Memory Mapper and the dual 8237 DMA Controller functions as well as Refresh Generation and Refresh/DMA Arbitration Logic.	82230	Intel	
	82230/82231	< Intel	5
	82231	Intel	
	82330/82231	< Intel	
The 82420 PCI Chip Set supports the Intel 486SX, 486DX, 486DX2, and OverDrive Processors. The chip set consists of the following: 82424TX- Cache DRAM Controller; 82423TX- Data Path Unit; 82378IB- System I/O.	82420	Intel	
V30-Based Palm-Top ASIC. The DOS Engine is a sea-of-gates design that includes the V30 CPU core, relatively complete PC core logic, and a keyboard controller in one package. Aimed at palm-top applications, the chip hits 8 MHz at 3V and 16 MHz at 5V. It provides almost everything needed except a real-time clock and peripheral controllers.	DOS Engine	NEC	
Single chip controller offering complete I/O solution for the PC-XT & PC-AT environments. Supports MOTHERBOARD applications. Provides one enhanced parallel port, two 16450 UARTs, one IDE XT/AT hard disk interface and floppy disk controller.	82C711	Chips&Tech	10
286/386SX Chip Set. Optimized two chip design and packaging solution for 286 and 386 based systems. Up to 25 MHz system clock speeds. Sleep modes support low-power and laptop designs. Full LIM EMS 4.0 specification over entire 32 MByte memory map. Built-in three state control for board level testing. Programmable DRAM and slot interface drive optimizes system for actual load conditions.	TOPCAT 286/386	< VLSI Tech	
	VL82C286-SET	< VLSI Tech	
	VL82C320-FC	VLSI Tech	
	VL82C331-FC	VLSI Tech	
386DX Chip Set. Optimized three chip design and packaging solution for 386DX based systems. Up to 33 MHz system clock speeds. Sleep modes support low-power and laptop designs. Full LIM EMS 4.0 specification over entire 32 MByte memory map. Built-in three-state control for board level testing. Programmable DRAM and slot interface drive optimizes system for actual load conditions.	TOPCAT 386DX	< VLSI Tech	15
	VL82C330-FC	VLSI Tech	
	VL82C331-FC	VLSI Tech	
	VL82C332-FC	VLSI Tech	
	VL82C386-SET	< VLSI Tech	
386DX Chip Set. The CS82310 PEAKset DM chip set is a three chip VLSI implementation of the systems logic required to implement a cache-based 386DX system. It provides a complete cache based 386/AT system using only 19 components plus memory devices. The chip set consists of one 82C351 CPU/CACHE/DRAM controller, one 82C355 Data Buffer, and one 82C356 Peripherals Controller.	CS82310	< Chips&Tech	20
	PEAKset DM	< Chips&Tech	
	82C356	Chips&Tech	
386SX AT-SCAT. The 82C836, also known as SCATsx, is a VLSI device that incorporates most of the motherboard logic required to build a low cost, highly integrated, IBM PC AT compatible computer using the 80386SX. It is designed to be used in conjunction with other CHIPS' controllers such as the 82C45X VGA Controller, the 82C601 Multifunction Controller, the 82C765 Floppy Disk Controller, and the 82C710 Integrated Floppy Disk and Multifunction Controller. When used with these devices, the 82C386 acts as the heart of a highly integrated system that significantly reduces motherboard size, component count, and the need for many I/O channel slots.	82C836	Chips&Tech	
386SX Chip Set. Consists of OTI041 System Controller, OTI042 Peripheral Controller, and OTI043 VGA Display Controller. Can be used with 286 or 386SX CPU.	NOTEBOOK	< Oak Technology	
	OTI041	Oak Technology	25
	OTI042	Oak Technology	
	OTI043	Oak Technology	
386SX Chip Set. LeAPset-SX CS8283 supports the 80386SX. It works together with the 82C601 Multifunction Controller, the 82C455 Flat Panel/CRT VGA Controller, and the 82C456 Advanced Flat Panel/CRT Controller. Using the LeAPset solution, a complete laptop motherboard requires a total of only 29 ICs plus memory. Four chips are included in the LeAPset system controller circuits: 82C242 data/address buffers and bus conversion logic, the 82C636 Power Control Unit, and the 82C206 Integrated Peripheral Controlle, and the 82C841 CPU controller is contained in the CS8283.	82C841	Chips&Tech	
386SX Chip Set. The CS8281 NEATsx chip set is an enhanced, high performance 4 chip VLSI implementation of the control logic to build PC/AT compatibles based on the 386SX microprocessor. NEATsx provides a complete 386SX AT system board with 24 components plus memory devices. The CS8281 NEATsx chip set consists of the 82C811 CPU/Bus controller, the 82C812 Page Interleave/EMS memory controller, the 82C215 Data/Address buffer and the 82C206 Integrated Peripheral Controller.	82C206	Chips&Tech	
	82C206	Chips&Tech	30

† Mil Temp Range (−55° to 125°C) ‡ High Rad Resistance *Typical Value °BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

CHIP SETS & MULTIFUNCTION (Cont'd)

PC (Cont'd)

Function	Device	Source	Line
386SX Notebook Support Circuit. CHIPSlite is the systems control portion of CHIPS complete solution for the design of portable computers. It consists of two integrated circuits: a memory/bus controller SCAT 82C836, and an Enhanced Power Control Unit, the 82C641. Together, these chips provide memory control, AT bus control, RTC, coprocessor interface and power management functions. Combining CHIPSlite with a CHIPS graphics controller, CHIPS peripheral controller and standard off-the-shelf memory, you can implement a complete laptop with less than 20 ICs (not including memory). For graphics support, CHIPS offers the 82C426 Color Flat Panel/CRT CGA Controller and the 82C456 Enhanced Flat Panel/CRY VGA Controller. For peripheral support CHIPS offers the 82C710 and 82C711 Multifunction Floppy Controllers.	CS82C836	Chips&Tech	
486 Chip Set for Micro Channel. Hardware and software compatible with IBM's Micro Channel, the chip sets consist of five components, including a direct memory access (DMA) controller, two address/data buffers, memory/bus controller and peripheral support chip. The SLIKM–486–2 supports 33 MHz 80486 and provides 40 MBytes/s of maximum data streaming between the main memory and peripherals.	SLIKM486-2	Toshiba	
	SLIKM486-3	Toshiba	
486/386 Chip Set. Haydn family is comprised of the SL82C460 chip set for 486-based PC/AT-compatible systems and SL82C360 chip set for 386-based PCs. Each of these chip sets includes two devices: a system controller and a bus controller. An optional cache controller chip can be added if cache capability is required. A complete motherboard can be created with as few as eight active components (less memory) including CPU, keyboard controller, real-time clock, BIOS ROM, two TTL devices and Symphony's two device chipset. All devices operate at 50 MHz and beyond as well as the standard speeds of 16, 20, 25, 33 & 40 MHz.	Haydn	< Symphony Lab	
	SL82C360	Symphony Lab	5
	SL82C460	Symphony Lab	
80286 Chip Set. The ELEAT chip set provides the designer a low cost solution for an entry level IBM PC/AT compatible system complete with 12 MHz 80286 CPU interface, VGA graphics, serial and parallel communications, floppy disk controller, 16-bit IDE hard disk interface, and system software. System implementation requires as few as 43 components plus system memory. The system comprises an 82C235 System Controller, and 82C451 VGA controller, and an 82C710 that includes an integrated floppy disk controller, IDE hard disk interface, serial port, parallel port, and PS/2 style mouse port. The CB8291 System/VGA BIOS is integrated into a single module.	SYSTEM BIOS	Chips&Tech	
	82C710	Chips&Tech	
80386SX Chip Set. The ELEATsx chip set provides the designer a low cost solution for an entry-level IBM PC/AT compatible system complete with with a 16/20/25 MHz 3086SX CPU interface, VGA graphics, serial and parallel communications, floppy disk controller, 16-bit IDE hard disk interface, and system software. System implementation requires as few as 37 components plus system memory. The chip set comprises a 82C836 System Controller, an 82C450 VGA Controller, an 82C711 that includes an integrated floppy disk controller, IDE hard disk interface, two serial ports, and one parallel port. The CB8295 System/VGA BIOS is integrated into a single module.	82C450	Chips&Tech	
	82C711	Chips&Tech	10
	82C836	Chips&Tech	
	82C836	Chips&Tech	
80386SX Chip Set. The PEAKset-sx chip set supports high performance 80386SX cache system designs. The highly integrated solution has all the necessary logic needed to implement a 20MHz 386SX motherboard solution with only 2 VLSI devices. The chip set consists of the 82C836 Single Chip AT (SCATsx) and the highly integrated 82C835 Cache Controller. This high level of integration and unified cache allow designers to take full advantage of the 386SX performance at speeds of 20 MHz and beyond.	82C835	Chips&Tech	
80386SX Micro Channel Chip Set. Supports the 80386SX 32-bit microprocessor at 25 MHz. Consists of two components, including the system controller and a peripheral support chip. A 16-bit Micro Channel computer can be built with less than 30 ICs.	SLIKM386SX-1	Toshiba	
8086 Subsystem. Combines 8086-like processor, core logic, I/O and CGA controller one one die.	PC/Chip	Chips&Tech	15

Video

Function	Device	Source	Line
Color Space and Raster/Block Converter.	L64765	LSI Logic	
Consumer Video Chip Set. Features color video decoding, 13.5MHz, 720 pixels/line, 7 bits Y:U:V 4:1:1, PAL, NTSC. Comprises TDA8708 A/D (source, select, clamp, AGC, A/D), SAA7191 DMSD (luma, chroma processor, synch and clock processor), SAA7197 CGC (clock generator circuit), SAA9065 DVP (digital filters and 3 D/As), and TDA4680 AVP (analog matrix and video switch).	Consumer Video Chip Set	< Philips	
	SAA7191	**Philips (3745)**	
	SAA7197	Philips	
	SAA9065	Philips	20
	TDA4680	Philips	
	TDA8708	**Philips (3750)**	
Desktop Video Chip Set. Features color video decoding and square pixels. NTSC: 12.272727MHz, 640 pixels/line. PAL,SECAM: 14.75MHz, 768 pixels/line. 8 bits Y:U:V 4:2:2. Comprises TDA8708 A/D (source, select, clamp, AGC, A/D), SAA7191 DMSD (luma, chroma processor, synch and clock processor, SAA7197 CGC (clock generator circuit), SAA7192 DCSC (upsample, YUV to RGB, inverse gamma), SAA9065 DVP (digital filters and 3 D/As), and TDA4680 AVP (analog matrix and video switch).	Desktop Video Chip Set	< Philips	
	SAA7191	**Philips (3745)**	
	SAA7192	Philips	25
	SAA7197	Philips	
	SAA9065	Philips	
	TDA4680	Philips	
	TDA8708	**Philips (3750)**	
This JPEC-compatible chipset is capable of performing at full motion video rates. The chipset targets applications (e.g. video editing, desktop publishing, laser printers and medical imaging equipment) that need to compress still image data for reduced data storage and transmission bandwidth. The pipeline architecture of the chipset can continuously code and decode any datastream with no risk of overflow or underflow regardless of image content or compression ratio. The chipset consists of the L64765 Color and Raster/Block Converter, the L64735 DCT Processor, and the L64745 JPEG Coder.	JPEG Chipset	LSI Logic	30

Workstation

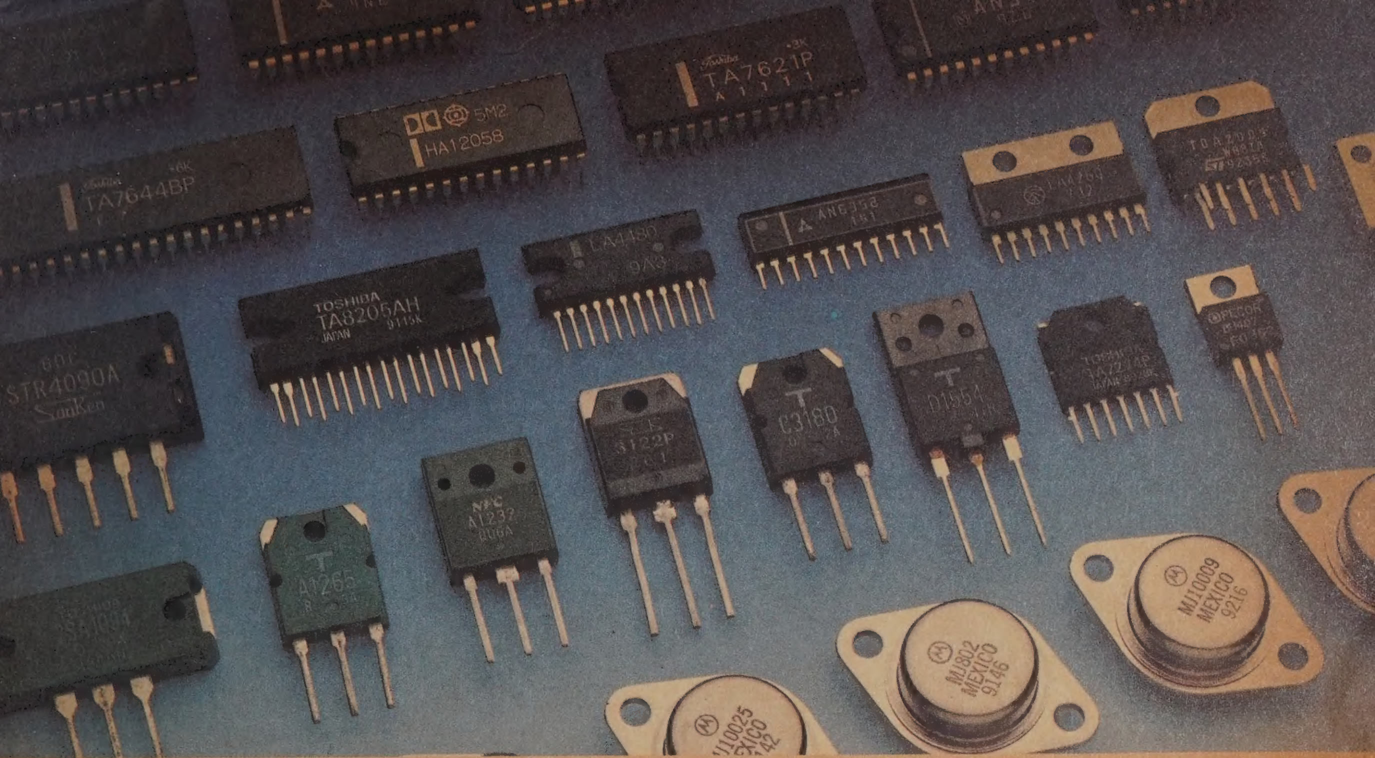
Function	Device	Source	Line
RISC-PC chipset devices includes: LR3201 Reset/Interrupt Controller; LR3202A L-Bus Controller; LR3203 DRAM Controller; LR32D04 DRAM Data Buffer; LR3205 Block Transfer Buffer; and, LR3208 Video Frame Buffer.	LR32D04-25 †	LSI Logic	
	LR3201-25 †	LSI Logic	
	LR3202A-25 †	LSI Logic	
	LR3203-25 †	LSI Logic	
	LR3205-25 †	LSI Logic	35

(Continued)

† Mil Temp Range (–55° to 125°C) ‡ High Rad Resistance *Typical Value °BMOD Avail ℓ Low Voltage Devices < Chip Set Name

Bold face indicates additional data is provided on the page noted.

Function	Device	Source	Line
Workstation		**(Cont'd)**	
RISC-PC chipset devices includes: LR3201 Reset/Interrupt Controller; LR3202A L-Bus Controller; LR3203 DRAM Controller; LR32D04 DRAM Data Buffer; LR3205 Block Transfer Buffer; and, LR3208 Video Frame Buffer.		(Cont'd)	
	LR3208-25	† LSI Logic	
	MipSET	< LSI Logic	
SPARCstation 10 chipset. MBus Level II based system. It includes the L64860, Enhanced Memory Controller; the L64861, SBus to External Bus Interface; the L64862, MBus to SBus Interface; the L64863, clock chip; and the L64854, SBus DMA Controller. The chipset works with Texas Instruments Viking CPU module. The chipset is used at Sun's SPARCstation 10 workstations.	L64854	LSI Logic	
	L64860	LSI Logic	
	L64861	LSI Logic	5
	L64862	LSI Logic	
	L64863	LSI Logic	
SPARCstation 2 chipset. MBus based system. It includes the L64831, the combined integer and floating point unit; the L64815, the combined memory management, cache control, cache tag, and MBus interface unit; the L64851, the MBus to standard I/O interface; the L64850, the MBus DRAM controller; and the L64852, the MBus to SBus interface.	L64815	LSI Logic	
	L64831	LSI Logic	
	L64850	LSI Logic	10
	L64851	LSI Logic	
	L64852	LSI Logic	
	SPARCstation	< LSI Logic	
SPARCstation 2 Chipset. 40 MHz version of chip set for Sun Microsystems SPARCstation 2. Includes the L64841 enhanced memory management unit, the L64844 enhanced cache controller, and the L64846 DRAM controller. The chipset is augmented by LSI Logic's L64811 integer unit, L64814 floating point unit and L64853A DMA controller. The six integrated circuits support the data storage and computational requirements of workstations, servers and specialized peripherals used in engineering and scientific applications.	L64841	LSI Logic	
	L64844	LSI Logic	15
	L64846	LSI Logic	
	SparKIT-40/SS2	< LSI Logic	
SparKIT MBus chipsets offer solutions for getting SPARC-compatible RISC workstations rapidly into production. The MBus family chipset consists of the L64825 Video Frame Buffer, the L64845 GX Graphics Accelerator, the L64855 Graphics Controller, and the L64853A or L64854 DMA Controller. Available in two families with speeds of 25 MHz or 40 MHz.	L64825	LSI Logic	
	L64845	LSI Logic	
	L64853A	LSI Logic	20
	L64854	LSI Logic	
	L64855	LSI Logic	
	SparKIT Mbus	< LSI Logic	
SparKIT SBus Family chipsets offer solutions for getting SPARC-compatible RISC workstations rapidly into production. The SBus family chipset consists of the L64825 SBus Video Frame Buffer, the L64855 SBus GX Graphics Accelerator, the L64855 SBus Graphics Controller and the L64853 or L64853A DMA Controller. Available in two families with speeds of 25 MHz or 40 MHz.	L64825	LSI Logic	
	L64845	LSI Logic	25
	L64853	LSI Logic	
	L64853A	LSI Logic	
	L64855	LSI Logic	
	SparKIT SBus	< LSI Logic	



We are your reliable partner for global sourcing

We can also buy from you. All IC offers are welcome.

Best source for these brands:

AMD ANALOG DEVICES BURR-BROWN FAIRCHILD
FUJI FUJITSU HITACHI INTEL
INTERSIL MATSUSHITA MITSUBISHI MOSTEK
MOTOROLA NATIONAL NEC NSC
OKI RCA SGS SIGNETICS
SILICONIX TI TOSHIBA ZILOG

We provide top quality computer components, memory ICs and connectors.
We can custom-make all items to suit your particular needs.
Oscilloscopes and other instruments & tools are also available.
16-512K RAM/EPROM are always in stock.
All inquiries are welcome. Call us now.

- **Our recent special offers are:**

V20–10 PLCC	NEC	STK6303S		3446		2964BPC	AMD
AM9080APC	AMD	2SK2101N		145155P		29818DC	AMD
80286–10	INTEL	ADC3511CCN	NSC	145157P		29825DCB	AMD
SCN2661ACIN28		74LS222	TI	LAS1412(78H12)		SC11007CN	
DP8473V PLCC		LM10CN		HD6803P–1		SC11014CN	
NE521		LF13201N		OSC 26.824MHZ		TLC27L2CP	TI
NE527		LM1837N		OSC 12.000MHZ		TLC372CP	TI
M6852		74LS612	TI	AD1860N–T	AD	MC68B701S	
MC34074		74LS647	TI	74C929J			

All brand names are registered trademarks of their respective owners.

永盛電腦零件(香港)有限公司
WING SHING COMPUTER COMPONENTS CO., (H.K.) LTD.

香港永盛電子公司
HONG KONG WING SHING ELECTRONIC CO.

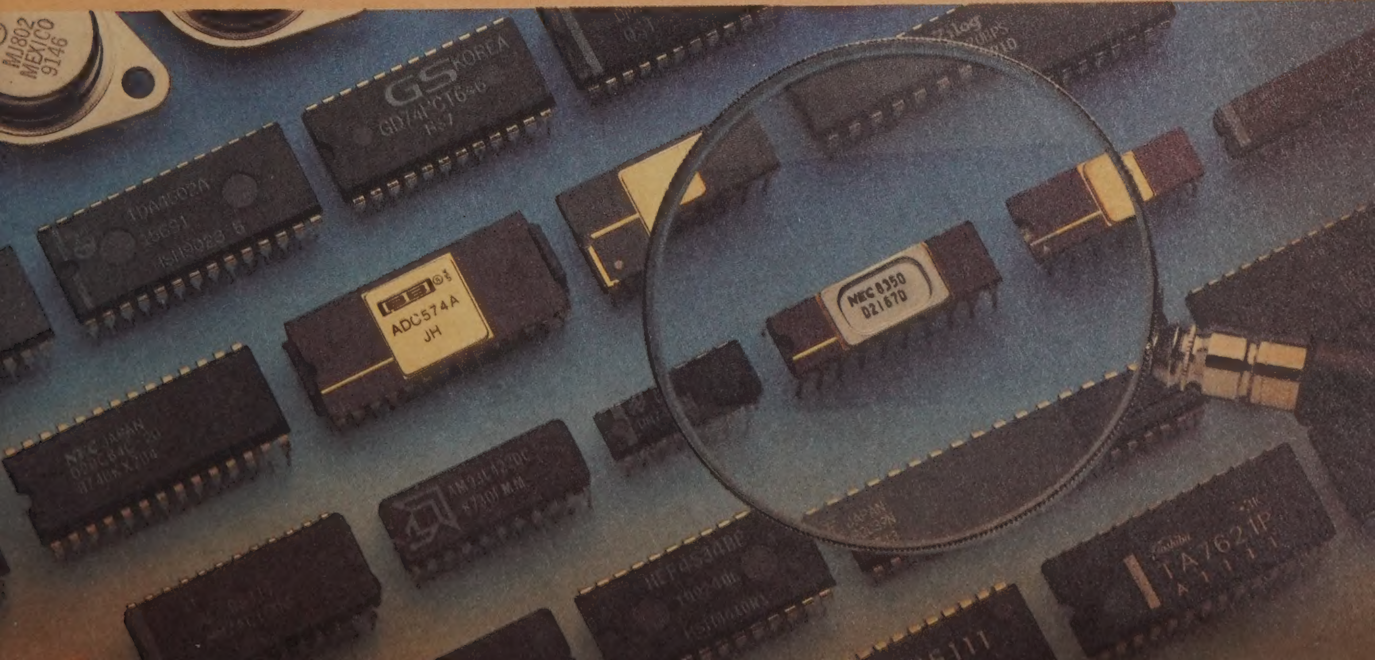
Wholesales: Tel: 341 9276 Fax: (852)797 8153

Office:
Unit A, B&E, 9/F.,
72 Hoi Yuen Road, Kwun Tong,
Kowloon, Hong Kong.
Tel: 797 3138
Fax: (852) 341 8271

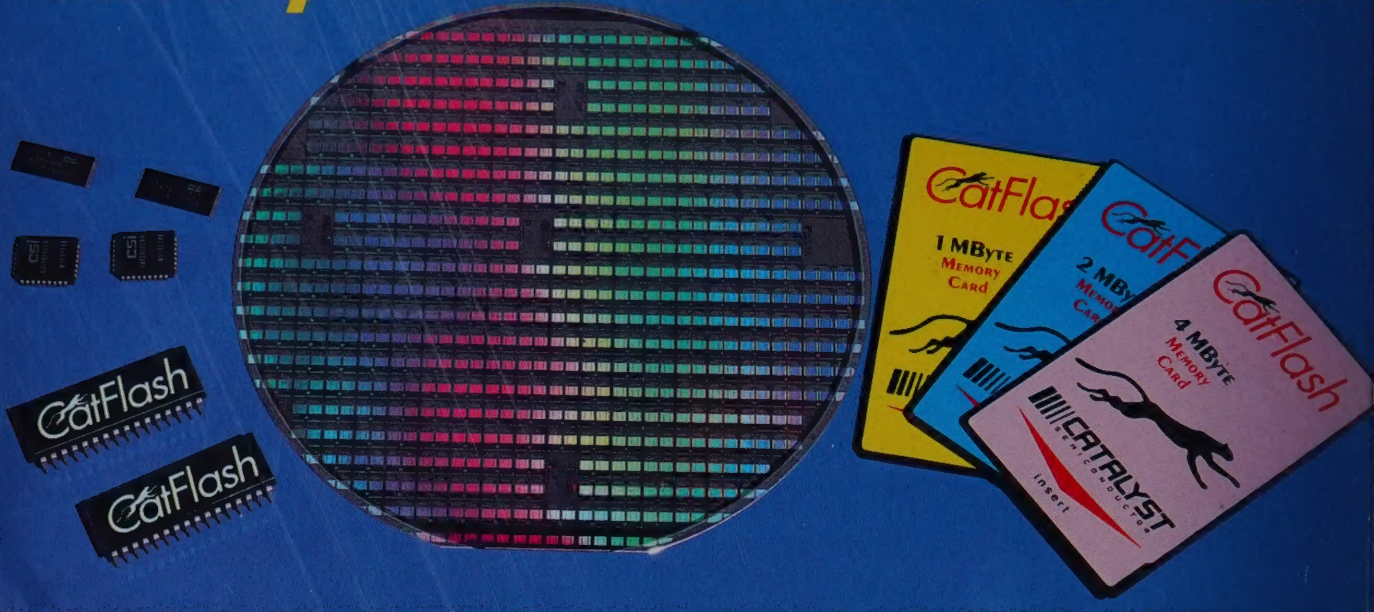
Shop 1:
Room 256, Kwun Tong Plaza, 2/F.,
68 Hoi Yuen Road, Kwun Tong,
Kowloon, Hong Kong.
Tel: 790 3803
Fax: (852) 790 8358

Shop 2:
174 Apliu Street, G/F.,
Shamshuipo, Kolwoon,
Hong Kong.
Tel:725 3318
Fax: (852) 387 4940

Shop 3:
245 Apliu Street, G/F.,
Shamshuipo, Kowloon,
Hong Kong.
Tel:361 8878
Fax: (852) 361 6636



Who is your alternate source for Flash?



Check out CatFlash!

CatFlash Packaged Chips, PCMCIA Cards and Die.

This past year has probably made you a real believer in having an exceptionally reliable second source for flash products. You need a flash safety net – no matter how strong your present source claims to be.

Catalyst is the ideal second source. Our *CatFlash* ICs are rugged and provide superior performance. We offer 1 Mbit and 2 Mbit CAT28F010 and CAT28F020 devices with DIP, PLCC, and TSOP packaging, a line of PCMCIA flash cards and die for your chip-on-board program.

Our PCMCIA private labeling program has everything you need to successfully market your own cards. From 512K, 1, 2, 4 and 8 Mbyte densities to special applications.

We're flash specialists and a world leader in non-volatile memories. We have patented designs and processes and continually introduce new and innovative chips. Over 500 OEMs have benefited from using our products. You can make your flash second source program purrr . . . Call for *CatFlash* data and samples!

Information & Samples

Call your local *CatFlash* representative and distributor for samples and data sheets. Ask them for our famous *"Flash Guide."*

Need more technical and applications information? Call our Director of Flash Marketing at (408) 748-7700.

CATALYST SEMICONDUCTOR

2231 Calle de Luna
Santa Clara, CA 95054
Tel: (408) 748-7700
Fax: (408) 980-8209

Catalyst Sales Offices: West U. S., 408-748-7700; Central U. S., 708-240-1253; Northeast U. S., 617-356-3899; Southeast U. S., 407-682-1995; Europe: Belgium, 32.2.267.7025; Germany, 49.40.209.9955; Japan N.C.K.K., 81-3-5340-3781.